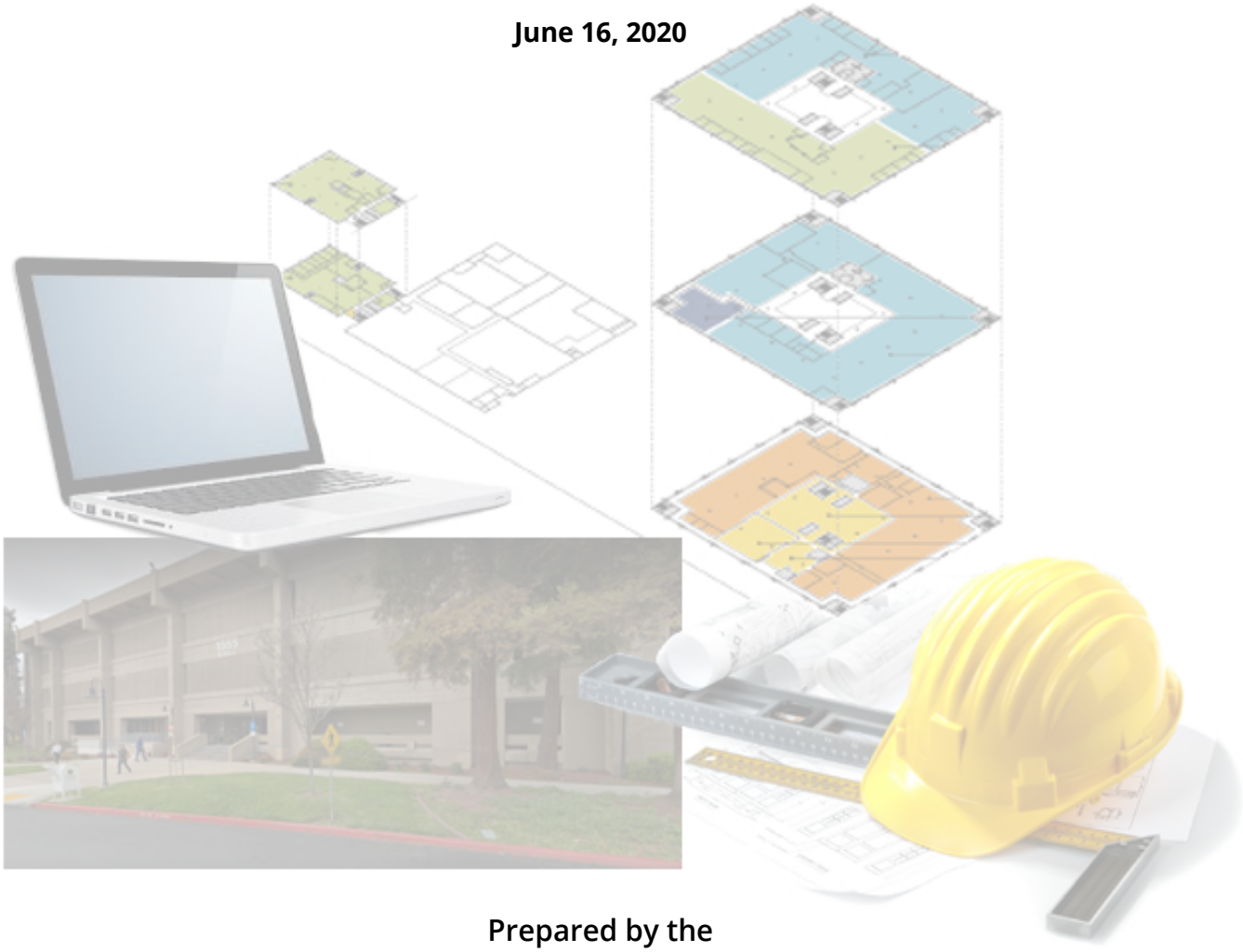
Management Audit of the County of Santa Clara
Capital Programs Division of the Facilities and Fleet Department

Prepared for the Board of Supervisors of the County of Santa Clara

June 16, 2020



Prepared by the

Board of Supervisors Management Audit Division

County Administration Building, East Wing, 10th Floor

70 West Hedding Street

San Jose, CA 95110

(408) 829-3344

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County of Santa Clara

Board of Supervisors

County Government Center, East Wing
70 West Hedding Street
San Jose, California 95110-1770
(408) 299-6435 TDD 993-8272

Contract Auditor: Harvey M. Rose Associates, LLC
E-mail: cheryl.solov@bos.sccgov.org

June 16, 2020

Supervisor Dave Cortese, Chair
Supervisor Cindy Chavez, Vice Chair
Board of Supervisors' Finance and Government Operations Committee
70 West Hedding Street San Jose, CA 95110

Dear Supervisors Cortese and Chavez:

We have completed the Management Audit of the Capital Programs Division of the Facilities and Fleet Department. This audit was added to the Management Audit Division's work plan by the Board of Supervisors of the County of Santa Clara, pursuant to the Board's power of inquiry specified in Article III, Section 302(c) of the Santa Clara County Charter. This audit was conducted in conformity with generally accepted government auditing standards as set forth in the 2011 revision of the "Yellow Book" of the U.S. Government Accountability Office. The purpose of this audit was to examine the operations, management practices and finances of the Capital Programs Division to identify opportunities to increase the Division's efficiency, effectiveness and economy.

The report includes eight findings and 33 recommendations related to capital projects management procedures, internal trainings for project managers, planning of capital projects, post-project reviews, Capital Improvement Program Plan (CIP) development and budgeting, project progress tracking, fiscal oversight, and hospital-related capital projects. In the attached response to this audit, the Capital Programs Division agrees with all 21 of the 21 recommendations directed towards the Division, but with some caveats and clarifications. The Administrative Capital Committee (ACC) agrees with six of seven recommendations directed towards the ACC and County Budget Director and disagrees with Recommendation 5.8. Santa Clara Valley Medical Center agrees with the two recommendations addressed to this Department. Additionally, three recommendations in our report are directed towards the Board of Supervisors, and the three parties above have no disagreements on these recommendations.

If implemented, the recommendations would:

- Create accurate and updated procedures and trainings for Capital Programs Division staff to standardize processes, improve operational efficiency, and lower the risk of non-compliance with state and County requirements;
- Improve up-front planning of capital projects to reduce the risk of costly changes during design and construction;
- Institute post-project reviews that would aid the Division with identifying issues and productive practices to be applied to future projects;
- Bring the County into compliance with Board policies and best practices for long-term capital planning and budgeting;

- Create more robust tracking systems that retain comprehensive records of project changes and help the Division assess whether projects are “on track” to be delivered on time and on budget;
- Increase fiscal oversight of County capital projects, clarify project funding sources, and better ensure efficient allocation of project funds;
- Clarify the current dual-management reporting structure for hospital-related capital projects and prevent unplanned shifts of project costs to the General Fund.

We would sincerely like to thank the Capital Programs Division and its staff for their thoughtful, patient, and professional cooperation and assistance throughout this audit.

Respectfully submitted,

Cheryl Solov
Management Audit Manager

CC: Supervisor Mike Wasserman
Supervisor Susan Ellenberg
Supervisor S. Joseph Simitian
James R. Williams, County Counsel

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Executive Summary

Finding 1: Capital Projects Management Procedures

The Capital Programs Division's electronic procedures manual has not been substantially updated since 2012, and contains obsolete forms, sample project documents no longer used by the Division, and broken links to sections and website landing pages. Due to its outdated nature, the manual does not capture critical changes in Division planning processes, workflows, and County procurement policies over the last seven years. We identified inconsistencies in practices among project manager staff that may be tied to this lack of Division-wide guidelines. The Capital Programs Division should immediately revise its procedures manual and assign a manager to create a revision plan for the document to ensure that procedures are reviewed and updated timely.

Finding 2: Improve Project Manager Training

The Division's only training for its Capital Projects Managers (CPM) consists of sessions based on its outdated procedures manual. Because these trainings are not mandatory, we found that fewer than 50 percent of CPMs had attended training sessions in November and December of 2018. We also identified gaps in CPM understanding of project elements that are explicitly discussed in the procedures manual, and staff reported that they were less than satisfied with a range of training topics. The Division should institute mandatory training based on updated procedures. Executive management should survey CPMs for a list of training needs and create a schedule for developing and delivering these trainings by the end of Fiscal Year 2020-21.

Finding 3: Insufficient Planning of Capital Projects

In FY 2013-14, the Division formalized capital projects planning as a distinct delivery phase and created a team to execute project planning activities. However, as of November 2019, there was no documented description of the Planning Team's roles and responsibilities or a list of planning deliverables that must be completed before project design can begin. Division staff hold conflicting views of the planning process, and a review of project change orders, site visits, and interviews indicate insufficient stakeholder engagement during planning, which contributed to project changes during delivery and even post-construction. The Division should clearly define the roles and responsibilities of the Planning Team. These guidelines should include a list of planning deliverables required before a project's design phase can begin, hand-off processes between the Planning Team and other stakeholders, and closeout steps and checklists for the planning phase.

Finding 4: Post-Project Reviews to Prevent Future Time Delays and Cost Overruns

Capital projects managed by the Division sometimes exhibit time delays and cost overruns. For instance, in a sample of six projects completed as of November 2018, we found that actual expenditures for three of these projects had exceeded their initial budgets by $2.7 million. However, the Capital Programs Division does not conduct formal, standardized post-project reviews to identify practices, scenarios, and contractors that may contribute to delays and cost overruns. Further, the Division also does not retain enough data for future decision making and its electronic project files

contain hundreds of empty folders. The Division should create a standardized process for post-project reviews that includes components such as stakeholder satisfaction, effectiveness of project management, costs and schedules against baselines, and lessons learned. To facilitate these reviews, the Division should develop a checklist for documents that need to be retained in project files.

Finding 5: Board Policies and Best Practices for Capital Planning and Budgeting

The County's Capital Improvement Program Plan (CIP) does not comply with Board policies or follow best practices on multi-year capital planning and budgeting. Projects in the CIP lack a clear statement of project objectives (scope), a schedule of major deliverables, and a total cost estimate that covers each phase of project delivery and operation. What the CIP shows as a discrete project with a "project budget" sometimes only covers a small component of the project. The true costs of projects are further understated in cases in which there will be new operating costs because the CIP omits those expenses. The Capital Programs Division should work with the Administrative Capital Committee (ACC) to include detailed scopes and the total estimated costs of newly proposed projects over their *entire* life cycle in the CIP. These cost estimates should be accompanied by project plans containing the projected timing of expenditures and funding sources over the ten-year planning period, by delivery phase.

Finding 6: Tracking Project Progress Against Baseline Estimates

The Capital Programs Division does not consistently compare the current status of projects to original scopes, schedules, and budgets, nor does it centrally track adjustments to these estimates. Further, the Division does not track details on whether a project is "on target" to be completed on time and on budget. This inadequate tracking and reporting may be attributed to the nonexistence of appropriate baselines, given that preliminary project plans are not developed prior to project approval. A lack of uniform performance management software and protocols also contributes to these information deficiencies. The Capital Programs Division should adopt a project management system that tracks and reports project status against original schedules, budgets, and scopes. The Division should record all time, cost, and scope adjustments and when they were made. Lastly, this tracking scheme should contain project status information that conveys how the project is progressing relative to actual and planned time and dollars spent.

Finding 7: Increased Fiscal Oversight of Capital Spending

In the last five years, the County's capital improvement program expanded to include complex acquisition and construction projects without adequate processes, resources, and competencies needed to effectuate a $5.2 billion capital program. Coordination between the ACC and Finance Agency has not been sufficient to ensure that public investments are maximized. For example, during FY 2019-20, the County re-appropriated $44.5 million General Fund dollars to projects that were not moving forward in that year or in this decade, while concurrently borrowing millions for office buildings and hospital acquisitions. We recommend the County Budget Director develop capital financing strategies and moderate the County's in-progress capital program. The Budget Director should also develop administrative procedures to guide this process with input from County stakeholders such as the Debt Management group and the Facilities and Fleet Department (FAF). Financial assumptions undergirding the CIP, such as debt capacity, should be presented during annual budget hearings.

Finding 8: Hospital-Related Capital Projects

Although VMC has its own Capital Projects Fund funded through enterprise resources, a substantial portion of the hospital's capital costs have become a local taxpayer expense. According to the County's 10-Year CIP, County taxpayers can expect to spend, on average, $180 million per year on hospital facilities. Additionally, on the last day of FY 2016-17, the administration shifted depreciable assets of $463.3 million from VMC's books to the General Fund. Despite the substantial portion of VMC capital costs funded by the General Fund, planning and management of hospital-related projects is split between the Capital Programs Division and VMC's Facilities Department without a formal division of roles and responsibilities. FAF's Deputy Director, who serves as a "liaison" between FAF and VMC, is not in the "chain of command" over hospital projects, which is headed by VMC's Chief Executive Officer rather than FAF's Director. To ensure adequate oversight of local taxpayer funds, the Board of Supervisors should adopt a policy that all General Fund-backed capital projects be managed by FAF's Capital Programs Division, even if they are part of the hospital system. Additionally, the Board should prohibit transfers of VMC's debts or construction-in-progress to the General Fund without prior Board approval.

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INTRODUCTION

This Management Audit of the Capital Programs Division of the Facilities and Fleet Department (FAF) was added to the Management Audit Division's Fiscal Year 2018-19 work plan by the Board of Supervisors, pursuant to the Board's power of inquiry specified in Article III, Section 302(c) of the County of Santa Clara Charter. The Board added this audit after considering the annual County-wide audit risk assessment conducted by the Management Audit Division in accordance with Board Policy.

PURPOSE, SCOPE, AND OBJECTIVES

The purpose of the audit was to examine the operations, management practices, and finances of the Capital Programs Division, and to identify opportunities to increase the Division's efficiency, effectiveness, and economy. Further, we sought to review and assess County-wide planning, prioritization, and budgeting practices for capital projects among various parties such as requesting client departments and County's Administrative Capital Committee (ACC), which is chaired by County Administration and receives input from parties such as the Facilities and Fleet Department (FAF), Office of Budget and Analysis (OBA), and the Finance Agency. The period assessed for this review was primarily FY 2013-14 to FY 2018-19, and the individual projects we selected for our analyses were largely completed within this timeframe (one project was substantively completed before this period but was not financially closed out in the County's accounting system until FY 2014-15). Our ability to review recent projects was constrained by the limited number of completed, new construction capital projects available for review, as it would have been inappropriate to evaluate change orders and outcomes for projects that were still active at the time of our audit.

Outside of this time window, we included major project funding developments and policy and procedure changes implemented during FY 2019-20. We did not perform an in-depth analysis of the County's March 2019 acquisition of the O'Connor and St. Louise Hospitals, given that this purchase was not originally included in the County's budgeted projects for FY 2018-19.

Work on this audit began with an entrance conference on August 21, 2018, and a draft report was issued to the Division on February 14, 2020. We also sent the draft audit to Santa Clara's Office of the County Counsel, and relevant sections of the draft audit to OBA and Santa Clara Valley Medical Center (VMC) for review and comment.

An exit conference was held with FAF's Capital Programs Division on February 24, 2020, and a revised draft incorporating feedback from the exit conference was provided to FAF, OBA, and VMC on May 15, 2020 for written response. This final report includes those written responses.

The audit's main objectives were:

- To determine whether the Capital Programs Division, in conjunction with other County stakeholders, follows best practices for budgeting, planning, and executing capital projects;
- Assess the controls in place to monitor and oversee project progress, proper usage of funds, and contract compliance during capital project planning, design, and construction;

- Identify potential sources of major cost overruns and time delays for active and completed capital projects;
- Evaluate outreach and procurement processes and strategies used by the Division to minimize costs and risks to the County.

AUDIT METHODOLOGY

We interviewed executive management personnel, including the Director of FAF and FAF Deputy Directors overseeing the Capital Programs Division, hospital-related capital projects, and departmental administration. We also interviewed management and line staff such as Chiefs of Construction, Capital Projects Managers (CPM), Maintenance Project Managers, and Planners. Additional interviews included meetings with the County Finance Agency and ACC and OBA staff, as well as phone interviews with the Capital Programs Division's planning consultants, client departments, and the Office of the County Counsel. Management Audit staff conducted site visits of two active capital projects and two projects that had been recently completed at the time of our audit. Further, we shadowed a Division project manager through their regular workday.

We reviewed the Capital Programs Division's FY 2018-19 budget and actual costs, as well as the County's 10-Year Capital Improvement Program Plan (CIP) from FY 2013-14 to 2018-19 and the underlying documentation for these plans. We also reviewed fund balances for Fund 50, the County's General Capital Improvement Fund, and Fund 59, which is used for capital projects related to the County's hospitals.

The Management Audit Division examined the Capital Programs Division's policies and procedures, which are primarily contained in a single electronic procedures manual for the Division, as well as California Public Contract Code and Board policies relevant to the planning and budgeting of capital projects. We received and analyzed cash-flow reports for the Division's active projects through November of 2018 and 2019, budget allocation sheets for capital projects, planning documents, and project manager timecard logs. We also reviewed the Division's active professional services agreements, professional agreements, and construction contracts; monthly summary reports of project progress; and contractor schedules, when available.

To better understand the progression of a capital project through its entire life cycle, we conducted a review of a sample of three project files. While it was not feasible to review each and every document in the files due to the lack of consistent organizational structure within these project folders, we examined key documents such as change order logs, bidding documents, planning reports, and legislative files. We also analyzed change order tracking logs for a judgmental sample of projects that were completed as of November of 2018, all valued at over $1 million.

Lastly, we issued two surveys: one to project managers within the Capital Programs Division, and one peer survey sent to 16 jurisdictions, chosen by their population and the size of their capital programs. We received ten responses to the CPM survey and seven responses to the peer survey. The purpose of the CPM survey was to gain more information on the roles, responsibilities, and skill sets of these staff members, whereas the goal of the peer survey was to compare other counties' capital policies, budgeting, and delivery practices against those of Santa Clara County. Full results to both surveys can be found in Attachment A on page 117 and Attachment B on page 143, respectively.[1]

1 Response dates have been redacted from these surveys, as well as potentially identifying information from the CPM survey.

COMPLIANCE WITH GENERALLY ACCEPTED GOVERNMENT AUDITING STANDARDS

This management audit was conducted under the requirements of the Board of Supervisors Policy Number 3.35 as amended on May 25, 2010. That policy states that management audits are to be conducted under Generally Accepted Government Auditing Standards (GAGAS) issued by the U.S. Government Accountability Office. We conducted this performance audit in accordance with GAGAS as set forth in the 2011 revision of the "Yellow Book" of the U.S. Government Accountability Office. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. In accordance with these auditing standards, we performed the following procedures:

Audit Planning – This management audit was selected by the Board of Supervisors using a risk assessment tool and estimate of audit work hours developed at the Board's direction by the Management Audit Division. After audit selection by the Board, a detailed management audit work plan was developed and provided to the Department.

Entrance Conference - An entrance conference was held with FAF management to introduce the audit team, describe the audit program and scope of review, and to respond to questions. A letter of introduction from the Board and the audit work plan were also provided at the entrance conference.

Pre-Audit Survey - Audit staff reviewed documentation and other materials to obtain an overall understanding of the Department's operations, and to isolate audit areas that warranted more detailed assessments.

Field Work - Field work activities were conducted after completion of the pre-audit survey, and included interviews with planning consultants, client departments, the Administrative Capital Committee (ACC), and the Office of Budget and Analysis (OBA); analysis of project manager timecards and project control documents; staff and peer surveys; site visits; and staff observations, among others.

Draft Report – On February 14, 2020, a draft report was provided to the Capital Programs Division to describe the audit progress, and to share general information on our preliminary findings and conclusions. We also provided the draft report to the County's Office of the County Counsel, OBA, and Santa Clara Valley Medical Center (VMC).

Exit Conference – An Exit Conference was held with the Capital Programs Division and FAF management on February 24, 2020 to obtain views on the report findings, conclusions, and recommendations, and to make fact-based corrections and clarifications as appropriate. Following this meeting, a Revised Draft was provided to the Division and other stakeholder departments on May 15, 2020 for use in preparing their formal written responses.

Final Report - A final report was prepared and issued on June 16, 2020. Written responses are attached to this report.

OVERVIEW OF CAPITAL PROGRAMS

Capital Projects Funding and the Annual Capital Request Process

Capital projects are construction projects that typically require a long-term capital investment. Monies spent in producing capital assets are expensed through depreciation across the useful lives of these assets. Examples of capital projects include the construction or acquisition of new facilities, alteration or substantial renovation of built facilities, upgrades of building systems, and other projects that either develop new infrastructure or add value to existing capital assets. Capital projects are distinct from routine maintenance and repair projects, which are comprised of recurring work to maintain existing capital assets and prevent their deterioration.

Primarily, the County maintains a General Capital Improvement Fund known as "Fund 50" to finance these projects, which is reimbursed by the County's General Fund. In FY 2018-19, 71 percent of the County's capital program over a ten-year horizon was projected to be financed by the General Fund. To compare, among the seven jurisdictions that responded to our peer survey, the extent of capital contributions from General Fund dollars was relatively minimal. Four of seven respondents reported that less than 50 percent of their FY 2018-19 funding for projects was budgeted to come from their jurisdiction's General Fund. The other respondents answered "I don't know" to this question. In Santa Clara County, projects financed through the General Fund are generally executed by the Capital Programs Division of the Facilities and Fleet Department (FAF) with the exception of hospital projects, as described in Section 3, starting on page 41 of this audit report. Outside of this financing and management structure are capital projects managed by the Parks and Recreation Department and the Roads and Airports Department, which have separate, dedicated funds for these projects.

Appropriations for capital projects are approved annually by the Board of Supervisors following a recurring request process that is facilitated by the County's Administrative Capital Committee (ACC), with assistance from the Capital Programs Division's Planning Team. Departments submit capital request papers in October of each year and characterize the priority level of these projects according to criteria such as legal mandates, health and safety effects, and environmental sustainability.[2] The ACC, which is chaired by senior staff from the Office of the County Executive, holds one-on-one meetings with requesting departments to discuss their business needs. The Committee then determines whether a new capital project is necessary to fulfill these needs, or whether these needs can be met through existing County resources.

2 These criteria are governed by Board Policy 4.11 on planning, reporting, and financing capital projects.

After these meetings, the ACC develops initial cost estimates for each capital project, with input from the Capital Programs Division. This information is compiled into a long-term planning document called the 10-Year Capital Improvement Program Plan (CIP). Within the CIP, the prioritization of projects, as submitted by the requesting departments, impacts a project's level of recommended annual appropriations, with the most urgent projects receiving proportionally higher funding in immediately upcoming fiscal years. Information from the CIP is presented in the County Executive's Recommended Budget in May, which outlines the recommended capital appropriations for the immediately upcoming fiscal year. The Board approves the County's yearly capital funding upon reviewing the Recommended Budget. Meanwhile, unexpended appropriations for unfinished, ongoing projects are rolled over to the following fiscal year. In FY 2018-19, the Board of Supervisors approved a one-time budget of $150.8 million General Fund dollars for 31 requested capital projects.

To note, the Management Audit Division was unable to identify a conduit between the funding priorities in the CIP and the project priorities of requesting departments. As of the FY 2018-19 capital request cycle, departments responded either "Yes" or "No" to specific criteria listed within their project request papers. This differed from the numeric scoring rubric utilized by the ACC to rank projects. Given that requesting departments didn't use the same rubric, we were unable to determine how the ACC assigned priority scores based on departmental concept papers. As of the FY 2019-20 capital request process, a numeric scoring component has been added to these concept papers, although we did not receive internal ACC documents to verify that final project rankings corresponded to department-identified scores.

We also could not trace the source of the ACC's proposed funding levels, as the Committee's CIP spreadsheets only contained manually inputted numbers rather than formulas. Further, cost estimation documents created by external planning consultants utilize project names different than those contained within the County's CIP, making it difficult to trace the CIP's funding projects back to these estimates. And while monies are appropriated for specific projects on a year-by-year basis in theory, in practice, there is no guarantee that monies set aside for ongoing projects will be expended in that year or following years. These and other issues of cost estimates and controls are addressed throughout our audit report.

The Capital Programs Division of the Facilities and Fleet Department

The Capital Programs Division of the Facilities and Fleet Department (FAF) is the entity responsible for executing most of the County's capital projects. The Division was authorized to fill 50.0 Full-Time Equivalent (FTE) positions through the FY 2018-19 approved budget. The following is a brief description of each position, *in alphabetical order*.[3]

> **Associate Planner (2.0 FTEs):** This position assists in the development and management of planning and feasibility studies for space planning, and master and concept plans pertaining to County capital projects.
>
> **Building Inspector (2.0 FTEs):** This position inspects buildings and structures for compliance with applicable codes and ordinances.

3 The positions and associated FTEs below represent a point-in-time structure of the Division as of August 2018. Changes to staffing may have occurred since this period.

Capital Projects Manager I, II, or III (18.0 FTEs): This position provides project management, liaison, inspection, and contract administration for the planning, design, construction, and modification of County capital projects. The dollar value of capital projects managed by this position is dependent on staff experience and qualifications.

Chief of Construction Services (3.0 FTEs): This position supervises a team of project managers, construction managers, construction inspectors, and consultant program managers coordinating the planning, design, construction, and modification of County capital projects.

Chief of Design Services (1.0 FTE): This position supervises a small team of project managers working on the planning, design, construction, and modification of the County's hospital-related buildings and structures.

Chief of Facilities Planning Services (1.0 FTE): This position supervises planning and sustainability staff working on planning studies, cost estimates, and other deliverables related to County capital projects.

Climate Change/Sustainability Program Manager (1.0 FTE): This position administers, develops, and manages climate change and environmental sustainability programs, projects, and policies for County operations and facilities.

Deputy Director FAF, Capital Programs (2.0 FTEs): This position, in conjunction with the Director of FAF, plans, organizes, coordinates, and directs the day-to-day operations of the Capital Programs Division.[4]

Executive Assistant I (1.0 FTE): This position performs administrative and secretarial work and general office management for the Deputy Director of FAF, Capital Programs.

Maintenance Project Manager (11.0 FTEs): This position develops, organizes, plans, directs, and manages capital backlog projects (i.e., capital funded projects that replace or renovate buildings and their systems near the end of their useful lives) for County facilities.

Management Analyst (1.0 FTE): This position analyzes programmatic practices and procedures and makes recommendations related to climate change and environmental sustainability programs.

Program Manager I (1.0 FTE): This position plans, organizes, directs, and controls the activities of climate change and environmental sustainability programs.

Program Manager II (1.0 FTE): This position plans, organizes, directs, and controls the activities of undisclosed capital-related programs.

Senior Construction Inspector (2.0 FTEs): This position performs contract administration and technical inspections of County construction and contract maintenance work.

4 This position also includes management of FAF's Real Estate group, which is a function outside the Capital Programs Division.

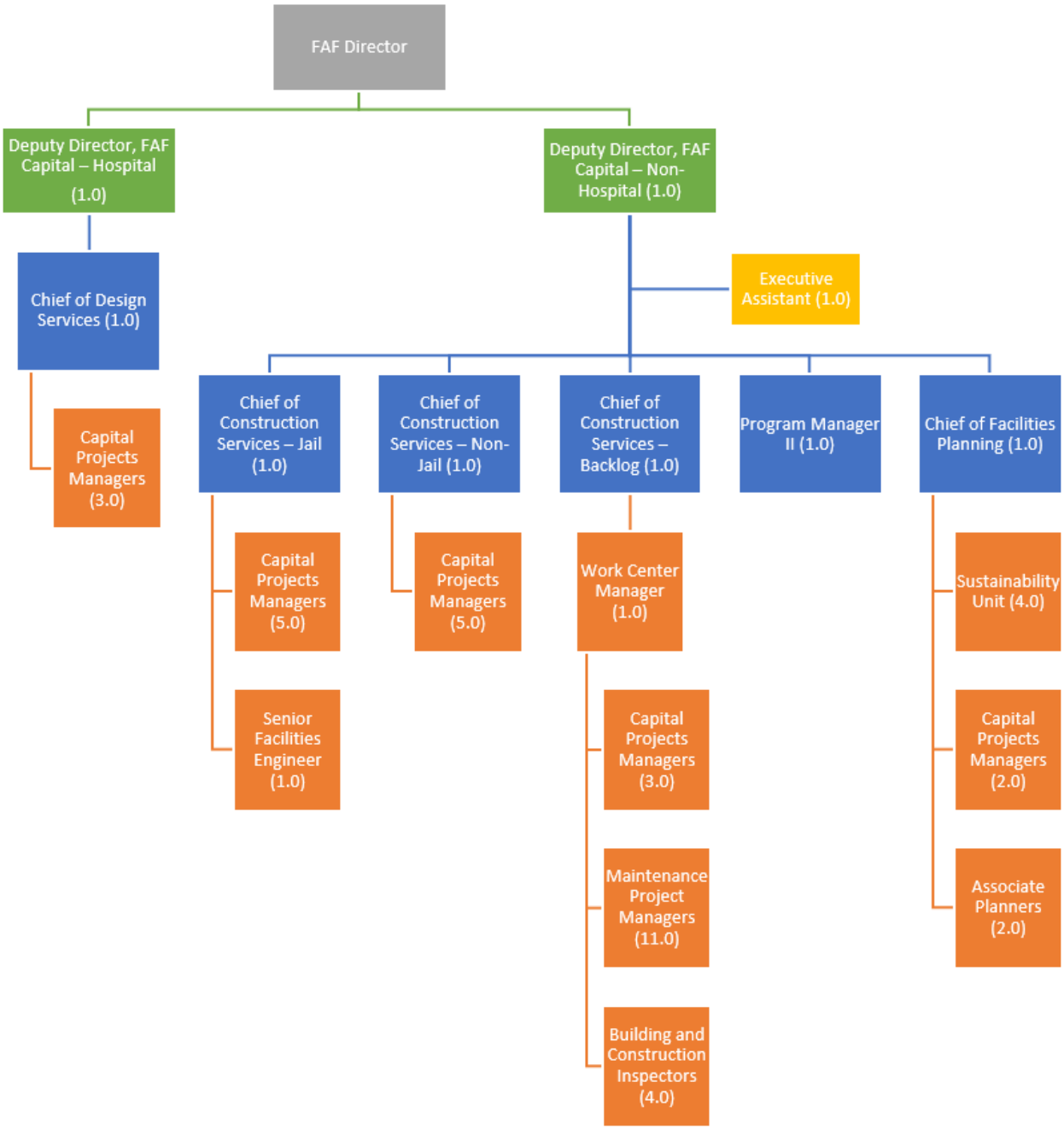
Senior Facilities Engineer (1.0 FTE): This position provides planning, engineering, or architectural design, construction, and facilities management services.

Utility Program Analyst (1.0 FTE): This position provides assistance and analysis on plans, strategies, and programs related to resource conservation, green building, recycling, and solid waste reduction and operations.

Work Center Manager (1.0 FTE): This position manages a team of Maintenance Project Managers working on capital backlog projects for County facilities.

The Capital Programs Division is managed by two Deputy Directors, both of whom report to FAF's Director. One Deputy Director oversees units for jail-related and non-jail-related capital projects, each respectively headed by a Chief of Construction. This Deputy Director also manages the unit responsible for capital backlog projects, which are minor projects that replace or renovate already-constructed building components and systems. The Capital Planning Team, which helps develop master plans, campus-specific plans, feasibility studies, and condition assessments, as well as initial project scopes, program documents, and cost estimates, reports to this Deputy Director as well. During FY 2018-19, the Division added a second Deputy Director to serve as a liaison for hospital-related projects and supervise a small team of Capital Projects Managers (CPM) managing these projects. See Figure I.1 on page 12 for a full organization chart.

Figure I.1: *Capital Programs Division Organization Chart*



Source: Capital Programs Division Organizational Chart as of August 2018.

This organization chart reflects the structure of the Division as of August 2018. However, over the course of the audit, the Division sent additional charts containing updated staff and individual units that substantially differed from the structure presented at the outset of FY 2018-19. For instance, a chart received by the Management Audit Division in March 2019 excluded the hospital unit supervised by the second Deputy Director of FAF Capital. In addition, the Planning Team's unit-wide chart showed multiple staff originally designated as Capital Programs personnel overseeing other units in FAF, such as the Real Estate group.

While we requested an updated chart from the Division to reconcile these discrepancies, subsequent charts continued to differ in their representation of the Division's overarching structure, and charts depicting the Planning Team—as further discussed in Section 3, starting on page 41 of this audit—were particularly inconsistent. Further, the Division reported that some staff shown in these charts only partially perform work for Capital Programs (e.g, the Chief of Facilities Planning Services and a Climate Change/Sustainability Program Manager). Consequently, portions of this audit report may refer to staffing levels and functions that are inconsistent with the organization chart in Figure I.1 on page 12.

The Capital Programs Division's FY 2018-19 Approved Budget

The FY 2018-19 Adopted Budget for the Capital Programs Division included gross expenditures of approximately $363.3 million, which were offset by budgeted expenditure reimbursements of approximately $5.4 million, and transfers in of $149.8 million, for net expenditures of approximately $208.2 million, as shown in Figure I.2 below.

Figure I.2: *Capital Programs Division FY 2018-19 Budget*

FY 2018-19	Budgeted Amount
Expenditures	
Salaries & Benefits	$5,196,664
Other Expenses	$423,667
Transfer Out	$207,941,077
Capital Project	$149,784,214
Expenditures Total	***$363,345,622***
Revenues	
Expense Reimbursements	$5,352,033
Revenues Total	***$5,352,033***
Transfers In	***$149,784,214***
Net Expenditures	***$208,209,375***

Source: SAP, the County's accounting system.

For the Division, transfers in primarily represent what the Board budgeted for capital projects for a given fiscal year. This includes the salaries of the Division's project managers, which are funded through billed time on individual projects, rather than through salaries and benefits appropriations in the Department's annual operating budget. The net expenditures of $208,209,375 therefore reflect all remaining overhead costs of the Capital Programs Division, such as supplies and salaries and benefits for staff who do not manage capital projects.

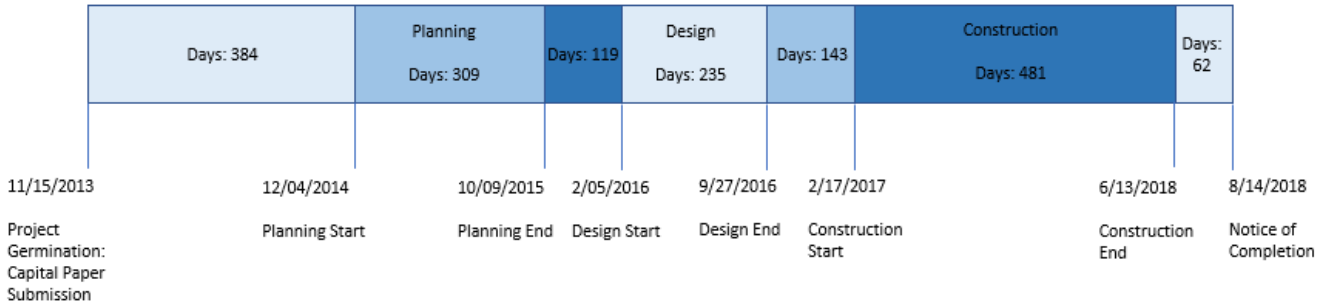
Delivery Phases and Management of Capital Projects

The Capital Programs Division's project delivery process can be generally broken out into three phases: planning, design, and construction. The planning phase entails assessing project needs, objectives, and scopes with input from multiple stakeholders such as the client department, County internal service departments, and community members. If the project entails a new service model or involves multiple stakeholder departments, then a new Service Model Operational Plan (SMOP) and program may be developed, although we did not find this to be a consistent practice (an issue described in greater detail in Section 3, starting on page 41 of this audit). After confirmation of project funding and completion of the planning phase, the County retains an Architecture and Engineering firm to create detailed schematics and cost estimates during the design phase, which the construction contractor references during the construction phase to build the capital asset. Once construction is finished and the Division completes all project close-out steps, the Board of Supervisors accepts the project as complete, and the Division closes the project in SAP, the County's accounting system.

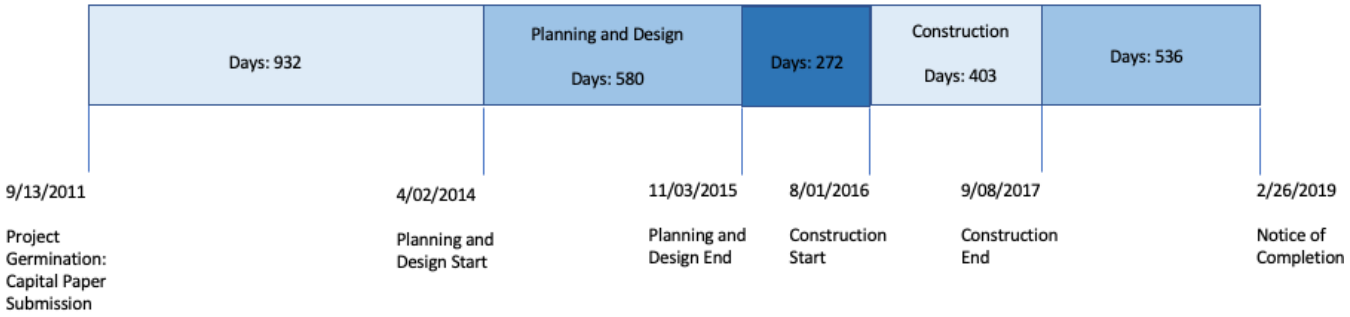
In terms of typical timeframes for each project phase, the Management Audit Division was unable to calculate summary statistics around this area due to a lack of centralized data about phase start and end dates for completed projects, which is an issue discussed in Section 6, starting on page 83 of this audit report. Consequently, we created timelines from a review of project files for three sample projects, as shown in Figure I.3 below.[5]

Figure I.3: *Timelines for Three Sample Capital Projects*

Project 1: 9th Floor Renovation at 70 West Hedding

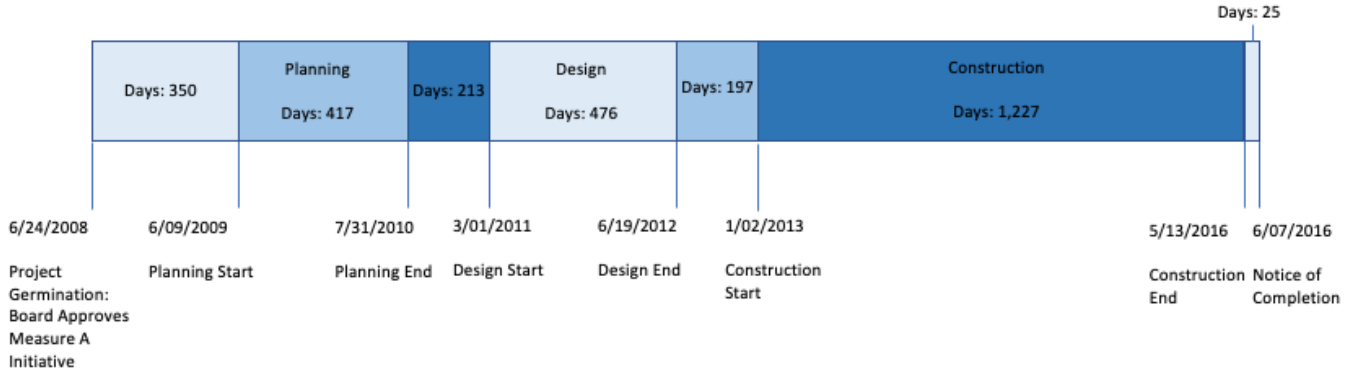


Project 2: Elmwood Sundeck and M1 Units



5 The planning phase in these timelines reflects when contractors were retained to create pre-design planning documents, and the dates that those documents were published. However, the Division's Planning Team reported that they were not involved with these projects.

Project 3: San Jose Downtown Health Center



Source: Capital Programs Division electronic project files.

While projects vary widely, these three samples demonstrate that planning and design for projects, like construction, can take substantial time—a year or more. Further, phases do not occur immediately one right after another, but have gaps in between. In these cases, three to seven months passed between planning, design, and construction. Further, the project at Elmwood Correctional Facility took over two-and-a-half years to commence from its initial capital paper submission. Gaps in between project phases can occur due to time spent on competitive bidding and permitting processes, holds, or other projects taking priority, which showcases the importance of tracking the status of projects and building these wait times into the overall project completion schedules presented to the Board.

Substantial Increases in the Size of the County's Capital Program

During FY 2018-19, the total value of the County's projected ten-year capital program for all newly approved and ongoing projects exceeded $5.2 billion dollars. Of this amount, $3.8 billion (71 percent) was identified as being funded from the General Fund, while the remaining $1.5 billion (29 percent) was funded from other sources such as the Parks Fund and Roads and Airports Fund.

In FY 2018-19, the Board of Supervisors approved a one-time budget of $150.8 million General Fund dollars, which included a $9.6 million contribution from 2012 Measure A funding for hospital projects. To compare, the County capital appropriation from five years prior was $26.4 million—less than 18 percent of FY 2018-19's capital budget. Further, the FY 2014-15 CIP contained only two projects exceeding $100 million, while the FY 2018-19 CIP contained eleven. The growth in the County's capital program is echoed by the volume of rolled-over funds for unfinished projects, which amounted to $250 million for General Fund-backed projects at the outset of FY 2018-19.

TOPICS REQUIRING ADDITIONAL REVIEW

During the course of a management audit, certain issues may be identified and brought to the attention of the agency being audited and the Board of Supervisors, even though a specific finding is not included in the report due to insufficient time to complete the analysis, or other factors. Four such matters are described below.

Violations of Internal Division Procedures for Change Orders

The Management Audit Division reviewed change orders—changes to the original construction contract—for the three projects presented in the timelines in Figure I.3 on page 14. During this review, we found multiple instances where the change order process did not adhere to the guidelines set forth in the Division's own procedures manual.

For instance, the manual dictates that a negotiation memo must be prepared for every change order, regardless of the dollar amount. Negotiation memos are documents prepared by Capital Projects Managers (CPM) in order to minimize the costs of change order work. According to the Division's procedures manual, the "goal in negotiating a construction change order is to pay a price for the contractor's performance of the work that is close to the price you would have received had the work been competitively bid."

However, in our file review, we found four different change orders in one project that did not have a required negotiation memo.[6] Not preparing negotiation memos may result in higher-than-necessary construction costs, as a contractor may propose a change order value exceeding the lowest dollar amount necessary to complete the work. And without documentation of these negotiations, it is difficult to ascertain that the CPM made every effort to work with the contractor to minimize the costs of these four change orders to the County.

We also found cases where standards around the signatory authority for change orders were not followed. Change orders must be progressively reviewed by individuals or entities with higher authority as their dollar amount increases. See Figure I.4 below for the signatory authority requirements defined in the procedures manual.

Figure I.4: *Signatory Authority for Change Order Amounts*

Amount	Signatory Authority
<$5,000	Construction Project Manager
$5,000 to $9,999	Chief of Construction
$10,000 to $210,000	Deputy Director of FAF, Capital Programs
>$210,000	Board of Supervisor Approval

Source: Capital Programs Division procedures manual.

6 We did not examine the work done for the change order to determine if it was done for a "reasonable" price.

Contrary to these guidelines, we discovered four instances where a change order in excess of $10,000 was signed by the Chief of Construction responsible for the project and not the Deputy Director of FAF. Signatory standards control excessive spending by requiring higher levels of supervisory review for change orders that pose a larger financial risk. When an unauthorized party signs a higher dollar change order, this may result in the Division having an incomplete picture of its spending, feeding into cost overruns.

While we found no evidence that either procedural violation *actually* resulted in unnecessary spending on construction for the sample projects, failing to complete negotiation memos or having unauthorized parties sign change orders pose financial risks. Consequently, we suggest that the Capital Programs Division reinforce its CPM training around change order procedures, and develop systematic, Division-wide review mechanisms to ensure that change orders are signed by the appropriate authority.

Capital Projects Delivery Method Selection

Capital projects are delivered through a variety of methods consisting of different management structures and timelines for design and construction. Traditionally, the Capital Programs Division has relied on a delivery method called Design-Bid-Build (DBB) to execute its capital projects. Under this model, the project owner (e.g., the County) contracts with an Architecture and Engineering firm to produce a complete set of design documents. General contractors then bid on these design documents to construct the capital asset, and the contractor submitting the lowest bid is selected to carry out the construction phase of the project.

DBB is one of the most commonly used delivery methods for public sector entities, and all respondents to the delivery method question on our jurisdictional survey (Attachment B on page 143) reported that they utilize this method. Because of its lowest-bid manner of construction contractor selection, the DBB model can be the most transparent in terms of costs. On the other hand, executive management from the Capital Programs Division reported that one downside of the lowest-bid model is that the Division has no input on contractor quality. In addition, adversarial relationships might develop between the design and construction contractors, given that the two parties do not have an opportunity to communicate on design elements or their constructability before the project is bid out. Finally, this method can result in a lengthy delivery period due to design documents and bidding processes needing to be completed in their entirety before construction can commence.

While DBB is the most prevalent delivery model within the Capital Programs Division, several of the Division's projects are executed through other methods such as Job Order Contracts (JOC), Design-Build (DB), and Construction-Manager-at-Risk (CMAR). These models are also employed by counties such San Mateo, Orange, and Sonoma (see Attachment B on page 143, peer survey). The distinctions between these methods are outlined in Figure I.5 on page 18.

Figure I.5: *Delivery Methods Summary*

Delivery Method	Description
Design-Bid-Build	The owner contracts with an Architecture and Engineering firm to develop design documents. These design documents are then put out to bid to general contractors, and the contractor submitting the lowest bid is selected to construct the capital asset according to the specifications in the design documents.
Design-Build	Rather than contracting with separate design and construction firms, the owner enters into a single contract for both design and construction of the capital asset. The contractor is selected based on both qualifications and value, as opposed to simply the lowest bid.
Construction-Manager-at-Risk	The owner contracts with an Architecture and Engineering firm to develop design documents, similar to a DBB model. However, typically before construction starts, the owner will retain a Construction Management firm to manage and deliver the project within a lump sum known as the "guaranteed maximum price" (GMP). It is the responsibility of the Construction Management firm to sub-contract out the construction work and any other services necessary to deliver the capital asset while remaining under the GMP. They thus fulfill the role of a general contractor once construction begins.
Job Order Contract	JOCs are typically a method used for completing standard or recurring projects such as painting or repairs. Contractors competitively bid on these contracts, and their bid amounts are based on a third party-maintained pre-priced task list with certain modifications. These contracts can span several years, allowing the owner to call upon the contractor for multiple projects over the contract term, when needed.

Source: Management Audit Division.

The choice of delivery method impacts contractual relationships, the point at which different stakeholders become engaged, overall project costs, and the level of control that owners have over changes, among other factors. Consequently, owners must have a thorough understanding of the trade-offs of each method in order to most effectively choose a model that will best meet the needs of a specific project.

However, it is unclear whether the Capital Programs Division has this expertise. For instance, Division executive management reported that none of the delivery methods have time savings advantages or differences in liability, despite the fact that several non-DBB delivery methods allow for earlier construction and are structured to shift the risk from the owner to parties such as Construction Management firms. Conversely, when we asked Division staff overseeing one of the CMAR projects why this method was chosen, their response was, "to seek opportunities to reduce the construction time."

The Capital Programs Division does not have formal criteria for selecting one delivery method over another. According to an audit performed for the Utah State Legislature and a report from Washington state's Office of Financial Management, assessments of capital delivery methods may include the following considerations:

- Type of project (e.g., complexity and uniqueness of the project and level of control needed)
- Project size
- Agency capabilities and owner considerations (e.g., the level of involvement and decision-making the owner wants to maintain control over throughout the process)
- Time considerations
- Likelihood of changes[7]

In contrast, the Capital Programs Division does not have a set list of guiding factors or methodologies for assessing delivery method trade-offs. While an October 2019 revision to the County's Board Policy Manual discusses different solicitation methods for public works contracts, it offers no specific guidance on what factors should drive selection of a solicitation method. Instead, the policy only states that, "The type of solicitation method used will depend on the value of the contract," and that agencies should "consult with the Procurement Department or the Facilities and Fleet Department to determine the appropriate method of solicitation.[8]

Management for the Capital Programs Division stated that these solicitation method decisions are largely based on "project complexity." Further, the Division reported that, "[a]s a matter of policy, [the Division] is trying to move away from DBB unless it is a more simple project" and that FAF has a "desire towards CMAR." However, the Division confirmed that there are no written policies around this delivery method shift.

There is no underlying evidence to justify major changes in delivery methods. While the County has encountered issues with the DBB model in the past, these problems may have been due to poor execution of the method rather than the method itself. For instance, an over-budget Valley Medical Center expansion resulted in a high-profile legal dispute between the County and its construction contractor. However, design documents were only 60 percent complete when they were put out to bid, which is not typical of a DBB model.[9] Consequently, numerous changes and requests for information were issued, increasing costs. In alternate scenarios, when DBB projects benefit from complete designs and cooperative contractors, project delivery can be successful.

The County also does not have sufficient experience with CMAR to substantially make assessments of its advantages to other delivery models. As a fairly recent delivery method, only one of the Capital Programs Division's CMAR projects had completed construction as of November 2019. Further, CMAR projects might end up costing more due to the owner retaining a Construction Management firm earlier

7 Coleman, Richard et al. Report No. 98-06 - A Performance Audit of Construction management by Political Subdivisions. (1998); Office of Financial Management. Best Management Practices for Capital Projects. (2008).

8 Santa Clara County Board of Supervisors Policy Manual: Section 5.7.5.2. Method(s) of Solicitation (Amended 10-8-19).

9 Donato-Weinstein, Nathan. (25 Jan., 2016). County CEO says "design-bid-build" delivery method set troubled Valley Medical project up for failure. *Silicon Valley Business Journal.* Retrieved from https://www.bizjournals.com/sanjose/news/2016/01/25/county-ceo-says-design-bid-build-delivery-method.html.

in the delivery process, resulting in more extensive professional service fees. In the aforementioned audit report performed for the Utah State Legislature, auditors were unable to conclude that CMAR was a more cost beneficial project delivery system based on its review of four sample projects. We thus believe that the Division should not initiate an overall shift towards CMAR until more CMAR projects have been completed by the County.

Outside of the Valley Medical DBB case, in which major issues may have been due to failures in execution of the method rather than the delivery model itself, the Management Audit Division was unable to identify cases in which the Capital Programs Division's "incorrect" choice of method led to adverse financial or legal impacts. However, given the risk of these adverse impacts, we suggest that the Division develop a more formal set of criteria and methodology around capital delivery method decisions. For instance, in our peer survey, Orange County reported that they have a written policy on when different delivery methods should be used.

Finally, given that operational considerations such as when different contractors are retained or the completeness of design documents put out to bid are dependent on the chosen delivery model, we suggest that the Capital Programs Division also define a point during planning or early design where the Division must finalize delivery method decisions. After this decision is made, the Division should make no changes to the chosen delivery model, as any shifts might affect the measures the Division has already taken under the assumptions of another delivery method.

Accuracy of Construction Cost Estimates

Cost estimates for capital projects managed by the Capital Programs Division are progressively refined as a project moves toward and into construction. The County's Master Professional Service Agreement (PSA) for Design Services requires cost estimates at each major design phase document submittal (see Figure I.6 below). According to the Division's internal procedures manual, these estimates ensure that a project can deliver the intended scope within authorized funding limits and provide the Division with cost data for planning future projects with similar elements. As the level of detail in the design increases, the estimate is updated and becomes more accurate, as shown in Figure I.6 below.

Figure I.6: *Range of Accuracy of Cost Estimates at Different Design Phases*

Design Phase	Accuracy of Estimate
Conceptual estimates	+50% to -30%
Schematic Design estimates	+30% to -15%
Design Development estimates	+15% to -10%
70% Construction Documents	+10% to -7%
100% Construction Documents	+5% to -3%

Source: Capital Programs Division procedures manual.

The accuracy ranges contained in the Division's procedures manual are consistent with industry standards such as the cost estimate classification matrix developed by the American Association of Cost Engineers (AACE).[10] Within this matrix, a project deliverable at 65% to 100% maturity (which corresponds to final construction documents during the design phase) has an expected accuracy range of -3% to -10% as a lower bound, and +3% to +15% as an upper bound (i.e., a maximum range of -10% to +15%).

Before the Board of Supervisors approves a project to go out to bid, the project's contracted design firm must submit a final construction estimate with its 100 percent completed design documents. Because cost estimates are a vital component of planning and budgeting for both current and future projects, it is important that estimates fall as close to true bid amounts as possible.

However, in analyzing FAF's cost estimates and corresponding bid amounts for projects associated with the Division's active construction contracts as of November 2018, we found that 15 of 22 projects with engineer's estimates (68 percent) had base bids that deviated from construction cost estimates in excess of either -10% or +15% (the range in AACE's matrix). Meanwhile, 17 of 22 projects (77 percent) received base bids that fell outside of the Capital Programs Division's accuracy range of +5% to -3%. On the upper end, one base bid amount exceeded the cost estimate presented to the Board by as much as 123%, whereas on the lower end, a cost estimate was 36 percent less than the lowest bid.

When cost estimates fall routinely higher or lower than bid amounts by a significant margin, this impacts the County's ability to financially plan for projects, given that the Board's assumption of future project costs is based on these estimates. To note, it is possible that several of the more extreme outliers may be due to the Division's employment of alternative delivery methods. For several delivery models, design is completed to varying degrees before the project is put out to bid, which might impact the accuracy of cost estimates. As an example of this, one design-build project had a sizable variance of 83 percent between its cost estimate and base bid. However, alternative delivery does not account for all projects exceeding or falling outside the acceptable range of accuracy, as some of the most extreme outliers were projects executed using a traditional design-bid-build model.

Inaccurate cost estimating may be one key source of overruns for projects exceeding their initial budgets, such as when bids come in significantly higher than projected amounts. On the other hand, when bids are dramatically lower than professional cost estimates, it calls into question whether construction contractors are underestimating their own costs, and whether these contractors can realistically deliver the project according to the lowest bid amount. If the low bid was indeed due to oversight or miscalculations on the construction contractor's end, this may result in additional unanticipated costs during construction, which—at a certain threshold—defeats the purpose of selecting the "lowest bidder" to complete the work.

We suggest that the Capital Programs Division develop a methodology for reviewing discrepancies between construction cost estimates and bid amounts across multiple projects and analyze trends that may be contributing to routinely inaccurate estimates. Estimates in the future might then be adjusted to account for these trends, to better support the Division's goal of using these estimates to plan for future projects.

10 AACE International. (2019). Cost Estimate Classification System – As Applied in Engineering, Procurement, and Construction for the Process Industries.

In addition, on an individual project level, the Division seemingly has inconsistent practices for value engineering[11] and negotiating bid amounts that deviate significantly from cost estimates. In 2016, the lowest bid for one project managed by the Division was 28.6 percent higher than the cost estimate presented to the Board. This resulted in negotiations with the bidding firms before a contract was awarded. Yet, other projects in our data that had larger discrepancies between cost estimates and bid amounts did not seemingly receive the same level of scrutiny according to their legislative files, nor was there any apparent value engineering effort.

We therefore suggest that the Division adopt policies and procedures for their contract award considerations, including criteria for rejecting bids and analyzing bids that appear unbalanced. For example, the California Department of Transportation requires a written justification when awarded construction contracts for National Highway System projects exceed the engineer's estimate by 10% or more.[12] Further, the Federal Highway Administration requires engineer's estimates to be within plus or minus 10% of the low bid for at least 50% of the projects awarded.[13] The Division may thus want to establish a specific threshold for performing such analyses before negotiating value engineering.

Climate Change/Sustainability Within FAF's Capital Planning Team

The Climate Change/Sustainability Program (Sustainability) within Santa Clara County, which consists of a Program Manager, a Program Manager I, and a Management Analyst, is responsible for administering, developing, and managing "climate change and environmental sustainability programs, projects, and policies that minimize greenhouse production resulting from County operations and government facilities".[14] County-wide sustainability policies,[15] as well as Environmental Stewardship Goals,[16] encompass many different aspects of the County's functions. These functions include, but are not limited to, environmentally preferable purchasing, landscaping, green buildings, and Greenhouse Gas (GHG) emissions reduction targets. The Sustainability program is located within Planning Group of the Capital Programs Division of the Facilities and Fleet Department (FAF) (see Figure I.7 on page 23).

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11 Value engineering is a process in which design elements are reviewed and potentially adjusted, eliminated, or replaced in order to lower costs.

12 Caltrans. (2019). Local Assistance Procedures Manual Chapter 15: Advertise and Award Project. CA.gov. Retrieved from https://dot.ca.gov/programs/local-assistance/guidelines-and-procedures/local-assistance-procedures-manual-lapm.

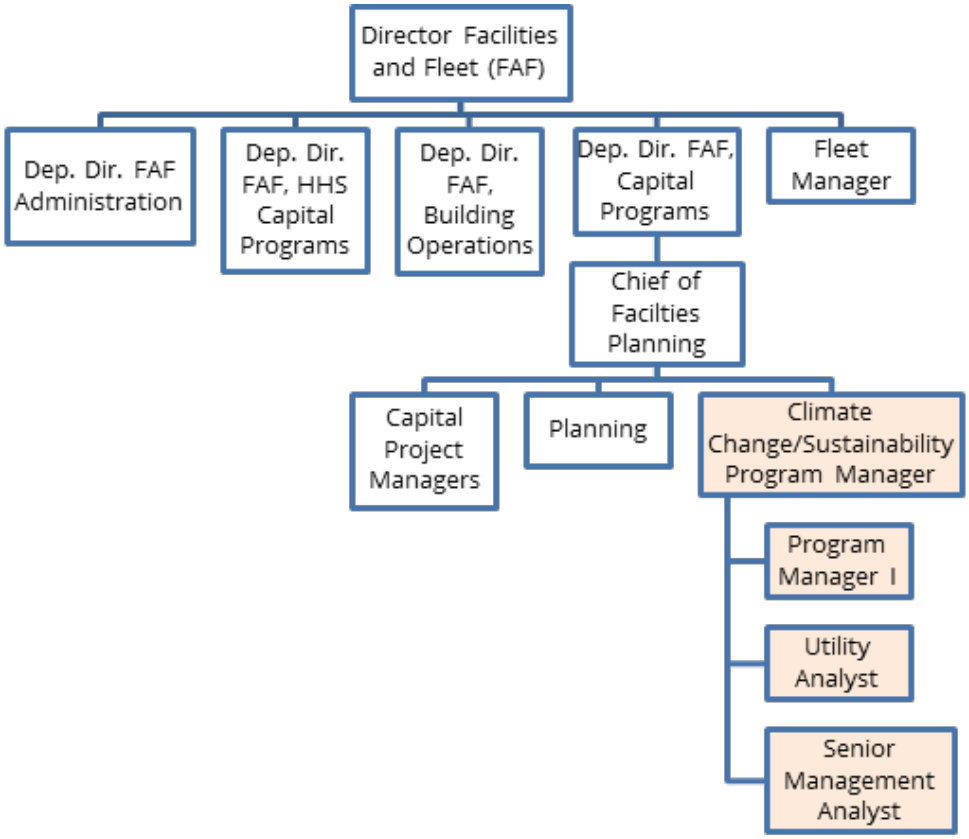
13 U.S. Department of Transportation – Federal Highway Administration. (2004). Guidelines on Preparing Engineer's Estimate, Bid Reviews and Evaluation. Retrieved from https://www.fhwa.dot.gov/programadmin/contracts/ta508046.cfm.

14 County of Santa Clara - Class Specification Bulletin, Climate Change/Sustainability Program Manager.

15 Board Policy 8.1 – Sustainability. https://www.sccgov.org/sites/scc/gov/CountyPolicies/Board-Policy-8.1-Sustainability.pdf;
Board Policy 8.4 – Zero Waste Policy for County Facilities and Operations. https://www.sccgov.org/sites/scc/gov/CountyPolicies/Board-Policy-8.4-Zero-Waste-Policy-For-County-Facilitites-and-Operations.pdf;
Board Policy 8.5 – Sustainable Landscaping Policy. https://www.sccgov.org/sites/scc/gov/CountyPolicies/Board-Policy-8.5-Sustainable-Landscaping-Policy.pdf;
Environmentally Preferable Purchasing Policy. https://www.sccgov.org/sites/rwr/rwrc/Documents/EPP.pdf;
Board Policy 7.14 – Green Building Policy for County Government Buildings. https://www.sccgov.org/sites/scc/gov/CountyPolicies/Board-Policy-7.14-Green-Building-Policy-for-County-Government-Buildings.pdf;
Carbon Neutral Resolution No. BOS-2018-145. http://sccgov.iqm2.com/Citizens/Detail_LegiFile.aspx?Frame=SplitView&MeetingID=9968&MediaPosition=&ID=94679&CssClass=.

16 Santa Clara County's Environmental Stewardship Goals. https://www.sccgov.org/sites/osp/Pages/esgs.aspx. Accessed February 4, 2020.

Figure I.7: *Current Location of Climate Change/Sustainability Within the Planning Team Organizational Chart*



Source: Management Audit Division consolidation of organizational charts provided by the Capital Programs Division

While this organizational structure allows Sustainability to engage with the planning process for capital projects, the Capital Programs Division reported that the Climate Change/Sustainability Program Manager position is only 50 percent within Division, and that none of the three positions reporting to this Manager are within the Division. The placement of this program within the Planning Team also separates it from the other County-wide areas it is meant to administer, develop, and manage. For instance, there are sustainability factors associated with maintaining facilities once they are built, which is under the purview of FAF's Building Operations Division. However, because the Sustainability Program is situated within Capital Programs' Planning Group, which interfaces only minimally with Building Operations, Sustainability is unable to consistently lend its expertise to maintaining these facilities. The County also strives to reduce emissions through strategic vehicle purchasing through its Fleet Division, which is not overseen by the Capital Planning Team.

Furthermore, once the planning phase for a capital project is complete and the project moves into its design phase, Sustainability is no longer an integrated part of capital project delivery. Although the Division's Planning Team is responsible for initial scoping of a project, as discussed further in Section 3, starting on page 41 of this audit report, their involvement following the planning phase is more limited. This raises the risk that certain sustainable components identified and integrated during planning will be altered or eliminated entirely during design.

To maximize cost savings, best practices dictate an "integrated systems approach" for capital projects incorporating sustainability considerations. As advanced by the U.S. Green Building Council, the goal of an integrated systems approach is to plan and design a building as one system rather than a collection of systems potentially disconnected from each other.[17] The California Energy Efficiency Strategic Plan – Codes and Standards Action Plan (2012-2015) states that:

> Integrated building design is often a no-to low-cost investment, which has the potential of huge energy saving results if initiated from the early stages of design. The intent of addressing integrated building design in codes and standards is to encourage it as a new design paradigm. The initiatives encouraging and incentivizing this strategy through IOU New Construction programs will facilitate market readiness for future adoption of integrated building design solutions.[18]

HOK, a global design, architecture, engineering, and planning firm, quantifies these cost savings, stating that green buildings are 14% less costly to operate on average than traditional buildings.[19] In order to accomplish this, the firm advocates for stakeholders such as architects, mechanical engineers, contractors, preconstruction services consultants, and building owners "collaborat[ing] early and often to understand how building systems link to one another and then use that knowledge to find efficiencies and tradeoffs."[20] Thus, an integrated systems approach for capital projects would include sustainability measures from the beginning of the planning phase through to the completion of the project.

However, Planning Team personnel reported that, despite County and state energy goals, sustainable components that are a part of a capital project's initial budget are frequently cited as "not mission critical" during the design phase—even when they have been integrated into initial planning documents. Value engineering meetings that occur during design, which seek to optimize facility functionality and reduce costs, do not include Sustainability Program staff. Therefore, these staff are not consulted when decisions are made to cut sustainable components from a project. This significantly affects the potential benefits of sustainable components by disrupting the integration of the sustainable system that was developed during the planning phase.

17 U.S. Green Building Council. (7 May, 2014). Green Building 101: What is an Integrated Process? Retrieved from https://www.usgbc.org/articles/green-building-101-what-integrated-process.

18 California Energy Efficiency Strategic Plan – Codes and Standards Action Plan (2012-2015). http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=5308. Accessed January 16, 2020.

19 Landreneau, A. (May 7, 2017). Green buildings don't have to cost more. Building Design + Construction. Retrieved from https://www.bdcnetwork.com/blog/green-buildings-dont-have-cost-more.

20 Landreneau, A. (May 7, 2017). Green buildings don't have to cost more.

For example, the Vietnamese American Service Center was initially planned with solar panels, but those panels were cut during the design phase. The result of such alterations is a potential loss of the net operational savings that would have occurred had the planned integrated systems been implemented with fidelity. If the County invests in sustainable components that do not yield proportionate long-term benefits and savings (due to their piecemeal, unintegrated installation), this may then deter the Capital Programs Division from prioritizing sustainable components in future projects. The net impact from insufficient sustainability planning and design, or only partial integration of sustainable planning into building design, is therefore not restricted to a single project, but adversely affects future decisions on green building within the County.

To maximize the benefits of County-wide sustainability policies and Environmental Stewardship Goals, the Management Audit Division suggests that the Sustainability Program be restructured so that its role is not limited to the Planning Team of the Capital Programs Division. For instance, Sustainability could be altered into a stand-alone unit that reports directly to FAF's Director rather than a sub-unit of the Planning Team. Alternatively, if the Sustainability Program remains within the Planning Team, the Division may choose to develop formal protocols for the Program to interface with and provide input to other FAF divisions such as Building Operations and Fleet.

RECOMMENDATION PRIORITIES

The priority rankings shown for each recommendation in the audit report are consistent with the audit recommendation priority structure adopted by the Finance and Government Operations Committee of the Board of Supervisors, as follows:

Priority 1: Recommendations that address issues of non-compliance with federal, State and local laws, regulations, ordinances and the County Charter; would result in increases or decreases in expenditures or revenues of $250,000 or more; or, suggest significant changes in federal, State or local policy through amendments to existing laws, regulations and policies.

Priority 2: Recommendations that would result in increases or decreases in expenditures or revenues of less than $250,000; advocate changes in local policy through amendments to existing County ordinances and policies and procedures; or, would revise existing departmental or program policies and procedures for improved service delivery, increased operational efficiency, or greater program effectiveness.

Priority 3: Recommendations that address program-related policies and procedures that would not have a significant impact on revenues and expenditures, but would result in modest improvements in service delivery and operating efficiency.

DEPARTMENT ACCOMPLISHMENTS

While management audits focus on areas for improvement within the audited entity, these entities also have accomplishments that should be highlighted to enable the reader to understand operations in their entirety, including those areas that are not the subject of audit findings. We have asked the Capital Programs Division to provide comment on its recent accomplishments. Management furnished the memo which is provided in Attachment C on page 169.

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Section 1: Capital Projects Management Procedures

Background
The Capital Programs Division is subject to numerous state laws and County requirements related to executing capital projects, including guidelines on procurement and contracting, environmental compliance, fire safety, and funding measures. Consistent with industry best practices, the Capital Programs Division has an electronic procedures manual to guide the work of Capital Projects Managers (CPM) from project start to finish.

Problem, Cause, and Adverse Effect
The electronic procedures manual has not been substantially updated since 2012, and contains obsolete forms, sample project documents no longer used by the Division, and broken links to sections and website landing pages. The procedures manual also does not reflect changes in Division planning processes, workflows, and County procurement policies from Fiscal Year 2013-14 onwards. For instance, the Division reported that its work model has shifted from a single CPM managing an entire capital project to multiple CPMs overseeing different aspects of a project based on expertise. However, the manual does not reflect this change and does not describe hand-off procedures between CPMs. The manual's guidance is also inconsistent with changes in state law effective January 2019 for competitive bidding thresholds. This manual is the key resource for project managers, whose in-house training, as shown elsewhere in this audit report, is insufficient. Failure to provide CPMs with updated forms and relevant, legally sound procedures increases the legal and financial risks to the County, and we identified inconsistencies in practices among staff that may be tied to lack of Division-wide guidelines. For example, we identified four different software systems used by different managers to track project progress, and two managers who use no software.

Recommendations
The Capital Programs Division should immediately revise its procedures manual and obtain input on these revisions from relevant departments such as Procurement, the Building and Planning department, and County Counsel. The Division should assign a manager to create a revision plan for the document to ensure that procedures are reviewed, updated timely, and that all updates and their nature are documented in a log so that changes can be easily referenced. This manager should also notify staff of all updates.

Savings, Benefits, and Costs
Given the size of this manual, which contains over 2,600 modules, linked forms, files, and other items, these recommendations will require more time and resources, and potentially Extra Help staff or contracted help depending on the extent of updates. The benefits of these recommendations are more accurate procedures for CPMs; less waste and opportunity for violation of state and County laws and policies; and greater consistency in capital delivery processes, making future tracking of projects easier.

FINDING

Guiding Standards for Capital Projects Managers

The execution and delivery of capital projects is subject to numerous state laws such as California Public Contract and Building Standards Code, as well as County capital outlay, capital financing, and purchasing policies, among others. It is the job of Capital Projects Managers (CPM) to adhere to these standards while making sure projects stay on schedule and on budget.

To facilitate this process, the Capital Programs Division of the Facilities and Fleet Department (FAF) has a procedures manual that guides CPMs in managing a capital project from start to finish. This manual is in electronic format and covers topics such as project budgeting, design agreement management, construction bidding and award, and project closeout processes. The electronic manual contained over 2,600 files as of November 2019. These files included instructional modules, linked forms, and sample documents, among other items. In its own words, the aim of the manual is to be "THE repository of all Capital Programs Division forms and policies." Having such a manual is in accordance with standard practices, according to a California multi-agency benchmarking study.[21]

The Division's Procedures Manual is Infrequently Updated and Contains Obsolete Forms and Broken Links

While the manual is exhaustive in its coverage of topics, we found that, as of November 2019, over 95 percent of its sections and linked documents were last modified between 2002 and 2012. Consequently, portions of the manual are outdated or obsolete. Despite its self-reported function as a comprehensive repository of forms, the procedures manual does not provide reliable access to updated documents and templates.

In its bidding and construction chapters, the manual contains links to "Front End documents" that CPMs are supposed to complete as a part of construction bid packages. These forms include the "Notice to Bidders," "Bidding Instructions," and "Summary of Work," among others, and are part of a Master Project Manual template created by FAF and County Counsel. However, the procedures manual's outdated bidding and construction chapters contain links to different versions of the master template. For instance, the linked "Notice to Bidders" form is from Version 9.4 of the Master Project Manual, which was updated in April 2009. Meanwhile the linked "Summary of Work" form is from Version 5.2, last updated in February 2005. None of the links in the procedures manual route to the most recent version of these forms on the Division's intranet site.

21 City and County of San Francisco, Sacramento Department of Public Works, Oakland Public Works Agency, City of San Jose, City of Los Angeles. (Dec. 2017). California Multi-Agency CIP Benchmarking Study. Retrieved from https://eng.lacity.org/sites/g/files/wph726/f/CABMAnnualReportUpdate2017.pdf

Further, in a section about contracting for minor public works, the procedures manual contains a version of an agreement template that still lists Capital Programs' former Deputy Director, who left the Division in 2015, as a contact. Within at least ten sections of the procedures manual, there are also broken document links or website hyperlinks. Because there is no single location to find current forms or templates, CPMs may not realize that are using an outdated version of a form, or they may have to look through multiple sources and project files to find what they need. At best, this diminishes efficiency; at worst, CPMs could use outdated procedures and documents, raising the risk of noncompliance with County and state requirements.

In addition, the procedures manual exhibits internal inconsistencies within and between several of its own sections. For example, the procedures manual contains a module called "Informal Contracting for Public Works," which gives an overview of award actions for different dollar ranges. At the beginning of this module, one of the listed ranges is for informal contracts valued at less than $30,000 but greater than $6,500. However, a header later in this section changes this range to informal contracts valued at less than $45,000 but greater than $6,500. And while this module on informal contracting lists $175,000 as a maximum cap for informal bidding, the "Bidding Process Overview" module of the manual states, "Public projects with a value in excess of $100,000 must be let using a formal competitive bidding process." These inconsistencies may lead to confusion on the part of CPMs as to what bidding processes they should follow.

The Outdated Manual does not Capture Changes to State and County Requirements or Broad Changes within the Division's Project Delivery Methods

Due to the dated nature of the Division's procedures manual, several sections do not account for changes in state or County requirements after 2012. For instance, regarding informal bidding thresholds described in the preceding section, an amendment to California Public Contract Code increased this maximum amount to $200,000 (effective January 1, 2019).[22] Then, on top of its internal inconsistencies, the manual does not accurately reflect changes in state law, which could lead to compliance issues with projects.

Additionally, the procedures manual discusses sole-source procurement in multiple modules, including its "Contracting with Consultants: Overview" section. Within this module, there is a link to a 2004 FAF document that discusses sole source procurements and an attached sample of a sole source justification email from 2009. However, County sole source justification requirements have changed since 2009, and the County now has an official form—last revised in March 2019—for this purpose. Consequently, the procedures manual's example of a justification email from almost ten years prior no longer provides relevant guidance to CPMs on this topic.

Perhaps most significantly, the procedures manual does not capture substantial organizational and project workflow changes that have occurred in the Division from FY 2013-14 onwards. During FY 2013-14, a new Planning Team was created within the Division to scope projects, assess space needs, gain stakeholder input, and create cost plans prior to design development. However, the procedures manual for the Capital Programs Division has not been modified to show a distinct planning phase separate from design.

22 CA Public Contract Code § 22032 (as amended by AB 2249). Retrieved from https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PCC&sectionNum=22032.

Division management reported that the Planning Team is responsible for several items that are still listed under the design section of the procedures manual. For example, a module called "Architectural Programming," which defines the early development of project goals, facility use, budget limitations, and space requirements, has not been edited to shift responsibility for this phase from CPMs to the Planning Team. The "Roles and Functions of Facilities and Fleet (FAF) Department, Capital Programs Division" chapter contains an incomplete description of the Planning Team and an internal note to "Add list of Planning Documents" (see Attachment D on page 173). This note was made in May 2018, and as of November 2019, there had been no update. Other than this cursory mention of the Planning Team within its first chapter, the procedures manual contains no detailed guidelines on what the Team is responsible for, how CPMs should interface with this entity, or handoff procedures between the Planning Team and CPMs at the start of a project's design phase (see Section 3 of this audit for further information on deficient documentation of planning processes).

Further, executive management for the Division confirmed that the procedures manual is written in a manner that assumes that a single CPM will manage a project from "cradle to grave." However, in January 2019, the Division reported that they had begun transitioning to a different project management workflow. In this new model, a single CPM still takes primary responsibility for the project, and is responsible for budget allocations throughout, but may take a backseat role during specific project phases depending on their expertise. For instance, a staff member with more extensive construction management experience may take over as the lead role during the construction phase of the project. Notably, there is no indication of this change in management structure within the procedures manual.

Having an up-to-date procedures manual is critical for project consistency and compliance with state and County laws and policies. A manual containing links to obsolete policies, forms, and sample documents subjects the County to legal and financial risks, particularly if a CPM is not well-versed in particular aspects of capital projects such as Public Contract Code or permitting requirements. The Division's procedures manual is one of the only comprehensive resources that guides CPMs through the capital delivery process, and having an accurate document is especially critical given the lack of training administered by the Division (discussed in greater detail in Section 2 of this audit). Comments by CPMs on a survey administered by the Management Audit Division discussed how CPMs are expected to "learn by doing" and that there "is no established methodology for how and when to reach to supporting departments … for their input."[23]

23 Attachment A on page 117: CPM Survey.

The Division has also undergone substantial turnover in its CPMs from FY 2017-18 onwards, heightening the need for up-to-date, documented procedures as institutional knowledge is lost and new staff are hired. For example, the Division reported that 11 of 16 of its project delivery CPM positions were filled at the beginning of FY 2018-19.[24] However, over the course of the fiscal year, three of these CPMs left their positions (27 percent of filled positions), and two coded CPMs and one provisional staff member were hired. During FY 2017-18, two CPMs were promoted into supervisory roles, and four new CPMs were hired. The year before that, one coded and one unclassified CPM moved on from their roles, and three new CPMs were hired. High turnover rates mean less potential for CPMs to informally learn from one another and thus increase the importance of formal procedures.

Inconsistent Practices Identified Among Capital Programs Staff

In the absence of a standard, updated procedures manual, we observed inconsistent practices exhibited among CPMs. For instance, we found that CPMs vary in their preparations of independent government estimates. These estimates, which are the Division's own independently derived cost projections of contracted work, can be used as a benchmarking tool to negotiate design firm agreements and proposed amounts for construction change orders. There are no guidelines for preparing these estimates in the Division's procedures manual. The Management Audit Division obtained an email chain in which a CPM and the CPM's supervisor had argued over the quality, methodology, and completeness of an independent government estimate for a construction change order. To note, in this thread, the CPM had attached an example of a sample valuation provided by their supervisor, which only included materials, quantities, unit costs, and totals with no underlying explanations or other detail. Further, the Division has not established a uniform template for these estimates. Consequently, CPM design estimates are in different formats, and in one notable example, a CPM had written out their valuations on a sheet of lined paper.

From a survey administered to CPMs for this audit, we also discovered that CPMs use different software to monitor project progress against time elapsed and dollars spent. Project managers reported using a range of management programs, including Microsoft Project, Microsoft Excel, Microsoft Access and Procore. Two survey respondents noted that they do not use any project management software at all to monitor capital projects. According to Division management, specialized software such as Procore is only used for certain large projects such as the New Jail, and only during the construction phase. CPMs are not required to use any software to manage projects during planning and design. Consequently, internal project progress monitoring by CPMs is retained in varying formats and contains different types of Information due to the range of software (or lack thereof) used.

24 During FY 2018-19, the Division had 18 budgeted CPM positions. Two of these CPMs were assigned to planning functions, while the remaining 16 were responsible for project delivery.

This lack of consistency is particularly problematic when considering the large volumes of capital projects managed by multiple CPMs. In reviewing timecard records for active projects from July of 2012 to November of 2018, nearly 73 percent of projects had more than one CPM billing to the project over the time period of the timecard report. Executive management reported that the reasons for this include retirements, promotions, project reassignments, or CPMs providing supporting roles on a project that is already staffed. Without robust procedures, project management and recordkeeping might exhibit wide variances depending on who managed which aspect of the project. Confusion and inefficiencies may result as new CPMs attempt to understand the history and status of ongoing, "inherited" projects.

During the course of our audit, we encountered four cases in which the most recent CPM on a project could not answer questions about planning documents, budget adjustments, project agreements, and other documentation because they were not a part of the project at the time. This issue is likely exacerbated by the fact that there is no consensus among CPMs as to whether a formal "hand-off" procedure exists for when projects change managers. If a CPM is unable to ascertain certain early aspects of a project, such as original scope or preliminary design requirements, this may cause conflict among stakeholders and change orders during later design or construction stages.

Inconsistent practices extend to supervisory staff as well. Upper management from the Division began requiring monthly project progress reports from CPMs as of October of 2018 but explicitly stated that CPMs are not required to follow a specific format for these reports. Requirements for monthly reports were not contained within the procedures manual as of November 2019, either.

To standardize varied practices that may result in disjointed project management, as well as mitigate legal and financial risks, we recommend that the Capital Programs Division immediately update its procedures manual and obtain input from relevant departments such as Procurement, the Building and Planning department, and County Counsel. These updates should include uniform project management software requirements for CPMs. The parameters of this software, including budget, schedule, and change order tracking and reporting capabilities, are discussed in greater detail in Section 6 of this audit report.

Given periodic changes in state and County requirements and contracting templates, as well as internal organizational and workflow shifts, the Division should also assign a manager to create a revision plan for the manual to ensure that procedures are reviewed, updated timely, and that all updates and their nature are documented in a log so that changes can be easily referenced. The new manager should ensure that the revised manual is reviewed and updated annually, at minimum. Lastly, we recommend that this new manager notify staff of all procedures updates and integrate these updates into a mandatory training program discussed in Section 2 of this audit. Doing so will give CPMs more guidance on how they might deliver a project on schedule and on budget, while following all pertinent legal and financial requirements. In addition, if all CPMs follow the same documented standards, including software systems, the consistency of project delivery may improve as well.

CONCLUSION

Project managers within the Capital Programs Division have the complex task of ensuring that capital projects are completed on time and on budget, and in accordance with the numerous state and County criteria governing capital projects financing and delivery. While the Division, in accordance with best practices, has a procedures manual to guide CPMs throughout this process, the manual is infrequently updated. Consequently, portions of this guide are irrelevant or outdated insofar as its linked project documents, discussions of state and County laws and policies, and the Division's organizational structure and operational responsibilities. Immediately revising the manual and creating a future revision plan for the procedures document will better guide CPMs throughout capital projects delivery, improve consistency of process, and increase efficiency due to all guidelines being held in a single location.

RECOMMENDATIONS

The Capital Programs Division should:

1.1 Immediately revise its procedures manual and obtain input from relevant departments such as Procurement, the Building and Planning department, and County Counsel. These updates should include uniform project management software requirements for Capital Projects Managers, the parameters of which are described further in Recommendation 6.1. (Priority 1)

1.2 Assign a manager to develop a revision plan for the manual to ensure that procedures are reviewed, updated timely, and that all updates and their nature are documented in a log so that changes can be easily referenced. The new manager should ensure that the revised manual is reviewed and updated annually, at minimum. (Priority 1)

1.3 Have the procedures manual manager notify staff of all procedures updates and integrate these updates into the training program discussed in Recommendation 2.1. (Priority 1)

SAVINGS, BENEFITS, AND COSTS

Recommendations 1.1 – 1.3 will require more time, and potentially Extra Help or contracted positions if Division staff are unavailable to complete this work. As stated earlier in this section, the existing procedures manual contains over 2,600 items, and updating a manual of this size may require substantial staff hours. In addition, if the Division purchases new project management software, the cost of this software may cost over $100,000 annually or more, as discussed in Section 6 of this audit report.

However, implementing these recommendations would help save time in the future by way of creating an easily accessible repository of project documents and guidelines in a single place. In this manner, CPMs will not have to go through multiple project files or research aspects of project delivery from various sources to complete their diverse tasks, which will increase efficiency. Further, having a standard set of guidelines may improve the consistency of all phases of capital delivery, making it easier for managers to track projects as they progress. Finally, implementing these recommendations will better ensure that CPMs comply with all state and local requirements in their management of capital projects, decreasing the legal and financial risks associated with an outdated procedures manual.

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Section 2: Improve Project Manager Training

Background
Responsibilities of the 18 authorized Capital Projects Manager (CPM) positions in the Capital Programs Division of the Facilities and Fleet Department (FAF) include developing budgets and schedules for assigned projects; managing the selection of contractors and negotiating fees; and delivering assigned projects on time and within budget. Different CPMs have different areas of expertise, such as architecture, civil engineering, mechanical engineering, or related fields, which affects their baseline understanding of different aspects of capital projects delivery.

Problem, Cause, and Adverse Effect
The Capital Programs Division offers limited training to its CPMs in both general project management skills and specific topic areas such as project permitting. The Division's only training, which is based on its outdated procedures manual (discussed in Section 1 of this report), was implemented in September 2018 and is not mandatory. Due to the training's elective nature, we found that fewer than 50 percent of CPMs had attended training sessions in November and December 2018. We also identified gaps in CPM understanding of project elements that are explicitly discussed in the procedures manual. Further, in a survey administered for this audit, CPMs reported that they were less than satisfied with multiple training topics such as project budgeting, building systems, and permitting agencies and processes. CPMs manage County capital projects that can range in the hundreds of millions of dollars, and insufficient training can jeopardize the successful management and delivery of these projects.

Recommendations
The Division should institute mandatory training based on updated procedures, prioritizing aspects of the capital project delivery process that have changed during the last five fiscal years, including uniform software discussed in Sections 1 and 6 of this audit report. Executive management should survey CPMs for a list of training needs and create a schedule for developing and delivering these trainings by the end of Fiscal Year 2020-21. If CPM performance issues are identified in ongoing or post-project reviews, these issues should be integrated into future trainings.

Savings, Benefits, and Costs
While creating a training program will take additional time and resources, it is possible that current operational inefficiencies, budgeting errors, or other issues exist due to a lack of training and standard procedures. Implementing these measures will clarify the capital project delivery process, possibly mitigate these inefficiencies, and improve consistency of practice among CPMs.

FINDING

Responsibilities of Capital Projects Managers

During Fiscal Year 2018-19, the Capital Programs Division of the Facilities and Fleet Department (FAF) was authorized for 18 Capital Projects Manager (CPM) positions. These CPMs are the primary County staff responsible for executing capital projects on time and within budget, and their project management responsibilities are far-ranging. Examples of these responsibilities include developing budgets and schedules for assigned projects, managing the selection of contractors and negotiating fees, and reviewing design documents, among others. Entry-level managers are assigned to projects valued at $5 million or less, while very experienced managers may be responsible for projects of $15 million or more.

CPMs are equipped with different levels and types of background knowledge to manage capital projects. In a survey we issued to FAF's CPMs for this audit, five of ten respondents reported architecture as the field covering their primary education and experience; three responded with civil engineering; and one individual reported mechanical engineering.[25] The certifications and licenses held by respondents primarily reflect these backgrounds (e.g., architecture and engineering licenses), and additional reported credentials include certifications for commissioning, inspections, and Leadership in Energy and Environmental Design. Notably, construction management experience is absent from the backgrounds of the CPMs who responded to our survey, as well as any formal certifications around project management.

CPMs' varying expertise directly influences the way in which they complete numerous project management tasks. For instance, when auditors conducted an observation of a CPM preparing an independent government estimate[26] for a design agreement, we asked the CPM how they impute necessary contractor tasks and corresponding hours for the estimate. The CPM responded that these estimates are heavily informed by their own background and prior knowledge. While it is logical that CPMs would draw on their own expertise for their work, in the absence of uniform training or guidelines from the Division, varying backgrounds might result in inconsistent and inappropriate calculation methodologies. For instance, if a CPM manages a project in a field that they are not familiar with (e.g., a clean energy project assigned to a CPM with no experience in energy projects), their underlying assumptions from previous projects may be inappropriately aligned with the new project's specific context. It is thus critical for the Capital Programs Division to develop standard procedures and trainings to give all CPMs a consistent minimum standard of knowledge in the complete, diverse range of project management areas.

Managers Receive Virtually No In-House or External Training from the Division

The Division's training offerings to its CPMs are virtually nonexistent. The Division's sole training consists of sessions based on the Division's outdated procedures manual, further described in Section 1 of this audit. Moreover, these training sessions, which began in September of 2018, are not mandatory, and attendance records show that only half of FAF's CPMs attended the November and December 2018 sessions.

25 One respondent answered "Other," but did not specify a field.
26 Estimates used to benchmark contractor cost proposals for proposed work.

In our CPM survey, we asked respondents to numerically rate their satisfaction with the Division's training across a variety of topics such as project budgeting, Public Contract Code, and construction management. On average, CPMs reported that they were less than satisfied with all eight of the listed topics, with the areas of project budgeting, building systems, and permitting agencies and processes receiving the lowest scores (see Attachment A on page 117 for full survey results). One CPM provided the following general feedback about their role and the Division: "The opportunity for growth is there, but management needs to capitalize on it by instituting a more structured training program that relies less on 'learning by doing' entirely."

According to staff reports, the Division's limited training program is a shift from old practices. In the past, the Division had reportedly hired a Means Cost Estimator firm to teach CPMs how to use the Means Cost Estimating handbook and budget projects. Additionally, staff reported that the Division used to receive regular training in Public Contract Code. Current executive management stated that the Division does not send CPMs to external training because "the expectation is that they have project management experience."

However, while project management is indeed a required skill within the County's job class specifications for this position, the attitude held by executive management does not account for the widely varying backgrounds of CPMs and their differential expertise in different aspects of capital projects delivery. As illustrated above, all CPMs are required to perform a number of complex tasks that they may approach differently, depending on their background. For instance, a CPM with an architecture background may identify different issues in design documents than a CPM with a civil engineering background. Or a mechanical engineer might have a different understanding of building systems than CPMs with an architecture license. Further, as discussed earlier in this section, there is a limited degree of construction management expertise among the Division's project managers as of late 2019.

We recommend that the Division institute a mandatory training program for all CPMs and create a schedule for developing and delivering these trainings by the end of Fiscal Year 2020-21. Trainings should primarily be based off updated procedures, as discussed in Section 1 of this audit report. In developing these trainings, the Division should prioritize aspects of the capital project delivery process that have changed during the last five fiscal years, including uniform software requirements detailed in Sections 1 and 6 of this audit report. In addition, Capital executive management should survey CPMs for a list of training needs and ensure that these areas are captured in the training program as well. After initial implementation of the training program, mandatory refresher trainings on procedures, procedural updates, and specialized topic areas should be administered at least annually. Additional specialized trainings may be added to the program on an as-needed basis.

A robust training program based on clear, updated procedures and supplemented by specialized trainings on additional topics could better ensure a uniform, baseline understanding of the wide array of responsibilities and project management documents associated with capital projects delivery. This baseline understanding might help mitigate the demonstrated lack of standardization in CPMs' project management practices and recordkeeping. For instance, despite filing system and record retention requirements contained within the Division's procedures manual, the electronic project files we reviewed contained hundreds of empty folders in which we were unable to locate key documents listed in the manual.

Additionally, CPMs' change order tracking logs do not exhibit a consistent format, even though the Division's procedures manual contains a module and template for these documents. These logs describe adjustments to construction contracts, as well as these change orders' financial and schedule impacts. However, when the Management Audit Division reviewed tracking logs of change orders for three sample projects, two of these logs contained a column categorizing the reason for the change order (e.g., unforeseen site condition, or design error or omission), while the third did not. Including such a column in these logs is important in that the Division might use change order reason codes to assess the percentage of time and cost delays that may have been preventable over the course of the project. Training could help mitigate these discrepancies and serve as a valuable quality control mechanism for capital projects.

Implementing a mandatory training program would also clarify existing ambiguities on which responsibilities are under the purview of CPMs, and which tasks are the responsibility of contractors and other stakeholders. In one correspondence thread between the Management Audit Division and the auditee, a CPM was unclear as to whether a Substantial Completion Letter (marking the completion of the final construction milestone) should be completed by the CPM of a project or another party. This is despite the fact that the Division's procedures manual clearly states the following:

> ... the Project Manager puts together the draft Substantial Completion letter, and submits to the Owner's Authorized Representative (Manager, Capital Programs) for signature. This issuance of this letter essentially stops the accrual of any Liquidated Damages against the Contractor.

To note, if such deficiencies or other performance issues are identified in ongoing or post-project reviews assessing the success of capital projects delivery (discussed further in Section 4 of this audit), we recommend that the Division integrate these CPM performance issues into future trainings.

CONCLUSION

CPMs managing the delivery of projects are expected to perform a wide array of tasks such as allocating project funds, drafting project agreements, and managing contractors in order to ultimately execute capital projects within schedule and budget. The Division does not offer adequate training to ensure a baseline level of understanding of all project components among its CPMs. This lack of training, in conjunction with outdated procedures, have resulted in multiple inconsistencies in project records and management practices. To address these inconsistencies and provide better quality controls around project management, the Capital Programs Division needs to provide its CPMs with more extensive training based off updated procedures.

RECOMMENDATIONS

The Capital Programs Division should:

2.1 Institute a mandatory training program for all Capital Projects Managers (CPM) and create a schedule for developing and delivering these trainings by the end of Fiscal Year 2020-21. Trainings should primarily be based off updated procedures, including requirements and use of uniform project management software, as discussed in Recommendation 1.1. In addition, Capital executive management should survey CPMs for a list of training needs and ensure that these areas are captured in the training program as well. After initial implementation of the training program, mandatory refresher trainings on procedures, procedural updates (as discussed in Recommendation 1.3), and specialized topic areas should be administered at least annually. Additional specialized trainings may be added to the program on an as-needed basis. (Priority 1)

2.2 Integrate Capital Projects Manager performance issues identified in ongoing or post-project reviews (discussed further in Recommendation 4.1) into future trainings. (Priority 2)

SAVINGS, BENEFITS, AND COSTS

Recommendations 2.1 and 2.2 will require additional staff time and potentially additional funds if the Division needs to rely on external parties such as Means Cost Estimator firms to develop or administer specialized trainings. We found cost estimation and project management courses ranging from $300 to $1,500 per user. The full cost of the training program will depend on the external trainings the Division prioritizes and its selection of training delivery method (i.e., online or self-directed versus in-person). Implementing these recommendations may help address current operational inefficiencies, budgeting errors, or other issues that potentially exist due to a lack of training and standardization. Adopting these solutions will also create a clearer baseline for project documents and CPM responsibilities, mitigating the documented confusion over project requirements.

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Section 3: Insufficient Planning of Capital Projects

Background
Planning a capital project entails the consideration of project objectives, scope, and cost estimates in partnership with stakeholders such as the client department, consultants, and community organizations. In Fiscal Year 2013-14, the Capital Programs Division formalized planning as a distinct project phase by developing a Facilities Planning Team ("Planning Team") to execute these functions prior to the design phase of a capital project. In addition to performing planning tasks for approved projects, the Planning Team works in conjunction with the County's Administrative Capital Committee (ACC) to assess annual capital request papers submitted by client departments. From these requests, the Team prepares preliminary scope and cost estimates for new projects recommended for funding.

Problem, Cause, and Adverse Effect
As of November 2019, the Division's procedures manual contained an incomplete description of the role and function of the Planning Team. The manual lacks a list of planning deliverables and does not discuss hand-off procedures between the Planning Team and other parties such as planning consultants. In the absence of written guidelines, Division staff hold conflicting views of the planning process, and while planning checklists and process maps exist, they are not consistently completed or followed. This lack of consensus and standardized processes is problematic in that poor planning can lead to project delays and cost overruns. A review of project change orders, site visits, and interviews indicate insufficient stakeholder engagement during planning, which contributed to project changes during delivery and even post-construction. Such changes are more expensive the later they occur and delay project completion.

Recommendations
The Division should clearly define the roles and responsibilities of the Planning Team, including what it is responsible for producing in-house and what the Team is expected to oversee from planning consultants. Guidelines should include a list of planning deliverables required before a project's design phase can begin, hand-off processes between the Planning Team and other stakeholders, and closeout steps for the planning phase. This closeout process should include a checklist of completed components such as records of stakeholder approval and cost estimates with underlying workpapers. The Division should also clearly outline the responsibilities of the Planning Team during the annual capital request process and the Team's role in creating preliminary costs, scopes, and schedules for the County's 10-Year Capital Improvement Program Plan (CIP). The Division should work with the ACC to retain records of all workpapers in order to document the true baselines of a project at its inception. All processes should be formalized in a revised procedures manual.

Savings, Benefits, and Costs
While these recommendations will require an additional time commitment from staff, these measures will lower the risk of inconsistent or incomplete planning and decrease the chance that information is overlooked as documents are transferred between consultants, project managers, and other project stakeholders. Improved planning may also lead to fewer changes during project design and construction (decreasing project delays and costs) and minimize operational issues such as security deficiencies and incomplete technology systems after project completion.

FINDING

Planning Capital Projects and the Capital Programs Division's Planning Team

Planning a capital project entails the consideration of project objectives, scopes, space needs, permitting requirements, and cost estimates in partnership with stakeholders such as the client department, consultants, and community organizations. In its definition of project parameters, this process informs all subsequent design and construction decisions and sets a benchmark of project success. Consequently, a thorough and well-defined planning phase is necessary to completing a project that will meet the needs of its stakeholders and the community at large.

However, while all capital projects require planning, the Capital Programs Division of the Facilities and Fleet Department (FAF) did not formalize planning as a distinct project phase until Fiscal Year 2013-14. Prior to this point, planning activities were conducted as a part of project design. According to Division executive management, the objective of creating a separate planning phase was to define projects' goals, requirements, and scopes at their early stages to reduce the number of costly changes during design and construction. A Facilities Planning Team ("Planning Team") was created in order to execute this newly defined phase.[27]

Yet, despite the Division's designation of a Planning Team for planning phase execution, the structure and staffing of this unit has not been clearly or consistently defined. For the first three years of its existence, the "Team" reportedly only consisted of two individuals. It wasn't until FY 2016-17 that new positions pertaining to planning were approved, and additional staff were added up until FY 2019-20.[28] However, FAF executive management and Planning Team staff provided the Management Audit Division with varying accounts of which of these expanded staff are a part of the Planning Team. Meanwhile, additional positions such as Climate Change/Sustainability Program Manager in the Division's FY 2018-19 organizational chart were not included in the Planning Team management's latest accounts[29] of the Team's staffing (see Figure 3.1 on page 43 for inconsistencies in reported Planning Team staffing).

27 According to supervisory staff for the Planning Team, this group also is responsible for real estate leases and acquisitions, preparing guidelines for policies such as multi-lingual signage and all-inclusive restrooms, and serving as a resource for other County departments such as the Office of Supportive Housing. However, we did not investigate functions outside the scope of the Capital Programs Division.

28 From FY 2016-17 to FY 2019-20 the following positions were added to the Planning Team: Capital Planning Position, Assistant Planner, Associate Planner, Senior Planner, and Program Manager I.

29 Provided February 2020.

Figure 3.1: *Reported Inconsistencies in Capital Division Planning Team Positions*

Santa Clara County Facilities and Fleet Adopted Budget Positions	Capital Division Planning Team Description of Planning Staff	Facilities and Fleet Executive Management Documentation of Planning Staff
FY17: Capital Planning Position (1) FY18: Assistant Planner; Associate Planner; Program Manager I FY20: Senior Planner	1 Chief of Facilities Planning Services 1 Capital Projects Manager III 2 Senior Planners 1 Assistant/Associate Planner (vacant) 1 Associate Management Analyst (vacant)	1 Chief of Facilities Planning Services (2) 1 Climate Change/Sustainability Program Manager (2) 2 Capital Projects Manager II 2 Associate Planners

Source: Management Audit Division summary of reports of Planning Team staff.

Notes: (1) The classification for this position was decided by ESA after the position was approved.
(2) These positions only devote 50 percent of their staff hours to capital work. Chief of Facilities Planning supervises the entire Planning Team (both according to FAF Management and the Planning Team), as well as additional staff such, as Real Estate Agents and Facilities Maintenance Representatives.

Consequently, despite planning being a vital component of general capital projects delivery, the Capital Programs Division has undergone substantial changes in both its approach to planning and the staff responsible for its implementation. The fluctuating nature of the Division's planning process and personnel are possible contributors to the ambiguously defined procedures and indicators of insufficient planning that we observed during our audit.

No Consensus Within the Division on a Standard Planning Process or Specific Deliverables

Planning on a capital project begins when departments submit project requests during the County's annual capital request process.[30] The Capital Programs Division's Planning Team and the Administrative Capital Committee (ACC) review and discuss these funding request papers with submitting departments to determine whether a capital infrastructure project is necessary, or whether the departments' needs can be met through other means. The Planning Team develops initial project concepts and cost estimates for capital infrastructure projects, which inform the ACC's prioritization of projects and recommendations for funding—a process guided by Board Policy 4.11 on planning, reporting, and financing capital projects. The ACC's ultimate recommendations for project funding are published in the County's long-term planning document, the 10-Year Capital Improvement Project Plan (CIP), and the County Executive's Recommended Budget. For projects that are approved by the Board of Supervisors, the Capital Programs Division's Planning Team conducts further planning activities to build upon these projects' preliminary scopes and budgets.

30 Alternatively, a department may submit a space request to the Administrative Space Planning Committee.

However, specific procedures around this overarching process, and the Planning Team's role in executing the planning phase, are limited. The Capital Programs Division's procedures manual contains the following (emphasis added):

> Within Capital Programs this is the Planning component and the Project Execution entities. The Planning entity establishes the project parameter, including initial scope, budget for the execution entity to program, design and construct. The planning entity also supports the project with community interface throughout the project. Planning also collects and maintains facility data. *Add list of Planning Documents.* (See Attachment D on page 173 for the Division's planning module).

This description was added to the Division's procedures manual in May 2018. As of November 2019, the Division had not yet developed a list of planning documents that must be produced before design can begin. Division executive management reported that a document discussed in the procedures manual called the "Owner's Project Requirements" (OPRs)—originally part of the design phase—is now a deliverable that must be completed during the planning phase. OPRs include parameters such as a project description and justification; statement of project design goals, objectives, and criteria; staffing plans; space requirements; etc. (see Attachment E on page 175 for the Division's full description of OPRs). However, in our review of the Division's project files, as well as reports sent directly by the Planning Team, we were unable to find OPRs to the extent that they are described in the Division's procedures manual. Materials containing partial components of OPRs, such as needs assessments, programming reports, and condition assessments, were common across some projects. However, the nature, format, and amount of planning documentation varied widely from project to project.

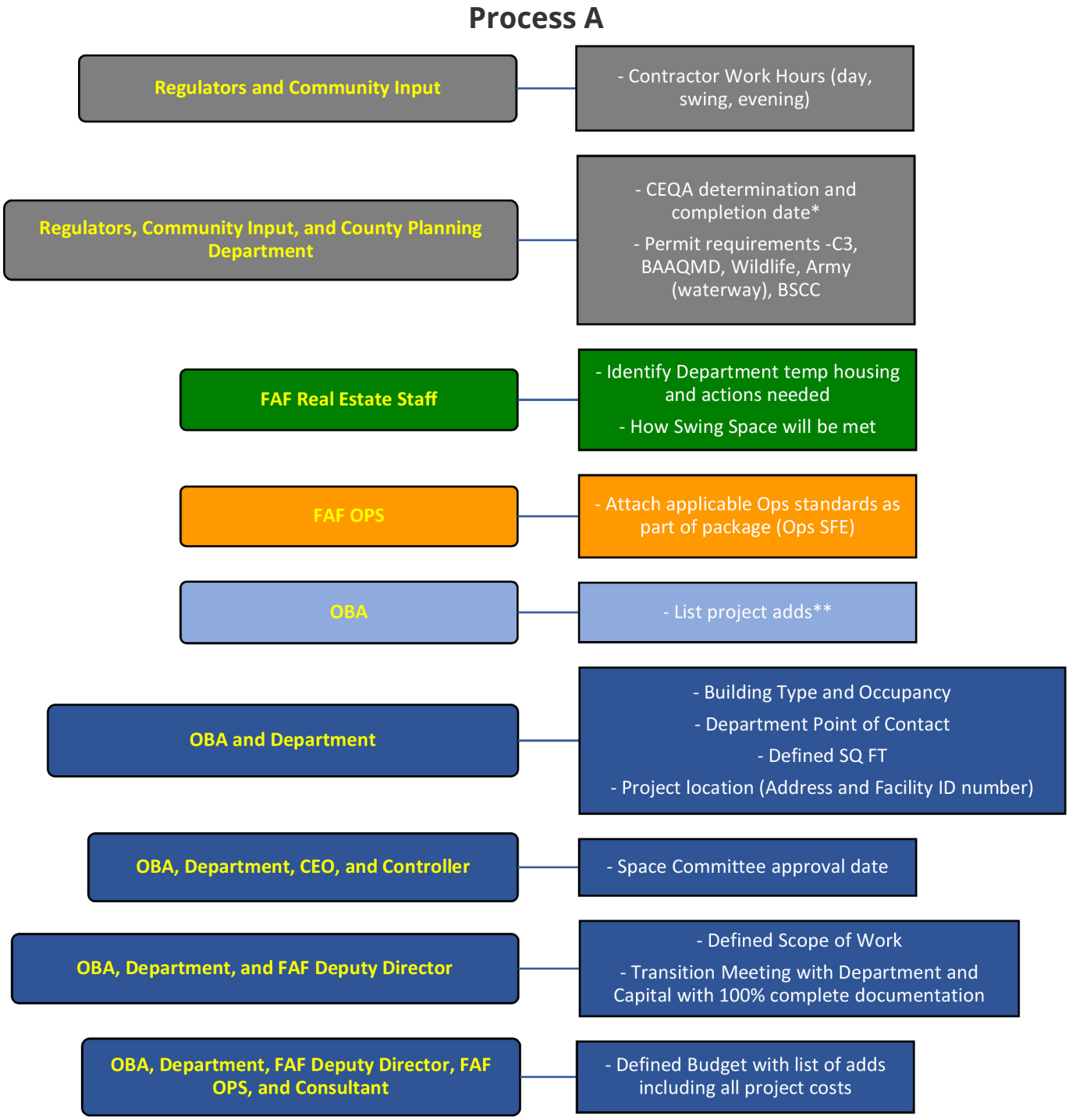
Additionally, while the Planning Team provided seven planning checklists covering areas such as sustainability goals, environmental concerns, project agreements, and space planning, we found that these checklists had not been consistently completed across projects. For instance, in five project files reviewed by the Management Audit Division, we found completed checklists for only one of the seven areas. Then, while the Division created planning templates to facilitate a standardized planning process, we did not find evidence that the Division is adhering to this process in a consistent manner.

Within this context of minimal planning procedures and templates that are not always utilized, we identified conflicting understandings of the planning process among Capital Programs Division staff. The Management Audit Division requested clarification from both executive management and the Planning Team regarding the specific processes of engaging with stakeholders while planning a capital project. We also requested a list of deliverables that must be completed before a project's design phase can begin, given that planning has been identified as distinct project phase as of FY 2013-14. The information we received from three staff outlined two dramatically different approaches, and neither of them contained a clear breakdown of the final work products that needed to be in place before the design phase (see Figure 3.2 on page 46).

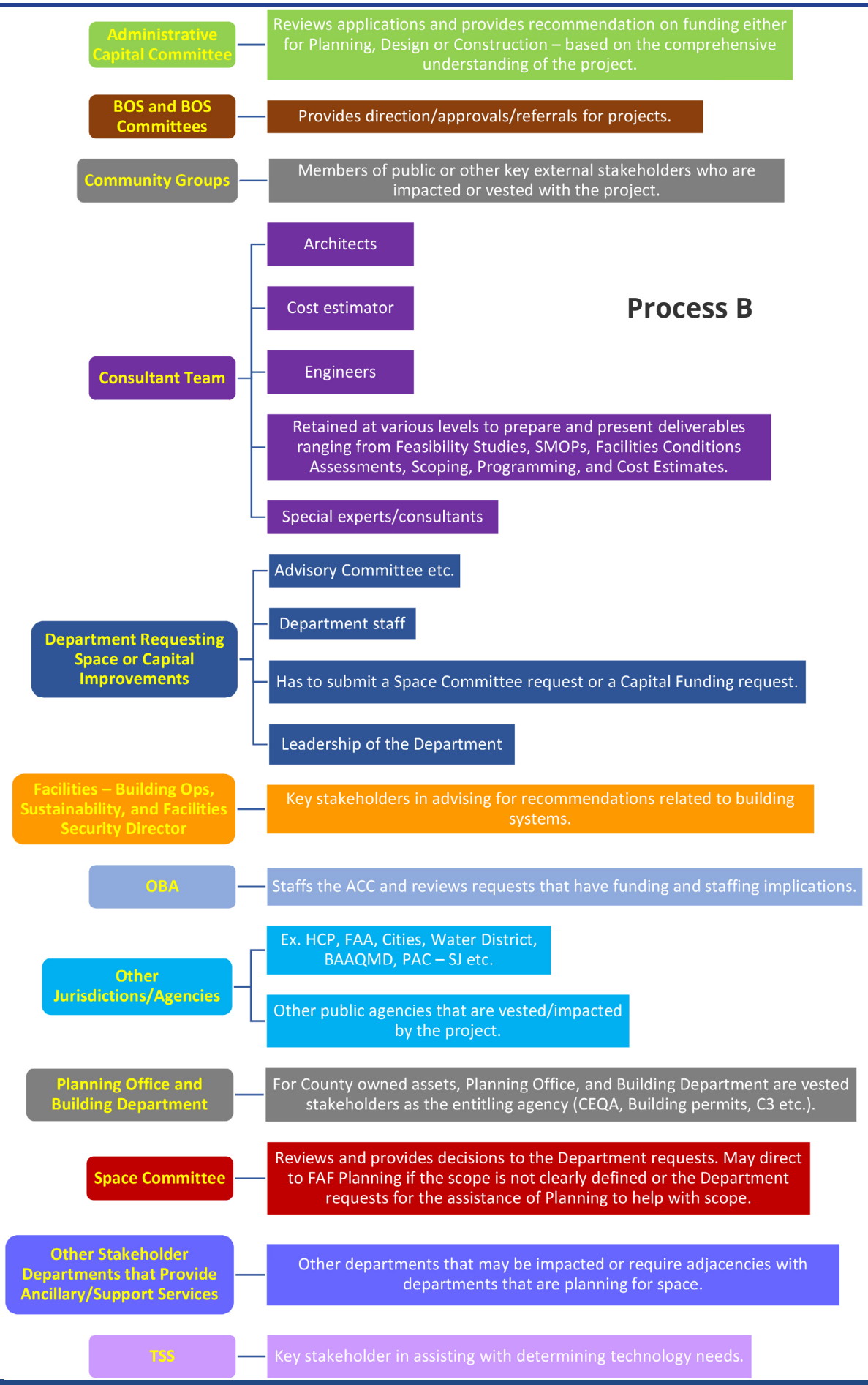
Process A, for example, only mentions planning consultants as one of five entities involved in defining a project's budget. Process B, on the other hand, shows a far more involved and wide-ranging role for consultants. The latter process discusses a "Consultant Team" that is "retained at various levels to prepare and present

deliverables ranging from Feasibility Studies, Service Model Operational Plans, Facilities Conditions Assessments, Scoping, Programming, and Cost Estimates." Consultants are not just cost estimators, but also architects, engineers, and special experts. As another discrepancy, Process A includes the role of FAF Real Estate Staff in "identifying Department temp housing and actions needed" and "how Swing Space will be met." However, Process B makes no mention of FAF Real Estate Staff or Swing Space. The Management Audit Division was unable to reconcile these two different accounts of the planning process.

Figure 3.2: *Two Distinct Processes Described to the Management Audit Division by Capital Programs Division Staff Regarding How the Planning Team Engages with Stakeholders While Planning a Capital Project (Process, A below, Process B, page 47)*



Source: Management Audit Division depiction of different planning processes described by Capital Programs Division staff.


Administrative Capital Committee
Reviews applications and provides recommendation on funding either for Planning, Design or Construction – based on the comprehensive understanding of the project.
BOS and BOS Committees
Provides direction/approvals/referrals for projects.
Community Groups
Members of public or other key external stakeholders who are impacted or vested with the project.
Consultant Team
Architects
Cost estimator
Engineers
Retained at various levels to prepare and present deliverables ranging from Feasibility Studies, SMOPs, Facilities Conditions Assessments, Scoping, Programming, and Cost Estimates.
Special experts/consultants
Process B
Department Requesting Space or Capital Improvements
Advisory Committee etc.
Department staff
Has to submit a Space Committee request or a Capital Funding request.
Leadership of the Department
Facilities – Building Ops, Sustainability, and Facilities Security Director
Key stakeholders in advising for recommendations related to building systems.
OBA
Staffs the ACC and reviews requests that have funding and staffing implications.
Other Jurisdictions/Agencies
Ex. HCP, FAA, Cities, Water District, BAAQMD, PAC – SJ etc.
Other public agencies that are vested/impacted by the project.
Planning Office and Building Department
For County owned assets, Planning Office, and Building Department are vested stakeholders as the entitling agency (CEQA, Building permits, C3 etc.).
Space Committee
Reviews and provides decisions to the Department requests. May direct to FAF Planning if the scope is not clearly defined or the Department requests for the assistance of Planning to help with scope.
Other Stakeholder Departments that Provide Ancillary/Support Services
Other departments that may be impacted or require adjacencies with departments that are planning for space.
TSS
Key stakeholder in assisting with determining technology needs.

Adding to this confusion, the Planning Team informed the Management Audit Division that planning and programming functions for the New Main Jail were conducted by the Capital Design team in 2015, which was after the creation of the Planning Team (albeit before the Team was fully staffed). That the Planning Team has not been involved in all capital projects following its inception underscores the importance of formalizing the planning process and the Planning Team's role in this process.

Unclear Oversight of Planning Contractors and a Lack of Documentation around Hand-Off Procedures between Planning Team and Other Parties

The Planning Team relies heavily on contracted consultants to complete deliverables such as needs assessments of the client department, feasibility studies, cost estimates, and stakeholder presentations. However, as noted above, the planning process and its deliverables are not standardized. Further, the delineation of responsibilities between the Planning Team and its retained consultants is unclear. According to one of FAF's consultants, the main role of the Division's Planning Team is to act as an interface between project stakeholders and the consultant. The Planning Team presents the materials the consultant creates to stakeholders such as County department heads. The work process, deliverables, and hand-off of the final products, however, "depends completely on the project" and varies widely between them.

Many of the scoping and cost estimation reports we viewed in the Division's planning files were authored solely by consultants, and one of the Division's main consultants confirmed that it generates the bulk of planning work products. The Division's procedures manual is unclear on the extent to which the Planning Team is responsible for creating their own planning reports based on consultant deliverables and does not discuss whether and how the Planning Team is supposed to provide oversight of consultant materials. A formal, documented, hand-off process would at least ensure that materials produced by consultants are being documented and assessed by the Planning Team as they are collected. While the Planning Team reported that formal hand-off meetings between Division Managers, stakeholders, and staff began in 2018, the Management Audit Division was unable to locate records of these meetings or any Planning Team evaluations of contractor deliverables. Instead the Division's Planning Team merely provided calendar dates showing when these project meetings occurred.

Without minutes or any other alternative documentation of these meetings, there was no way for the Management Audit Division to verify that information compiled and developed by planning consultants was accurately and comprehensively relayed to the Planning Team. Further, the seeming absence of documented evaluations of contractor deliverables raises the risk of undetected planning deficiencies within consultant reports. If a planning consultant inadequately develops a project, but their documents are accepted by the Capital Division without some form of systematic assessment, this lack of a formal oversight mechanism may result in undetected deficiencies that contribute to later design or construction change orders.

Similarly, the Management Audit Division did not find documentation of a formal hand-off process between the Planning Team and CPMs who oversee the design and construction phases of a capital project's execution. This is problematic in that CPMs are responsible for reviewing project designs to ensure that they reflect the needs identified during the planning process. However, without a formal hand-off process, the CPM responsible for delivering the project may not receive the entirety of planning documents from the Planning Team, including deliverables created by County-hired consultants. If CPMs fail to receive these documents and review designs based off incomplete information, this could result in design schematics that do not reflect all aspects of a project's originally planned scope.

To mitigate these risks, we recommend that the Division formalize the roles and responsibilities of the Planning Team in its procedures manual. The Division should clearly define what the Planning Team is responsible for producing in-house, and how the Planning Team receives, reviews, utilizes, and hands off consultant work for capital projects. The Division also needs to create a standardized list of all planning deliverables that must be completed before project design can begin. Further, we recommend that the Division create a closeout process for the planning phase that includes completed checklists of planning components. These checklists should be signed by Planning Team supervisory staff and Division executive management and be uniformly retained in project files.

Inconsistent Stakeholder Engagement

A critical part of ensuring that a project meets all operational and legal requirements, as well as client needs, is engaging appropriate stakeholders during the planning phase of a capital project. Capital stakeholders include the following:

- Departments and public entities/individuals who will be using the facility once it is complete (including those providing internal services to those occupying the facility, such as the County's Technology Services and Solutions Department (TSS) and FAF's Building Operations Division)
- Permitting entities who must approve the facility before it can be occupied
- "Outside" service providers to the facility (such as utility companies, CalTrans, and VTA)
- Parties responsible for enacting County-wide sustainability policies and Environmental Stewardship Goals
- Community members and organizations.

The Division's procedures manual cites the importance of stakeholder engagement with several of the entities listed above during project planning. Further, the Government Finance Officers Association (GFOA), which publishes best practices for local governments, stresses the need for public participation and stakeholder involvement in its best practice on communicating capital improvement strategies. Similar to the Capital Programs Division's procedures manual, GFOA states capital agencies should develop "a process to involve the public during planning" as this is a "key step in assessing priority and determining if the project will meet service-level goals and community expectations."[31]

31 Communicating Capital Improvement Strategies. Government Finance Officers Association. https://www.gfoa.org/communicating-capital-improvement-strategies. Accessed January 8, 2020.

However, CPMs overseeing capital projects do not consistently engage with stakeholders identified in the Division's procedures manual or GFOA best practices. In a survey issued to CPMs for this audit, we asked participants about which stakeholders they consult with during the planning phase of a project to develop project scope and preliminary needs. Responses demonstrated inconsistent engagement with community members, commissioning consultants who evaluate building systems, TSS, and utility companies (see Attachment A on page 117 for full survey results). Further, one CPM reported that, "There is no established methodology for how and when to reach out to supporting departments such as TSS, Building Ops, etc. for their input." While the Planning Team reported that they are the ones responsible for initial stakeholder engagement during the planning phase and not CPMs, these survey responses indicate potential deficiencies in the stakeholder information that is relayed from the Planning Team to CPMs after the planning phase.

Further, despite the existence of planning process maps for stakeholder engagement, these processes—similar to the checklists discussed earlier in this section—are not always followed. The Management Audit Division received feedback from key County stakeholder departments and divisions indicating that the Capital Programs Division, as a whole, does not have a formal method or specific point in the planning process to solicit and incorporate stakeholder input. Management from one of these entities reported that their suggestions were repeatedly dismissed by the Division's Planning Team because they were deemed "not mission critical." County staff further reported that they had no direct contact with the consultants creating the planning documents for projects, outside of a stakeholder meeting in which the consultants briefed the stakeholders regarding the plans that they were creating. Stakeholders reported that this was a one-way presentation that did not include an effective dialogue where participants could inform the consultants (or the Capital Programs Division) about their needs and requirements based on their professional expertise.

The inconsistency with which the Capital Division engages stakeholders such as TSS, FAF's Building Operations Division, utility companies, and external permitting agencies can result in changes once a project has already undergone design or construction. For example, in the case of a project renovating a County facility at 101 Jose Figueres, there was a last-minute request from the County Fire Marshal's Office to add a fire tank that was not a part of the original project. More systematically consulting permitting jurisdictions and regulatory entities during the planning phase might have resulted in the planned scope and design of the project taking this requirement into account.

Further, insufficient stakeholder engagement can also result in operational concerns and additional costs after a facility has already been built. During our 2017 audit of FAF's Building Operations Division, Building Operations staff reported that the Capital Programs Division does not adequately consult with maintenance personnel to ensure that a project is scoped correctly and that all specifications are included prior to a project going out to bid. For instance, as part of a project to create a Americans with Disabilities Act (ADA)-compliant dormitory at the County Main Jail, new fixtures were installed. However, the new fixtures were purchased from a different manufacturer than the rest of the facilities' hardware. According to staff reports, having fixtures from two manufacturers complicates maintenance because it is more difficult to keep parts in stock to make repairs quickly. Including input from Building Operations staff during planning may have prevented this maintenance concern.

For our Capital Programs audit, we identified additional post-construction issues during a site visit of Valley Medical Center's (VMC) Downtown Health Center that may be linked to a failure to contact individuals with security expertise early in project planning. During this site visit, which was conducted in November 2018, the back hallway on the first floor of the building was accessible to the public, allowing potential access to sensitive areas, including an elevator that lacks badge entry. Similarly, the public had access through unsecured doors to the staff lounge areas on the second and third floors. There was also no security booth for the community service officer in the Health Center's lobby, and this feature was reportedly not included in the facility's design at all—indicating a possible planning oversight. The Downtown Health Center was completed in May 2016, two and a half years before the Management Audit Division's site visit. According to staff at the Downtown Medical Center, these security issues have still not been resolved as of February 2020.

Further, it is questionable whether all patient representatives and tenants of the Downtown Health Center were contacted prior to project design to discuss the range of services that would be provided at the facility. At the time of the observation, a daycare center that was not originally intended as a tenant had recently moved in. Geriatrics, a program at another County building called the Valley Specialty Center (VSC), was also moved to the third floor of the Downtown Health Center post-construction due to space needs at VSC. A Mammography Unit was installed in the building in 2018, and changes had to be made to accommodate extra equipment and facilitate workflow. Lastly, partitions for flu shots were added post-construction and ended up blocking one of the security cameras in the pharmacy. Consulting the full range of possible patient representatives and tenants for the Downtown Health Center during planning may have prevented the need for some of these additional projects after construction of the facility.

In order to better ensure the incorporation of stakeholders' input into key planning documents, we recommend that the Division create a list of all major stakeholders for each project; retain records of engagement with these stakeholders; and obtain the signatures of these stakeholders for all major planning documents. These items should be incorporated into the Division's closeout process and checklist for the planning phase.

Incomplete Planning Can Lead to Extensive Change Orders During the Course of Capital Projects

Because capital projects planning forms the basis of all subsequent project delivery phases, the lack of a consistent and transparent planning process that thoroughly engages stakeholders can result in high numbers of change orders during project delivery. Change orders are adjustments made to original contract amounts, timelines, or specifications. We reviewed change orders for a judgmental sample of six capital projects managed by the Capital Programs Division. These projects were all valued over $1 million and were completed as of November 2018. Within these projects, we found multiple change orders that may be attributable or partially attributable to poor planning. Although these projects largely pre-dated the creation of the Capital Programs Division's Planning Team, they illustrate the general importance of robust planning, and the potential impacts on project costs when comprehensive and consistent planning processes are not followed.

CPMs manually log all change orders, along with associated "reason codes," within a construction change order log. While changes are typical of construction projects, some of these change order reason codes may be linked to human error more than others. For instance, the Capital Programs Division and construction contractors have little control over time delays due to inclement weather. In contrast, a design error or omission is when a design consultant has produced specifications that will result in a replacement or correction at an additional cost to the construction contractor, or when an element required to complete the facility or comply with building codes has been omitted from design documents.[32] Examples of such change orders include demolition to drains and surfaces not accounted for during design, or switching out building system elements dictated in design specifications because they are incompatible with other facility components.

There are numerous potential causes of design errors and omissions. A CPM might miss mistakes created by the architecture and engineering firm during their review of design schematics, or construction and design contractors may have feasibility-related disagreements. However, planning issues also have the capacity to contribute to design-related change orders, insofar as planning sets the groundwork for project designs in its definition of operational goals and project scope. As discussed earlier in this audit section, if CPMs managing the latter phases of capital projects delivery only receive partial planning documents due to the lack of a formal hand-off process, it is likely that project designs will be inadequate as well. Alternatively, if project plans are deficient to begin with due to a lack of stakeholder engagement with entities such as permitting agencies or County maintenance and information technology personnel, it is unlikely that design documents will accurately chart out building systems and fixtures in a manner that aligns with user needs.

For the six capital projects we reviewed, at least 313 of 668 change orders (47 percent) were coded as "design error or omission," which indicates the potentially preventable nature of these changes. An additional 33 change orders included "design error or omission" as at least one of multiple reason codes, for a total of 346 change orders (52 percent) associated with a design-related issue. Figure 3.3 on page 53 lists the names of our sample projects and the total number and dollar value of change orders for each.

32 Potts, Paul. (2016 Apr. 4). Dealing with errors and omissions. The Construction Specifier. Retrieved from https://www.constructionspecifier.com/dealing-with-errors-and-omissions/.

Figure 3.3: *Change Orders, Reason Codes, and Costs for Six Sample Capital Projects as of June 2019*

Project Name	Project Start Date	Design Error or Omission the Only Reason Code	Design Error or Omission One of Multiple Reason Codes	Other Reason Codes (or Code Left Blank)	Total Number of Project Change Orders	Total Cost of All Project Change Orders
Juvenile Hall Food Service and Kitchen	10/04/10	12	0	35	47	$179,762.41
Malech Road Water Supply	02/15/08	1	0	24	25	$237,567.32
Elmwood Building 6186 HVAC Replacement	08/20/12	15	0	35	50	$419,643.72
Elmwood M1 Sundeck and Medical Housing Unit (1)	08/01/16	14	0	30	44	$585,149.51
Valley Health Center Milpitas and Parking Structure	08/31/00	216	0	145	361	$3,063,697.94
San Jose Downtown Health Center	03/21/11	55	33	53	141	$6,280,859.34
Subtotal:		*313*	*33*	*322*		
				Total for All Six Projects:	**668**	**$10,766,680.24**

Source: Management Audit Division analysis of change orders for six sample projects.

Notes: (1) This start date refers to beginning of construction on this project. The Elmwood M1 Sundeck and Medical Housing Unit project was split into multiple projects over the course of its delivery. As shown in Figure I.3 on page 14 of the Introduction of this audit report, the planning and design of the project began in 2014. Once the project reached its construction phase, it splintered into multiple separate projects, with 8/01/2016 as the first calendar date charged to the construction contract.

Costs resulting from change orders with "design error or omission" as the sole reason code totaled roughly $4.4 million. As shown in Figure 3.3 above, there were 33 additional change orders with "design error or omission" as one of multiple reason codes, and these accounted for another $2.1 million worth of project changes. Overall, design-related change orders resulted in at least 40.7 percent of the $10.8 million worth of project change expenses across these six projects, and were at least in part responsible for an additional 19.3 percent of these expenses.[33] At the close of FY 2017-18, actual expenditures for three of these projects, the Elmwood M1 Sundeck, San Jose Downtown Health Center, and Juvenile Hall Food Service and Kitchen, had collectively exceeded the projects' initial budgets by $2.7 million.

33 Includes the costs of change orders that had "design error or omission" listed as one of multiple reason codes.

The Capital Programs Division already includes a 10 to 15 percent contingency in its project budgets to account for project changes and unforeseen conditions, so these overruns were in addition to the 10 percent set aside for this purpose. A portion of these overages might be tied back to $4.4 million in design-related change orders.

As stated above, not all design errors and omissions are attributable to planning issues. However, planning undergirds project design, and we identified multiple examples of County capital projects in which incomplete planning and scope development were likely contributing factors to design errors and other types of change orders. For example, during the construction of the Elmwood Sundeck and Medical Housing Unit project, Capital Programs staff were informed that the newly installed nurse call system in that unit was incompatible with the nurse call system that was in place throughout the rest of the Elmwood Correctional Complex. The resulting change order to replace the call system with a compatible system cost $300,000 and required an increase in the project budget. If appropriate stakeholders familiar with the call system had been consulted during initial project planning, this change order and the cost associated with it might have been avoided.

Furthermore, management within the Capital Programs Division explicitly cited poor planning as a reason for some capital projects, such as a 2016 Temporary Winter Shelter, exceeding their initial budgets. In email exchanges with the Management Audit Division about eight projects that had gone over their initial budget appropriations, executive management for the Capital Programs Division reported the following:

> [...] some of the projects [...] were ill defined at the start but there was a push to get things done without properly developing planning documents including the CP16016 Temporary Winter. Quite often the projects evolve into mitigating other items not originally part of the scope but are required to be repaired by the permitting jurisdiction as a condition of approval and occupancy of the project.

In the case of a project at the County's Main Jail, incomplete scoping resulted in fire dampers having to be added at a later project phase. Fire dampers were a known existing problem but were not a part of the original project plan. These additions were made at a later phase of the project in order to avoid having to return after project completion, which would have disrupted the housing of inmates (who would have had to be moved during installation). While this change in scope may have been less costly than returning to do the work later, incorporating these fire dampers into the project plan from the outset might have saved additional County funds.

These examples demonstrate that incomplete project scopes and needs assessments have resulted in later design and construction changes, some of which have increased project costs and delayed project completion. Further, as illustrated in our earlier discussion of the Downtown Health Center, poor planning also has resulted in additional project work after facilities have already been constructed. While some of the projects discussed above were not under the purview of the Planning Team that was created on FY 2013-14, there are—to date—still unclear and inconsistent planning processes that may lend themselves to some of the same problems that were present in these projects. Our recommendation for a capital planning closeout process that incorporates a checklist of components that must be completed and approved by the Planning Team before design on a project can commence would help mitigate these issues.

Lack of Planning Process for Preliminary Cost Estimates and Project Scopes Prior to Project Approval

In addition to the nebulous planning phase and work products generated during capital projects' delivery, the Management Audit Division was unable to locate documentation illustrating that a formal process has been followed in developing preliminary costs and scopes prior to initial project approval. We could not locate documentation from the Capital Programs Division that corresponded to either the CIP or the Recommended Budget. While we identified several preliminary cost estimation reports created by consultants, we could not match the project names in this document to the CIP, and the ACC's budget spreadsheets only contained manually inputted figures rather than formulas. Similar to issues with post-approval planning, the Division's procedures manual does not include a list of deliverables to come out of this phase, such as Service Model Operational Plans.

Further, the results of the pre-approval planning process are incomplete and do not comply with County policy and best practices (discussed in greater detail in Section 5, starting on page 69 of this audit report). Neither the CIP nor the Recommended Budget show the true delivery costs for many new projects, instead presenting only partial budgets for discrete project phases and excluding ongoing operational expenses. Project scopes in the CIP and Recommended Budget are often general and do not state a specific business case or even basic parameters for the project. FAF executive management reported that feasibility studies have been inconsistently performed for capital projects, contributing to vague scope definitions. Again, due to a lack of written guidelines, the role of the Planning Team in developing these incomplete costs, scopes, and schedules is undefined.

We recommend that the Capital Programs Division outline procedures for the Planning Team to contribute to the creation of project plans detailed in Recommendation 5.1 and Recommendation 5.2 of this audit report, as well as clarify the Team's roles and responsibilities during the review and vetting of capital request papers. Additionally, the Division should work with the ACC to retain—as part of its project files—a record of all workpapers and supporting documentation that corresponds to the information ultimately presented in the CIP and Recommended Budget. Retaining this documentation would provide better insight into the assumptions behind baseline estimates presented in the CIP, and these workpapers should be made available to the Board upon request.

CONCLUSION

The purpose of capital projects planning is to identify individual project needs, scopes, costs, and stakeholders in order to ensure that critical information is in place before project designs are initiated. Creating detailed project scopes and goals helps control costly change orders during project design and construction and prevents the need for additional mitigating projects after completion. However, the current planning process within the Capital Programs Division lacks documented guidelines and specifically defined deliverables. There is confusion among the Division's own staff on what the planning process entails, and the role of the Planning Team's retained planning consultants is ambiguous. Further, stakeholders are not consistently involved during planning in order to provide their expertise and input on planning documents. This lack of process is not limited to project delivery, but extends to pre-approval project planning as well. These factors can all lead to a significant number of changes during a project's design and construction, and increased project delays and costs to the County. Creating a more consistent, ordered process that clearly defines roles, stakeholder engagement mechanisms, and deliverables would potentially mitigate these issues.

RECOMMENDATIONS

The Capital Programs Division should:

3.1 Clearly define and integrate into the Division's procedures manual the roles and responsibilities of the Planning Team during capital projects delivery including what the Team is responsible for producing in-house; its management of planning consultants and oversight of consultant work products; a list of planning deliverables that must be completed (or overseen by the Planning Team) before a project can pass to the Design Team for the design phase to begin; and formal hand-off and evaluation processes for deliverables between consultants, the Planning Team, and Capital Projects Managers managing later project phases. Capital Division and Planning Team management should ensure adherence to these procedures, roles, and responsibilities. (Priority 1)

3.2 Integrate into the Division's procedures manual a closeout process for capital projects planning. This closeout process should include the completion and retention of a checklist of components that have been fulfilled during the Planning Phase for each project, such as:

- A list of all major stakeholders (including a standardized list of County internal service provider stakeholders)
- Records of engagement with all major stakeholders
- Sign-off on planning documents by all major stakeholders
- Confirmation that all deliverables have been completed by the Planning Team
- Completed cost estimates and their underlying documentation

Completed checklists should be signed by Planning Team supervisory staff and Division executive management. (Priority 1)

3.3 Document within the Division's procedures manual the roles, responsibilities, and deliverables of the Planning Team for preliminary planning activities prior to Board approval of capital projects. This should include guidelines for the Planning Team's role in vetting capital request papers, as well as the Team's contribution to initial project plans that

include detailed scopes and present total facility delivery and operational costs and timelines by project phase, as detailed in Recommendation 5.1 and Recommendation 5.2 of this audit. Feasibility studies should be conducted for projects recommended for funding as well. (Priority 1)

3.4 Work with the County's Administrative Capital Committee to retain a record of all workpapers and supporting documentation that corresponds to the information presented in the County's 10-Year Capital Improvement Program Plan and the Recommended Budget in order to document the true baseline budget and scope of a project at its inception. These workpapers should be kept within the Division's project files and be made available to the Board upon request. (Priority 3)

The Administrative Capital Committee should:

3.5 Work with Capital Programs Division to implement workpaper retention protocols described in Recommendation 3.4 in order to document the true baseline budget and scope of a project at its inception. (Priority 3)

SAVINGS, BENEFITS, AND COSTS

Implementation of Recommendations 3.1, 3.2, 3.4, and 3.5 will require time from existing staff but not result in additional costs for the County. The additional effort required of the procedures developed in Recommendation 3.3 may entail more planning staff and expertise. However, it is possible that this workload could be handled by the two full-time equivalent positions added to the Planning Team during FY 2019-20.

Meanwhile, clearly defining planning processes and responsibilities and creating planning closeout steps will lower the risk of inconsistent or incomplete planning. Further, implementing these recommendations will decrease the possibility that information might be overlooked as documents are transferred between consultants, project managers, and other parties. Ultimately, more robustly defined and executed planning processes may lead to fewer changes during the project design and construction, which will consequently decrease project delays and costs to the County, as well as fewer operational issues after project delivery.

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Section 4: Post-Project Reviews to Prevent Future Time Delays and Cost Overruns

Background

Capital projects managed by the Capital Programs Division of the Facilities and Fleet Department (FAF) are sometimes associated with time delays and cost overruns. While many of the 115 projects active as of November 2018 did not have both baseline and adjusted completion dates at that time, 30 of 48 projects (62.5 percent) with these two dates were released or scheduled to be released to client departments later than anticipated. The median overrun for these 30 projects was 180 days. In addition, in a sample of six projects completed as of November 2018, we found that actual expenditures for three of these projects had exceeded their initial budgets by $2.7 million. To prevent similar schedule delays and cost overruns in the future, formal post-project reviews are one best practice that can result in more efficient and cost-effective project management and delivery.

Problem, Cause, and Adverse Effect

The Capital Programs Division does not conduct formal, standardized post-project reviews to identify practices, scenarios, and contractors that may contribute to delays and cost overruns. Without post-project reviews, there is little means for the Division to reflect on the success of projects and carry lessons learned to other projects. For instance, design errors are common sources of change orders, and reviewing the circumstances around these types of avoidable changes may help the Division catch planning or contractor mistakes in the future. The Division also does not retain enough data for future decision making. Electronic project files contain hundreds of empty folders, and the Division could not produce a critical milestone completion document for the San Jose Downtown Health Center, a project exceeding $40 million. Instituting post-project reviews and improved data retention practices would allow the Division to better identify where errors were made—including trends across projects—and implement preventative measures.

Recommendations

The Division should create a standardized process for post-project reviews that includes components such as stakeholder satisfaction, effectiveness of project management, costs and schedules against baselines, and lessons learned. To facilitate these reviews, the Division should also develop a checklist for documents that need to be retained in project files. At the completion of each project, the project manager, supervising Chief of Construction, and Deputy Director should sign off on the completeness of the files. These review and retention guidelines should be formalized into the Division's procedures manual and trainings, as discussed in Section 1, starting on page 27, and Section 2, starting on page 35, of this audit report.

Savings, Benefits, and Costs

Post-project reviews would require additional time and resources, but not new staff. Benefits of these recommendations include the identification of issues and productive practices that may be applied to future projects and project manager trainings, potentially increasing efficiency and reducing cost overruns. Further, aside from informing these reviews, retaining more complete project files may enable reassigned project managers to better understand ongoing, "inherited" projects. Lastly, better recordkeeping could potentially shield the County against litigation by providing more robust evidence to counter potential claims.

FINDING

County Capital Projects Exhibit Time Delays and Cost Overruns

It is the goal of the Capital Programs Division of the Facilities and Fleet Department (FAF) to deliver capital projects according to their approved budgets and schedules. However, County projects do not always meet these performance measures. Tracking project performance is complicated by the fact that the Division does not consistently develop or track baseline cost, schedule, and scope metrics by which to measure "successful" project delivery—an issue covered in Section 5, starting on page 69, and Section 6, starting on page 83, of this audit report (which discuss the County's Capital Improvement Program Plan and project progress tracking). However, we found that, as of November 2018, multiple active projects were delayed according to the Capital Programs Division's own metric for "on-time" delivery.

To assess whether a project is on schedule, the Division uses the "turn-over" date, which is the date that a capital asset was or will be turned over to the client County department. Capital Projects Managers (CPM) calculate baseline turn-over dates based upon schedules set forth in construction contracts. The difference between these preliminary dates and adjusted or actual turn-over dates are captured in a Division report that is generated weekly. Within the November 2018 report, we found that the median delay in the 30 projects exceeding their preliminary turn-over dates was almost half a year (180 days). However, the number of actual delayed projects may be more, as the Division's centralized status report only contained both preliminary and adjusted turn-over dates for 48 of 115[34] active projects (41.7 percent). Therefore, of the 48 projects with actual or adjusted completion dates, 30, or 62.5 percent of them, were delayed. The status of the majority of the projects was unknown due to these projects missing either a preliminary or adjusted turn-over date.

Time delays on capital projects have both fiscal and operational consequences. Every day a project goes beyond its scheduled end date entails additional billings from contractors and internal County staff working on the project. While some of this fiscal impact is mitigated by liquidated damages provisions in County construction contracts, these provisions do not address the operational issues of projects not being completed on time. Client departments might not be able to properly render services within existing facilities, and the County may have to locate additional swing space to house staff or clients until the new building or facility is ready for public use. Delayed projects can also have sustainability consequences such as traffic congestion, increased pollution, and negative effects on existing infrastructure systems.[35]

34 This figure includes all the project line items that were contained in the Division's cash flow tracking report as of November 2018. While we identified multiple projects that may actually be part of a single, larger project, due to the lack of a master project numbering system, we could not verify how many of these listed projects were actually sub-projects. Consequently, we counted each line item as a discrete project.

35 Adam, Abderisak et al. 2015. Implications of Cost Overruns and Time Delays on Major Public Construction Projects. *Proceedings of the 19th International Symposium on the Advancement of Construction Management and Real Estate.* Retrieved from https://www.researchgate.net/publication/300629545_Implications_of_Cost_Overruns_and_Time_Delays_on_Major_Public_Construction_Projects.

In addition to time delays, we identified multiple County projects that exceeded their initial budget appropriations. For instance, as of the end of FY 2017-18, a 2016 project to create a second entrance to the County's Crime Lab had exceeded its $119,850 budget by $104,113 (87 percent). Budget augmentations were due to increased scope needs after discussions with the County's District Attorney, whose office requested the project. As of the same time period, actual expenditures for a project at Main Jail South's administrative booking area had gone $74,337 over the project's $300,000 budget (25 percent) due to higher-than-anticipated construction proposals. Further, as discussed in Section 3, starting on page 41, in a judgmental sample of six projects valued over $1 million that were closed as of November 2018, three of these projects' expenditures exceeded their initial budgets by $2.7 million.

While it is typical for changes to be made to projects over the course of their delivery, initial project budgets contain contingencies to account for these potential changes. As such, the excess expenditures detailed above were *in addition to* the contingencies that were already set aside for these projects—i.e., true cost overruns. Cost overruns affect the County's ability to financially plan for County programs and future capital projects, as funds are redirected to supplement or augment ongoing projects.

Some Causes of Time Delays and Cost Overruns May be Preventable

Not all schedule delays and budget overages are within a project manager's control. During construction of a capital project, it is not unusual for unforeseen conditions to require changes to the agreed-upon work. For example, a flash flood might delay work beyond the number of days set forth in the original contract. In other instances, construction bids may come in higher than FAF's engineer's estimates.

Another common source of these delays and overruns are customer requests that change the scope of the project after design has been completed.[36] At our exit conference with the auditee, executive management discussed how planning for one of the County's new building acquisitions had already been closed out when client needs changed, forcing the Capital Programs Division to re-program the project. In another example, the Division reported that a customer's preference for a different pharmacy apparatus at a medical facility resulted in a year-and-a-half delay. Client-directed changes are especially difficult to deny, given that client departments' operational needs must ultimately be met—even if their requests are costly and will cause delays.

36 Client departments may initiate contract changes because perceived needs change between the planning and construction stages of the project.

However, while there are several circumstances outside the control of the Capital Programs Division, there are also factors contributing to time delays and cost overruns that might be preventable with better planning or more stringent review processes. For instance, we reviewed construction contracts and change orders (amendments to construction contracts) for the judgmental sample of six projects discussed above. Within these six files, we found that out of $10.8 million in cumulative change orders issued for these projects, $4.4 million (41 percent) were solely attributable to design errors or omissions.[37] For the three projects associated with cost overruns, it is possible that the collective $2.1 million[38] in design-related change orders for these projects may have partially contributed to these projects exceeding their original budgets.

According to the Division's procedures manual, it is the job of CPMs to review project designs at all major stages. As such, it is possible that several of these change orders may have been avoided with more extensive protocols for design review. Alternatively, as discussed in Section 3, starting on page 41 of this audit, design change orders may result from poor planning practices that do not adequately involve stakeholders. Reviewing the circumstances around a project's ostensibly preventable changes, such as those due to design errors and omissions, can help the Division avoid similar mistakes in the future.

Division management also reported that projects exceed their initial budgets due to under budgeting at the outset of the project, customer scope changes, or projects that are ill-defined from the start. Again, these are issues that might be preventable with more robust planning criteria, setting clearer expectations for stakeholders, and more accurate cost estimation methods.

Post-Project Reviews to Lower Future Costs and Increase Efficiency

Post-project reviews are one way to reflect on the execution of capital projects and obtain insights that might be applied to future projects—including measures to address the planning and design issues outlined above or replicating successful practices such as effective value engineering methods to lower design costs. Generally, a post-implementation review is when an organization evaluates whether the primary objectives of a project were met; assesses the effectiveness of project management throughout the course of the project; and derives productive practices and areas of improvement for future projects. Within the context of capital projects, a 2017 California multi-agency benchmarking study describes formal post-project reviews as a best management practice that can result in more efficient and cost-effective project management and delivery.[39] And in a peer survey issued for this audit, five responding counties reported that they conduct post-project reviews to identify lessons learned from a project.

37 An additional $2.1 million in change orders had multiple reason codes that listed design errors and omissions as one of the reasons.

38 This was for change orders coded solely as design change orders. An additional $2.1 million in change orders listed design errors and omissions as one reason in combination with one or more other reasons.

39 City and County of San Francisco, Sacramento Department of Public Works, Oakland Public Works Agency, City of San Jose, City of Los Angeles. (Dec. 2017). California Multi-Agency CIP Benchmarking Study. Retrieved from https://eng.lacity.org/sites/g/files/wph726/f/CABMAnnualReportUpdate2017.pdf.

However, despite demonstrated issues with time delays and cost overruns on its previous projects, the Capital Programs Division does not conduct any formal post-project reviews. Executive management within the Capital Programs Division reported that they conduct informal evaluations after project completion but could not provide any documentation of these evaluations. While periodic reviews reportedly occur over the course of the project, these intermittent evaluations cannot capture the overarching life cycle of the project, as well as trends that occurred throughout different phases of project delivery.

Aside from identifying issues that may have caused a project to go over time and budget, these post-project reviews can also be helpful for assessing both project manager and contractor performance. Post-project reviews may serve as a useful supplement to formal CPM evaluations, which focus on more general appraisal areas such as work habits, quality of work, and job knowledge. The outcomes of these reviews could help identify and inform CPM training needs and potential adjustments to job specifications, so that projects are managed more efficiently in the future (see Recommendation 2.2 on page 39).

Additionally, conducting post-project reviews would better enable the Division to identify problematic contractors and potentially avoid issuing agreements to those firms in the future. For instance, in our review of CPM monthly reports from the Division, we found complaints about a construction management firm's lack of professionalism and factual errors in their documents. Without formal project evaluation procedures, the Capital Programs Division is without a primary tool to ensure consistent selection of contract professionals who will perform their agreed-upon responsibilities satisfactorily.

Further, given that the ultimate clients of capital projects are sponsoring departments, incorporating a departmental feedback component into these reviews would give the Division a better sense of their project's "success." Project managers must balance the development of positive end-user relations with the efficient completion of projects. Even if a project is delivered under budget and on schedule, client departments may not be satisfied with the final facility or with their level of involvement throughout the delivery process. Soliciting this feedback would give insight to the Division on how to better manage client expectations and demands related to a project and devise strategies to improve their satisfaction.

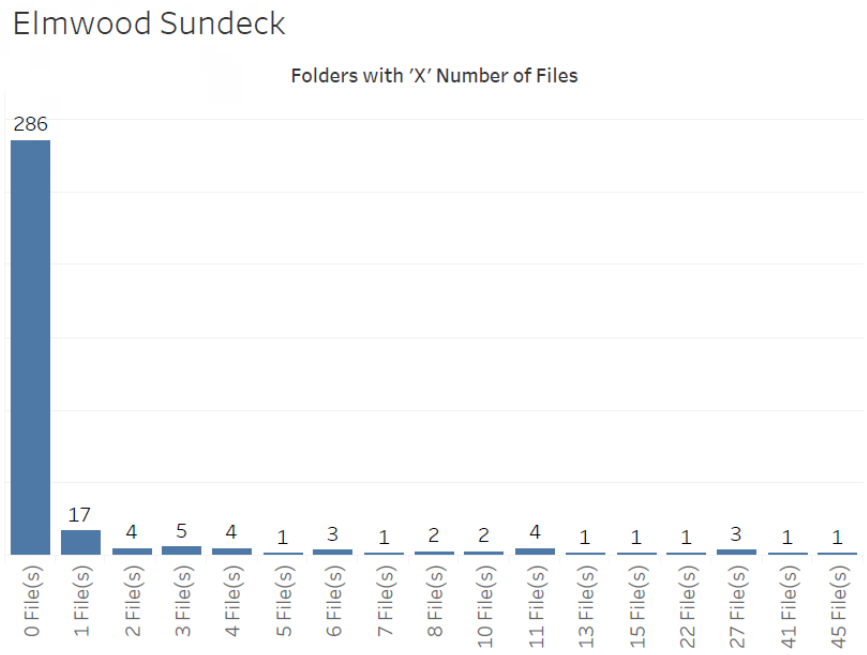
Finally, these reviews are especially critical in light of the Division experimenting with new project delivery methods such as Construction Manager at Risk (CMAR), which is a model where a construction management firm is responsible for delivering a capital asset under a guaranteed maximum price (more information about the different methods can be found in the Introduction of this audit report). As of March 2019, the Capital Programs Division reported only three CMAR projects managed by the Division, and by November of the same year, only one of these projects had completed construction.[40] Consequently, the Division does not have extensive firsthand experience with the benefits and drawbacks of this model, heightening the need for post-project reviews for CMAR projects. These reviews can inform which contexts are best suited for this method and clarify the legal and operational risks that the County is assuming by choosing this alternative delivery method. A sound framework to enable these reviews should be developed prior to project completion, as alternative delivery methods utilize different management frameworks and timelines that may not be readily assessed using performance metrics for traditional design-bid-build methods.

Insufficient Information Retained to Conduct Reviews

One major hindrance to the Capital Programs Division successfully conducting these post-project reviews is its deficiencies in document retention practices. Although the Division's procedures manual dictates a formal structure for keeping electronic documents, the project files we reviewed contained hundreds of empty folders—some for major phases of the project such as design or the construction bidding process. While reviewing one of the three sample projects for the timeline analysis contained in the Introduction of this audit report, we found that 286 of 337 folders in the project file (84.9 percent) contained no documents (see Figure 4.1 on page 65).

40 By November 2019, there were six CMAR projects total. Two were undergoing design, one was undergoing construction, one was on hold, another had just awarded a construction contract, and the final one—as referenced—had completed construction.

Figure 4.1: *File Analysis of Elmwood Sundeck Project*



Source: Management Audit Division file analysis of project folders.

Further, when the Management Audit Division requested a critical document marking the completion of final milestones for the San Jose Downtown Health Center (a project exceeding $40 million), Capital Programs Division staff were unable to find this document in the project file.

Without retention of relevant and sufficient documents, it is challenging to conduct post-project reviews, particularly for projects that have multiple project managers. Scope changes, stakeholder engagement, and bidding processes are difficult to trace without the appropriate documents to back them up. Aside from needing these documents to conduct post-project reviews, more robust document retention and filing protocols are useful during project delivery—particularly for new project managers who "inherit" ongoing projects upon the reassignment, departure, or promotion of previous managers.

Lastly, better record keeping may assist the County in possible litigation cases related to capital projects. The more project managers systematically maintain complete project files, the more likely the County will be able to furnish appropriate evidence to counter contractor claims. Conversely, better recordkeeping can help shield the County against expenses incurred as a result of insufficient contractor work products. We did not find evidence that the Division compiles and retains sufficient documentation of the investigation and resolution of potential design errors and omissions, thus increasing the possibility that the County will pay for changes that are the responsibility of the contracted design firm.

Therefore, in addition to instituting formal post-project reviews to evaluate project success and develop methods to potentially increase efficiency and lower costs on future projects, the Capital Programs Division should also create processes to ensure the completeness of its project files.

CONCLUSION

Several County capital projects have exceeded their initial budgets and planned schedules. At least a portion of these overages can be attributed to poor planning, design issues, and other potentially preventable problems that arose over the course of these projects. Post-project reviews are a best practice that can help lower costs and increase efficiency on future projects; however, the Capital Programs Division does not conduct any formal post-project reviews. In addition, the Division does not retain sufficient records to facilitate these reviews. To better evaluate project and management success, as well as carry on lessons that can be applied to future projects, the Capital Programs Division should institute post-project reviews and retain more complete project files.

RECOMMENDATIONS

The Capital Programs Division should:

4.1 Create a standardized, documented process for post-project reviews that includes components such as satisfaction of client departments and other stakeholders, effectiveness of project management, contractor performance, costs and schedules against baselines, and lessons learned. Formal reviews should be conducted after the completion of every project, and review documents should be signed by the Capital Deputy Director, Chief of Construction, and Capital Projects Manager who managed the project. This process should be formalized in the Division's procedures manual and trainings. (Priority 1)

4.2 Develop a checklist for documents that need to be retained in project files. At the completion of each project, the Capital Projects Manager, supervising Chief of Construction, and Capital Deputy Director should sign off on the completeness of the files. (Priority 1)

4.3 Implement a mechanism for integrating post-project review outcomes surrounding contractor performance into qualification-based selection processes for firms on future capital projects. (Priority 2)

SAVINGS, BENEFITS, AND COSTS

Implementing Recommendations 4.1 – 4.3 will require additional time, but not any additional staff. The Division already reportedly conducts informal reviews, and Recommendation 4.1 would simply institutionalize and standardize the process. Further, per the Division's own procedures manual, project managers should already be retaining complete project files, and Recommendation 4.2 is merely a mechanism for what is already required by the Division's internal procedures. Lastly, qualification-based contractor selection methods typically integrate experience criteria, and 4.3 would largely build on these existing criteria.

The benefits of these recommendations are better insights into project success—not just by time and cost measures, but also customer satisfaction and the effectiveness of management practices. This may help reduce time delays and cost overruns on future projects and build better stakeholder engagement mechanisms and management skills among the Division's CPMs. The maintenance of complete project files might also help the County with evidence for any potential lawsuits related to capital projects delivery. Finally, referring to prior County experience with contractors—both positive and negative—may facilitate the Division's retention of qualified professionals for future projects.

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Section 5: Board Policies and Best Practices for Capital Planning and Budgeting

Background

The Administrative Capital Committee (ACC) coordinates with the Capital Programs Division of the Facilities and Fleet Department (FAF) to prepare the County's 10-Year Capital Improvement Program Plan (CIP). The CIP, which includes newly requested and ongoing projects, does not appropriate funds. Rather, the document is a planning tool intended to provide the Board of Supervisors with relevant information for allocating limited resources to capital projects in the annual budget. The CIP is governed by Board policies on planning, reporting, and financing capital projects.

Problem, Cause, and Adverse Effect

The County's CIP does not comply with Board policies or follow best practices on multi-year capital planning and budgeting. Projects in the CIP lack a clear statement of project objectives (scope), a schedule of major deliverables, and a total cost estimate that covers each phase of project delivery and operation. What the CIP shows as a discrete project with a "project budget" sometimes only covers a small component of the project. This fragmented presentation results in the Board committing substantial resources to projects without knowing the scope of the project or its cost. As an example, in the Fiscal Year 2015-16 CIP, $8 million was allocated to design of the new jail, with no projected future costs. However, the next two CIPs added an additional $46 million to the project plan. In the FY 2018-19 CIP, design and construction were consolidated and presented as one project under "Construct New Jail Facility," with a new cost estimate of $337 million. The true costs of projects are further understated in cases in which there will be new operating costs because the CIP omits those expenses. The absence of clearly defined scopes, timelines, and life cycle cost estimates may result in a CIP that is unrealistic to carry out given the County's financial resources and project delivery capacity.

Recommendations

The Capital Programs Division should work with the ACC to comply with Board policies and include detailed scopes and the total estimated costs of newly proposed projects over their *entire* life cycle in the CIP. These cost estimates should be accompanied by project plans containing the projected timing of expenditures and funding sources over the ten-year planning period, by delivery phase. The Board of Supervisors should not authorize budget authority for slivers of projects without access to the entire project scope and cost estimate for all phases. The ACC and the Division should also ensure that summaries of deviations or adjustments to these original project plans for ongoing projects are included in future CIPs. Finally, the Division should adopt a project numbering system to tie discrete sub-projects managed by the Division to master CIP projects.

Savings, Benefits, and Costs

These recommendations will require additional staff time and resources. The Division may also have to retain an outside consultant to develop estimates for ongoing operational costs if the Division does not have the expertise to do so. However, these recommendations will bring the County into compliance with Board policy and best practices. Further, implementation will improve the County's long-term planning by providing more clarity around the true costs of proposed capital projects, as well as giving a baseline measure of when and how monies will be spent to deliver these projects.

FINDING

The County's Capital Improvement Program Plan

The 10-Year Capital Improvement Program Plan (CIP) is a long-term planning document that includes proposed schedules for the expenditure of funds to maintain, acquire, or construct County assets over a ten-year period. Projects within the CIP are proposed by County departments or members of the Board of Supervisors and evaluated annually by the Administrative Capital Committee (ACC), which is chaired by senior staff from the County Executive's Office and staffed by Office of Budget and Analysis (OBA) personnel. Review, prioritization, and budgeting of capital projects is supposed to be completed in accordance with criteria contained within Board Policy 4.10 on Capital Outlays and Policy 4.11 on Planning, Reporting, and Financing Capital Projects ("Board policies").

During the CIP process, which precedes the County's annual budget process, the ACC formulates proposed short-term and long-term funding levels for projects with input from the Capital Programs Division of the Facilities and Fleet Department (FAF) and contracted cost estimating firms retained by the Division's Planning Team (discussed in further detail in Section 3, starting on page 41 of this audit report). Immediate funding needs from the CIP are added to the County Executive's Recommended Budget, which includes descriptions of capital projects to be funded that fiscal year.

The Board of Supervisors does not take formal action on the CIP. Rather, the Board acknowledges that the projects contained in the 10-Year CIP represent a reasonable interpretation of the anticipated needs of the County, and that projects recommended for immediate funding are suitable for inclusion within the current fiscal year's budget. In Fiscal Year 2017-18 and FY 2018-19, the Board approved capital budgets at the full levels shown for those years in these two CIPs.

Contrary to Best Practices and Board Policies, Projects in the CIP Lack Clear Scopes, Schedules, and Costs

Best practices published by the Government Finance Officers Association (GFOA), an association representing public finance officials throughout the United States and Canada, recommend calculating the financial impacts of capital projects across their *entire useful lives*, including ongoing operational costs.[41] In facilitating these efforts, attention should be given to defining the scope and timing of a planned project in the early stages of the planning process.[42] Separately, in its study of Leading Practices in Capital Decision-Making, the U.S. Government Accountability Office (GAO) found that a key first step to a successful capital investment project is "to provide decision makers with good information about cost estimates, risks, and the scope of a planned project before committing substantial resources to it."[43]

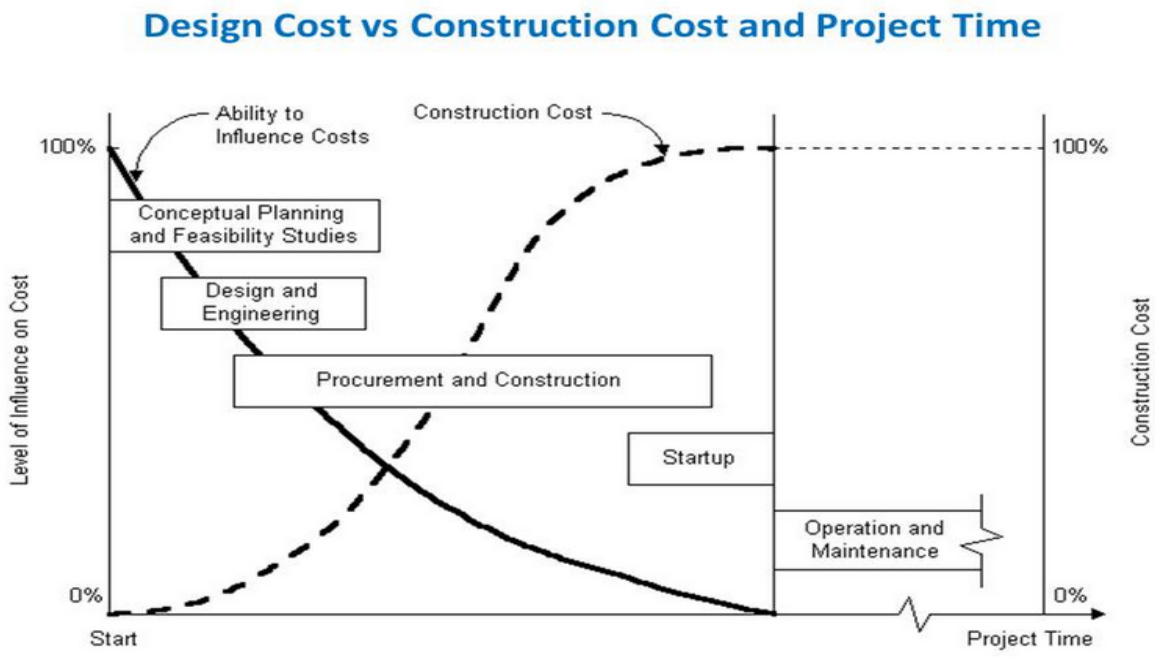
41 Government Finance Officers Association. (2016). Multi-Year Capital Planning. Retrieved from https://www.gfoa.org/multi-year-capital-planning.

42 Government Finance Officers Association. (2016). Multi-Year Capital Planning.

43 U.S. Government Accountability Office. (1998). Executive Guide: Leading Practices in Capital Decision – Making, (GAO/AIMD-99-32).

Sufficiency of information contained in the CIP is especially important given that the ability of decision makers to influence total project costs is greatest at early planning stages. Project research shows that "any decision made at the beginning stage of a project life cycle has far greater influence than those made at later stages," as shown schematically in Figure 5.1 below. When owners forego thorough planning and feasibility studies to inform these early decisions, "subsequent changes in project scope will increase construction costs."[44] By this point, the ability to influence project cost has been greatly diminished.

Figure 5.1: *Ability to Influence Project Costs Over Time*



Source: Adapted from Hendrickson and Au, 2008.

Board Policy 4.11 on planning, reporting, and financing capital projects dictates that CIP projects over $500,000 and spanning more than one fiscal year will have clearly defined phases separating the design phase from the construction phase, a total cost estimate for all phases, and a multi-year encumbrance schedule and spending plan. The County's 10-Year CIP does not present well-defined scopes or the timing of planned projects. Further, cost estimates of all major components required to implement projects are not included, either. Rather, in noncompliance with Board policy, the CIP breaks multi-year projects into sub-projects such as design or construction with no total cost estimates or discussion of all project components together.

44 Hendrickson, C., & Au, T. (2008). *Project management for construction: fundamental concepts for owners, engineers, architects, and builders.* Pittsburgh, Penn. Carnegie Mellon University.

For example, the FY 2018-19 CIP proposed $2 million for "Adolescent Psychiatric Facility – Planning," with $76 million of additional costs estimated through FY 2021-22, for a grand total of $78 million. The FY 2018-19 CIP did not discuss how this $78 million would be spent—whether it was solely for planning, as indicated in the project title, or whether this projected estimate also included design and construction. Insofar as scope, only the following description was given:

> The goal of the Adolescent Psychiatric Facility is to provide a coordinated system of care for children and adolescents whose level of impairment requires evaluation and treatment in an acute psychiatric inpatient unit.

Based on this description, which does not indicate the size of the facility or the approximate number of patients it is meant to serve, it is unclear how the $78 million estimate was derived. The following year's CIP then planned for an additional $1 million for the same project in FY 2019-20, even though $2 million that was appropriated in FY 2018-19 had not been spent. Because ten-year funding projections in the CIP are presented without an explanation of what project phases or milestones correspond with yearly cost estimates, it is unclear whether this $1 million estimate was intended for further planning; whether it represented an augmentation of a $2 million planning budget; or whether the $1 million was envisioned for other phases such as design.

Moreover, instead of the $78 million initial cost estimate from the FY 2018-19 CIP, the FY 2019-20 CIP predicted a cost of $318 million by FY 2022-23. There was no explanation of why the estimated cost increased by over 300 percent, given that the prior year's CIP did not list any additional costs for the facility beyond FY 2021-22. In addition, the 2019-20 CIP listed the project name as "Child, Adolescent and Adult Inpatient Psychiatric Facility" with no account of why the scope had seemingly been expanded from an adolescent center to one also serving children and adults.[45]

The New Jail Project is another example of the CIP's piecemeal project presentation. In the FY 2015-16 CIP, $8 million was identified as needed to design a new jail, with no projected future costs. However, the next two CIPs added an additional $46 million for unspecified expenses. In the FY 2018-19 CIP, design and construction were consolidated and presented as one project under "Construct New Jail Facility," with a new cost estimate of $337 million. A review of the Division's planning documents and a state funding application for the project revealed that the Division's initial cost estimates for the New Jail included planning, design, construction, and other soft costs. The estimated total contained in these documents was over $258 million, which is much closer to the $337 million figure in the FY 2018-19 CIP than to the $8 million initially presented in FY 2015-16. Not presenting this type of information from the outset can make projects seem less costly and result in "sticker shock" when actual cost estimates are presented.

45 Subsequent to the expanded plans, other materials presented to the Board of Supervisors provided information regarding the new scope.

GFOA points out that many CIPs tend to treat the first two or three years as the "real" CIP and the remaining term as the "wish list." In such cases, it is common for projects to "get their foot in the door with small funding requests that balloon later."[46] The County's CIP appears to fall into this category. Once a project is allocated capital funding in the annual budget, there is no formal rule capping the degree of budget augmentations to a project, which is discussed in more detail in Section 6, starting on page 83 of this audit report.

The CIP's piecemeal project scope, budget, and schedule information provides insufficient context to the Board and to the public about the potential range of total costs a planned capital project may incur over the course of its implementation. Consequently, the Board makes capital budget decisions without understanding the true size and cost of approved projects. Additionally, defeating the purpose of a long-term planning document, the format of the CIP makes it difficult to track many multi-year capital projects over time and tie ongoing projects back to original funding requests.

Exacerbating this difficulty in tracking is the lack of a master project numbering system in the CIP that ties to project codes created by the Capital Programs Division. As discussed earlier in this section, the CIP sometimes presents different phases of delivering the same capital asset as completely different projects. Because projects are not assigned a master project number, there is no way to tie these phases together other than through project names, which also tend to change throughout the life cycle of a project (as illustrated in the two examples above). Without a numbering system that captures the totality of a project's budget and cumulative costs as it splinters into sub-projects, it is impossible to monitor that project's status and determine whether it is on time or on budget. In a "best practice" advisory, the GFOA recommends that governments plan and design systems to collect, store, and analyze capital project data and to report results. This is impossible in the County today, as there is no way to systematically aggregate the various names and codes assigned to elements of the County's capital projects.

The Capital Programs Division, which executes funded projects from the CIP, may break out CIP projects into even more discrete sub-projects by phase (e.g., facility construction might be subdivided into three different projects: building out the first two floors, installing equipment, and building out the top floor) after "a project" is approved. The Division has no master numbering system linking these discrete projects, all of which have unique project codes based on the fiscal year they were initiated. Further, there is no mechanism of tying these smaller sub-projects to the line items that were originally presented in the CIP, making it impossible to determine how projects are faring according to the funding estimates in the long-term plan. This lack of transparency is especially alarming given the size of the County's multi-billion-dollar capital program and rollover amounts in excess of $250 million for unfinished projects (issues related to budget rollovers for capital projects are further detailed in Section 7, starting on page 95 of this audit report).

46 The Government Finance Officers Association (GFOA). (2019). Preparing & Implementing Capital Improvement Plans [PowerPoint Slides]. Retrieved from https://gfoa.org/sites/default/files/CIP0819Slides.pdf.

The CIP does not comply with Board Policies and Best Practices for Ensuring the Long-Term Viability of Capital Investments

The financial commitment that the County makes in initiating a capital project extends beyond project execution expenses. Once a capital asset is constructed or acquired (such as in the case of the County's new administrative offices and hospital purchases during FY 2018-19), there are costs associated with operating, maintaining, and ultimately replacing the asset. Such costs include utilities, routine maintenance, periodic renovations, operational staff (i.e., new hires that would have to be made in order to make the facility functional and provide services associated with the new facility), and equipment replacement costs. GFOA recommends the following in this regard:

> A government's financial and multi-year capital plans should address the continuing investment necessary to properly maintain its capital assets. Such practices should include proactive steps to promote adequate investment in capital renewal and replacement and necessary expenditure levels for maintenance.

Project alternatives cannot be analyzed or evaluated without an estimate of total costs over a project's useful life. Thus, Board Policy 4.11 requires inclusion of "estimated life cycle costs including one-time and ongoing costs, and additional costs of the service program, if any" in the CIP. Rather than specifying the projected maintenance and operations costs of major projects, the County CIP only estimates these costs as a blanket percentage of proposed facility project budgets (3 percent in the FY 2018-19 CIP).

However, these cost estimates are not clearly identified within the CIP document and ACC staff confirmed that they do not confer with FAF's Building Operations Division, the primary entity responsible for County facilities maintenance, to assess whether this blanket percentage estimate is reasonable. The consequence of incomplete information is that the Board may approve projects that appear within the County's financial capacity to build or purchase but are not sustainable to operate or maintain in the long term. This situation occurred with the construction of correctional facilities in both Tuolumne and Stanislaus Counties in California.

Further, the County of Santa Clara's FY 2019-20 CIP estimated that $450 million is needed just to maintain the facility condition index of existing County buildings due to years of backlogged routine maintenance needs—only a small amount of which has been funded. Even if the Board were to fully fund this deferred maintenance program, the FY 2019-20 CIP suggests that FAF is not sufficiently staffed, and the County does not have enough swing space, to support a maintenance program of this size. Irregular completion of routine maintenance procedures and failure to conduct more significant repairs on aging equipment and building systems can cause premature deterioration of facilities.

Four of six other California counties surveyed for this audit reported that their governing bodies receive estimates for maintenance, operation, and staffing costs of new capital projects, and three of six reported that their Board of Supervisors receives estimates on replacement costs. For two of these counties, information on such ongoing costs is received during the project approval phase.

Guidelines to More Effective Budgeting for Capital Projects

To improve the County's capital budgeting practices and to bring the CIP into alignment with Board Policies and best practices, we recommend that the Capital Programs Division's Planning Team work with the ACC to integrate project execution plans into the CIP for all new proposed projects beginning in FY 2021-22. These project plans should include estimated costs for the proposed capital asset over its entire lifespan, with presentations showing estimated budgets of each discrete project phase: planning, design, construction, and operation. Funding requirements and sources should be projected across the years covered in the CIP's ten-year planning horizon. An example of such a project plan is included in the CIP of Durham County in North Carolina (see Figure 5.2 below).[47]

Figure 5.2: *Example of a Major Project Detail Summary in Durham County's CIP*

New Youth Home

Expenditures

Item	FY (Prior)	FY2019-20	FY2020-21	FY2021-22	FY2022-23	FY2023-24	FY2024-25	FY2025-26	FY2026-27	FY2027-28	FY2028-29	Total
Planning		$1,770,833										$1,770,833
Construction			$17,001,161									$17,001,161
Equip/Furnishings				$375,170								$375,170
Total		**$1,770,833**	**$17,001,161**	**$375,170**								**$19,147,164**

Revenues

Item	FY (Prior)	FY2019-20	FY2020-21	FY2021-22	FY2022-23	FY2023-24	FY2024-25	FY2025-26	FY2026-27	FY2027-28	FY2028-29	Total
County Contribution		$1,770,833		$375,170								$2,146,003
Limited Obligation Bonds	$0		$17,001,161									$17,001,161
Total	**$0**	**$1,770,833**	**$17,001,161**	**$375,170**								**$19,147,164**

Estimated Operating Costs

Item	FY (Prior)	FY2019-20	FY2020-21	FY2021-22	FY2022-23	FY2023-24	FY2024-25	FY2025-26	FY2026-27	FY2027-28	FY2028-29	Total
Utilities				$71,710	$73,861	$76,077	$78,359	$80,710	$83,132	$85,625	$88,194	$637,669
Operating Costs				$149,455	$156,928	$164,774	$173,013	$181,663	$190,747	$200,284	$210,298	$1,427,162
Total				**$221,165**	**$230,789**	**$240,851**	**$251,372**	**$262,374**	**$273,878**	**$285,909**	**$298,492**	**$2,064,831**

Project Description

This project is to construct a new 36 bed Youth Home and Assessment Center. In FY 17/18 the Board approved funding to complete a master plan review of the site and environmental assessment of the property to determine the feasibility of a new facility on the existing site. Obrien /Atkins Association completed a Youth Home Program Study in conjunction with the Youth Home and Engineering and Environmental Services staffs in April 2018. The focus of the study was increasing the total number of beds in the facility from 14 beds to a total of 24 beds in addition to an Assessment Center as discussed in the planning committee vision report. Area functions, complete space program, operational needs, conceptual site plan and lay out on the existing site, and construction cost estimates for the facility size as programmed was also captured in the study.

It is important to note the program study only provided construction cost estimates for 24 beds and Assessment Center. However; conversation is ongoing on the potential need to increase bed capacity to 35-40 beds to accommodate growth. The Passage of the Juvenile Justice Reinvestment Act which increase the age of juvenile court jurisdiction to include crimes committed by 16 and 17year old's. After December 1, 2019 this population committing Class A-G felonies shall no longer be confined in adult detention facilities which creates the need for increased capacity at the Youth Home.

Source: Adapted from Durham County's Capital Improvement Plan for Fiscal Years 2020-2029.

47 Durham's CIP consolidates planning and design into one phase. The proposed project plan for County of Santa Clara projects would disaggregate these two phases. Operating costs should also be further disaggregated into categories such as maintenance, staffing, and replacement costs.

Further, project scopes in the CIP should, at minimum, include the following components: a clearly articulated business need; the programmatic or financial assumptions underlying this business need; a description of the capital asset(s) to be constructed, acquired, or improved; and an explanation of how the proposed asset(s) will meet this business need. Enough detail should be provided to justify a commitment of the County's resources. If a requesting department cannot provide sufficient information for the Capital Programs Division and the ACC to develop this preliminary scope, the department's project should not be included in the CIP or recommended for funding in the upcoming fiscal year.

The Board of Supervisors should not approve expenditures for new capital projects that lack defined scopes and cost estimates by component/phase. For projects proposed as part of the County's annual capital request process, these plans and scopes should be included in the CIP. Projects that are approved outside of the regular request cycle should be accompanied by this information when they are first proposed to the Board of Supervisors. To the extent possible, these types of off-cycle requests should be minimized.

Many projects contained within the CIP are previously approved, ongoing projects. Often, even projects presented as "new" are really other phases of a pre-existing project. For all projects approved prior to implementation of the new process described above, we recommend that the Capital Programs Division and the ACC use the same project plan model to describe all planned expenditures, estimated funding, and funding sources moving forward. However, the Capital Programs Division should work with the ACC to also retroactively fit all prior expenditures and appropriations into this model, consolidating CIP entries that cover different delivery phases but are actually part of the same capital project (see Figure 5.3 below for a proposed depiction of ongoing projects).

Figure 5.3: *Sample Presentation of an Ongoing Project*

Expenditures

Item	All Prior Since FY2016-17	*Remaining Available Budget*	FY2019-20	FY2020-21	FY2021-22	FY2022-23	FY2023-24	FY2024-25	FY2025-26	FY2026-27	FY2027-28	FY2028-29	Total
Planning	$ 50,000												$ 50,000
Design	$ 1,500,000	*$ 20,000*											$1,500,000
Construction	$ 3,000,000	*$ 1,900,000*	$ 1,700,000	$ 1,900,000	$ 30,000								$6,630,000
Equip/Furnishings					$ 10,000								$ 10,000
Total	**$ 4,550,000**	***$ 1,920,000***	**$1,700,000**	**$1,900,000**	**$ 40,000**								**$8,190,000**

Revenues

Item	All Prior Since FY2016-17	*Remaining Available Budget*	FY2019-20	FY2020-21	FY2021-22	FY2022-23	FY2023-24	FY2024-25	FY2025-26	FY2026-27	FY2027-28	FY2028-29	Total
General Fund Contribution	$ 6,470,000	*$ 1,920,000*	$ -	$ 1,680,000	$ 40,000								$8,190,000
Total	**$ 6,470,000**	***$ 1,920,000***	**$ -**	**$1,680,000**	**$ 40,000**								**$8,190,000**

Estimated Operating Costs

Item	All Prior Since FY2016-17	*Remaining Available Budget*	FY2019-20	FY2020-21	FY2021-22	FY2022-23	FY2023-24	FY2024-25	FY2025-26	FY2026-27	FY2027-28	FY2028-29	Total
Utilities					$ 55,000	$ 85,000	$ 85,000	$ 85,000	$ 85,000	$ 85,000	$ 85,000	$ 85,000	$ 650,000
Operating Costs					$ 120,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$1,870,000
Total					**$ 175,000**	**$ 335,000**	**$ 335,000**	**$ 335,000**	**$ 335,000**	**$ 335,000**	**$ 335,000**	**$ 335,000**	**$2,520,000**

Source: Management Audit Division proposed formulation of a CIP presentation for a hypothetical ongoing project.

As shown in Figure 5.3 on page 76, the project approval year would be included in the header of the second column to provide context on how long the project has been in progress. The "Remaining Available Budget" column is a feature of the County's existing CIP, and this column should be used to inform future revenue (i.e., funding) amounts. For instance, in this hypothetical project, there is a remaining budget available of $1.92 million, which is enough to cover all projected expenditures in FY 2019-20 and a portion of estimated expenditures in FY 2020-21. Accounting for this, the "Revenues" table shows recommended funding levels of $0 and $1.68 million for these two years, respectively.

Presenting ongoing projects in such a manner would provide more transparency around the use of newly requested funds and how surplus funds from prior years will be factored into these requests. As discussed further in Section 7, starting on page 108 of this audit, the Board of Supervisors regularly approves additional funding for projects that have not exhausted their prior appropriations, with no understanding of which project components correspond to these old and new budget requests. Using this project plan model would mitigate this issue and prevent approval of funds that are not tied to specific components of projects. Once new projects have been approved, they should follow this format in the CIP as well.

Initial project plans and scopes, as formulated within the CIP, should function as baselines by which all future project performance is measured. It is to be noted that these estimates—by nature—are preliminary, order-of-magnitude estimates that will change with more extensive planning/scoping efforts, customer requests, added design elements, and other project developments. Accordingly, any major changes to these baselines should also be summarized in the CIP, while retaining the original metrics to control project scopes, schedules, and costs. Significant modifications to ongoing projects impact long-term capital planning. Consequently, the Board should be apprised when preliminary assumptions around project approval have changed.

To facilitate this project plan presentation in the CIP, the Capital Programs Division should develop a master numbering system that ties components of a project to its whole.[48] Currently, projects in the CIP are divorced from the discrete projects managed by the Capital Programs Division due to variance in project names and the division of CIP projects into multiple, smaller components managed by the Division. Project descriptions and components may further vary in material ways from the CIP in the budget document, items on Board agendas, and internal tracking records such as project budget allocation sheets or financial system records. Basic information, such as whether "a project" is within budget, is not discernable because "a project" may be executed through numerous discrete projects with no labeling or numbering system to connect them to one other. Consequently, our recommended breakout of project components, expenditures, and funding in project plans is only possible if there is a master numbering system tying CIP projects to projects managed by the Division, and if the CIP itself contains only "master" projects rather than component activities of projects (e.g., "New Jail Design").

48 This master numbering system should only apply to projects programmed to deliver a clearly defined and scoped capital asset. Pre-planning work such as the development of site and feasibility studies and service model and operational plans do not fall into this category.

The master numbering system in use at Columbus Regional Airport Authority is shown in Figure 5.4 below. The report displays the project name, phase of work (design, construction), the original schedule and budget, the latest forecast schedule and budget at completion, any variance between the original and forecast, and some text describing the contract status.[49]

Figure 5.4: *Example of a Master Project Numbering Scheme*

Layout: 9. Facilities Committee Report								Filter A1: Budget Overrun, Include Schedule Update Variance
Project Name	**Activity Name**	**Baseline Finish**	**Finish**	**Finish Variance (Work Days)**	**Budgeted Cost**	**At Completion Total Cost**	**Cost Variance**	**Contract Status**
PC300-PORT COLUMBUS INTERNATIONAL GATEWAY		**8/10/05**	**12/29/06**	**-362d**	**$ 606,825**	**$ 3,583,717**	**$ (2,976,892)**	
PC30020 Construct Concrete Pads & Rehab Pavement-Cargo Bldgs	TEST AND INSPECTION	12/30/03	10/13/06	-728d	90,825	143,655	(52,830)	
PC30035 Construct Concrete Pads & Rehab Pavement-Cargo Bldgs	DESIGN	2/2/04	2/1/06	-522d	108,700	168,519	(59,819)	
PC30050 ARFF Fire Station Improvements	CONSTRUCTION	8/10/05	5/5/06	-192d	394,300	1,151,000	(756,700)	
PC30011 AOA Checkpoint Improvements (GRANT DEPENDENT)	DESIGN-Site and Roadway	1/3/05	4/14/06	-334d	13,000	44,495	(31,495)	
PC30099 Stelzer Road-International Gateway Interchange	DESIGN	12/29/04	12/29/06	-522d	0	2,076,048	(2,076,048)	Design contract awarded in November 2004. Construction scheduled for 2007.
ID500-INTERMODAL/INDUSTRIAL DEVELOPMENT		**8/30/06**	**12/29/06**	**-87d**	**$ 233,853**	**$ 378,055**	**$ (144,202)**	
ID50050 Concourse B Restroom Renovations	CONSTRUCTION	8/30/06	12/1/06	-67d	160,000	190,000	(30,000)	To follow after design is complete.
ID50099 Consolidated Rental Car Facility	LAND	2/28/05	12/29/06	-479d	36,700	75,207	(38,507)	

Source: Adapted from King County Auditor's Office, 2007.

The Division, in its development of this numbering system, should confer with the ACC to ensure that all projects in the CIP are listed as master projects designed to deliver a useful asset, and that the Division's numbering system corresponds to these master projects. This numbering system can then be used to determine annual and total life-to-date expenditures on master projects defined in the CIP, and the Capital Programs Division should provide this information to the ACC during their updates of the CIP document. Without a numbering system that captures the totality of a project's budget and cost as it splinters into sub-projects, it is impossible to monitor that project's status or to determine whether it is on time and on budget. Consistent project numbering would offer an opportunity to apply more rigorous and transparent procedures to manage project delivery and track project performance relative to baseline estimates.

49 King County Auditor's Office. Memorandum on Capital Projects Oversight Model to County Council, pg. 31. (31 Aug. 07).

Presentation for Recommended Capital Budget

The capital portion of the County's Recommended Budget offers very little context around the costs already incurred and future costs on projects proposed for funding. Rather, the Recommended Budget provides only a brief descriptive summary and one-time costs of these projects. This entire section is integrated into the discussion of FAF's operating budget rather than being presented as its own section.

To provide more context to the Board on recommended projects, the ACC should include the project plans discussed above (both new and ongoing) for each project proposed for immediate funding in the Recommended Budget. Per GFOA best practices, the ACC should also include a summary of projects funded in prior years that will not be funded in the upcoming fiscal year, and the reasons for doing so. Lastly, the discussion of the capital budget should be moved to its own section within the Recommended Budget document to accommodate this additional information, rather than being placed within the section on FAF's operating budget. In short, the County budget should include an operating budget and a capital budget, as opposed to showing capital projects interspersed with operating budget information.

CONCLUSION

The County's long-term capital planning document, the 10-Year Capital Improvement Program Plan (CIP), is in noncompliance with Board policies and best practices. The CIP does not provide a comprehensive overview of the financial status or long-range financial plans of capital projects managed by the Capital Programs Division. Projects are presented in piecemeal form without full budgets, a master numbering system, or schedules for how funds will be used over the ten-year period. Accordingly, there is insufficient information to manage and exercise fiscal controls of capital planning and budgeting activities. This places the County at risk of taking on larger projects than are feasible with their true construction and operating costs. By authorizing budgets for capital assets without well-defined scopes, timelines, and costs, the Board may be inadvertently limiting the flexibility of future Boards to allocate General Fund dollars to other needs, as the full life cycle costs of operating and maintaining the assets were not quantified prior to investing in the project.

RECOMMENDATIONS

The Capital Programs Division should:

5.1 Direct its Planning Team to work with the Administrative Capital Committee (ACC) to develop scopes and project plans for all new capital projects. Scopes should include the following components: a clearly articulated business need; the programmatic or financial assumptions underlying this business need; a description of the capital asset to be constructed, acquired, or improved; and an explanation of how the proposed asset will meet this business need. Project plans should include the total delivery and operational costs of projects over their entire lifespan. Estimated project delivery expenditures and funding requirements should be broken out by project phase (e.g., planning, design, and construction) over the ten-year planning horizon contained within the County's Capital Improvement Program Plan (CIP). Operational costs should be separated out over the ten-year period as well. (Priority 1)

5.2 Direct its Planning Team to work with the ACC to develop project plans for ongoing projects in accordance to the format described in Recommendation 5.1. In addition, the Division should retroactively fit prior expenditures and appropriations into this project plan model, showing all prior expenditures and remaining available budgets by project phase and consolidating any piecemeal projects delivering the same capital asset. Remaining available budgets should be factored into proposed funding requirements over the ten-year horizon. Lastly, presentations of plans for ongoing projects should include the fiscal year that projects were initially approved. (Priority 1)

5.3 Develop a master numbering system to link all discrete projects managed by the Division to master projects contained within the CIP. The Division should confer with the ACC to ensure that the Division's numbering system corresponds to these master projects. (Priority 1)

5.4 Provide updates on project expenditures and funding needs to the ACC using the numbering system in Recommendation 5.3, as well as any major changes in project scope, costs, or schedules. (Priority 1)

The Administrative Capital Committee should:

5.5 Work with the Capital Programs Division to develop the project plans described in Recommendations 5.1 and 5.2. The ACC should integrate these project plans into the CIP by Fiscal Year 2021-22. (Priority 1)

5.6 Ensure that the CIP contains only master projects rather than piecemeal projects containing different phases of development of the same asset. The ACC should work with the Capital Programs Division to ensure that the master numbering system in 5.3 corresponds with master projects as presented in the CIP. (Priority 1)

5.7 Integrate the Capital Programs Division's updates from Recommendation 5.4 into the CIP, while retaining baseline metrics in the document. (Priority 1)

5.8 Create a separate capital budget section within the County's annual Recommended Budget. This section should include project plans for all projects being proposed for funding, as well as a summary and explanation of projects funded in the previous fiscal year that will not be receiving funds in the upcoming year. (Priority 2)

The Board of Supervisors should:

5.9 Decline to fund new capital projects unless they are accompanied by a complete project plan and scope. For projects proposed as part of the County's annual capital request process, these plans and scopes should be included in the CIP. Projects that are approved outside of the regular request cycle should be accompanied by this information when they are first proposed to the Board of Supervisors. (Priority 1)

SAVINGS, BENEFITS, AND COSTS

Implementation of these recommendations will align the County's capital planning practices with Board policies and best practices and permit the Board to make informed decisions at early stages—when these decisions hold the most impact. These recommendations will also reduce unnecessarily encumbered funds for unclear project components, mitigate risks of sunk costs on partial assets that bear no utility if uncompleted, and reduce the likelihood of construction of facilities that the County does not have the means to operate or maintain.

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Section 6: Tracking Project Progress Against Baseline Estimates

Background
According to the U.S. Government Accountability Office (GAO), the success of a capital project is determined by whether the project was completed on schedule, within budget, and provided the benefits needed. Published industry best practices call for measuring project results against an established project plan and developing capital data systems that help control and manage changes to scope, schedule, and costs.

Problem, Cause, and Adverse Effect
In aggregate, for the Capital Programs Division's active projects as of November 2018, we estimated a difference of almost $425 million between initial appropriations amounts and current project budgets. Some of the difference is due to phasing of project costs and some is due to cost increases. The Capital Programs Division does not consistently compare the current status of projects to original scopes, schedules, and budgets, nor does it centrally track adjustments to these estimates. The Division's financial and schedule tracking report only includes the most recent modified budgets for projects, with no mention of original estimates. This report is also missing projected planning, design, or construction dates for the majority of its projects. Further, the Division does not track details on whether a project is "on target" to be completed on time and on budget. The Division's capital status reports to the Board of Supervisors similarly lack baseline or detailed status information. This inadequate tracking and reporting may be attributed to the nonexistence of appropriate baselines, given that preliminary project plans are not developed prior to project approval (as discussed in Section 5, starting on page 69 of this audit report). A lack of uniform performance management software and protocols also contributes to these information deficiencies. Inadequate context about a project's initial plans and current status can result in the continuous approval of piecemeal adjustments to projects, increasing the risk of cost overruns and delays.

Recommendations
The Capital Programs Division should adopt a project management system that tracks and reports project status against original schedules, budgets, and scopes. The Division should record all time, cost, and scope adjustments and when they were made. Lastly, this tracking scheme should contain project status information that conveys how the project is progressing relative to actual and planned time and dollars spent. The Capital Programs Division should include this baseline, adjustments, and project progress information in all status reports and requests to the Board of Supervisors. The Division should purchase software that can facilitate this tracking and reporting and require all project managers to use this software.

Savings, Benefits, and Costs
Implementing a new system will require additional staff hours, and programs in other jurisdictions have required average annual expenses of $200,000 or more. However, these recommendations will provide more context to the Board of Supervisors around capital project timelines, costs, and status, informing decision-making around budget augmentations and approving new capital projects.

FINDING

Measuring the Success of Capital Projects

The U.S. Government Accountability Office (GAO) defines successful implementation of a capital project by whether the project was completed on schedule, within budget, and provided the benefits intended.[50] While a project's schedule, budget, and scope can change throughout its lifespan, best practices dictate that agencies develop initial metrics by which to measure project performance. The federal Office of Budget and Management (OMB) recommends creating a "Performance Measurement Baseline" consisting of time-phased budgets that have been allocated to different project components.[51] In its best practices statements for capital project monitoring and reporting, the Government Finance Officers Association (GFOA), which promulgates best practices for local governments, recommends comparing actual progress of capital projects against project plans.[52]

Both OMB and GFOA cite the importance of incorporating schedule, budget, and scope modifications into progress monitoring processes, while still maintaining a record of original baselines. OMB states, "If a change to a baseline is approved, agencies should maintain a record of the original baseline and the rationale for the change."[53] GFOA published best practices call for integrating processes for managing and controlling changes into agencies' capital data tracking systems. Further, furnishing reports to stakeholders that "[h]ighlight significant changes to project scope, costs, schedule, or funding"[54] is a best practice.

The Capital Programs Division's Inadequate Baseline Tracking and Reporting

Contrary to best practices, the Capital Programs Division does not consistently compare the current status of projects to original scopes, schedules, and budgets. On aggregate, performance is internally monitored through a financial and schedule tracking report, which is updated by one of FAF's analyst-class staff members. However, this report only contains the most recent budget of a project and does not include a record of initial cost estimates and modifications. A November 2018 version of this report contained 115 projects active at the time, and the Management Audit Division was able to identify both initial appropriation amounts and current budgets for 109 of these projects.[55] Of these 109 projects, we found appropriations in the County's accounting system did not match current budgets of 58 projects (53.2 percent). The difference between the Division's listed budgets and initial project appropriations was almost $425 million.

50 U.S. Government Accountability Office. (Dec. 1998). Executive Guide: Leading Practices in Capital Decision – Making, (GAO/AIMD-99-32).
51 Office of Management and Budget. (2019). Capital Programming Guide. Supplement to Office of Management and Budget Circular A-11: Planning, Budgeting, and Acquisition of Capital Assets.
52 Government Finance Officers Association Best Practices in Capital Project Monitoring and Reporting. Retrieved from https://www.gfoa.org/capital-project-monitoring-and-reporting.
53 Office of Management and Budget. (2019). p. 13.
54 Government Finance Officers Association. (2018).
55 Six projects were missing either original appropriations in SAP or current SAP budgets in the financial and schedule tracking report.

Some of this discrepancy may be attributed to initial appropriations not representing the full baseline budget of a project, as the Board often approves funding for large projects in phases. However, we discovered at least some instances in which the initial appropriation *was*, in fact, the entire original project budget. For these cases, the difference between the County's accounting system data and the Division's capital tracker was due to budget modifications that were not captured in the Division's tracking report.

For example, a sundeck project at Elmwood Correctional Facility was initially approved for $3 million. However, legislative files from March 2016 and May 2017 show that this budget was augmented by $1.7 million due to scope changes and "unforeseen conditions." Yet, the Division's tracking report only includes the modified, $4.7 million budget with no description of the baseline appropriation or the circumstances that led to the budget increases. While the Division developed a new tracking report in May 2019 that added details about budgeted funds and expenditures by project phase, we verified that information about original budgets continues to be unavailable in this report.

Similarly, the project schedules in the Division's updated tracking document do not contain an exhaustive record of timeline adjustments due to change orders and other sources of delay. The November 2019 version of the report lists baseline start and end dates for planning, design, and construction, as well as a "current schedule" that represents the most updated estimates for project timelines. However, in the event of multiple schedule changes, the Division confirmed that the report does not log when and how many adjustments were made. Further, at least one baseline date was missing for 92 of 122 active projects (75.4 percent) (see Figure 6.1 below for a summary of missing dates).

Figure 6.1: *Projects Missing Baseline Dates as of November 2019*

Baseline Date Field	Number of Projects Missing Baseline Date (122 Total)	Percent of Projects Missing Baseline Date
Planning Start	72	59%
Planning End	72	59%
Design Start	59	48%
Design End	71	58%
Construction Start	46	38%
Construction End	49	40%
Turnover to Department	48	39%
Missing at Least One Date	**92**	**75%**

Source: Management Audit Division Analysis of the Capital Program Division's November 2019 financial and schedule tracking report.

The job specifications for the Division's Capital Projects Managers (CPM) states that these staff members are "Responsible for keeping projects within approved budgets on their approved schedule." However, this stated responsibility of CPMs is muted by frequent, unrecorded changes to project budgets and timelines and failure to record milestone dates consistently. Neglecting to uniformly retain original scopes, schedules, and budgets, as well as all changes to these metrics, can impede the ability of management to control costs and delays. Without full context about a project's preliminary assumptions and the extent to which those plans have changed, continuous piecemeal adjustments may be approved until a project has ballooned far beyond its original size.

This risk is especially concerning because there is no limit to how much a County capital project can go beyond its initial timeline and budget. The Capital Programs Division reported that there is "no hard stop" to cost increases and delays "as things change and scope gets added." Consequently, it is critical that the full extent of changes to project plans is tracked and adequately communicated. Logging all modifications to original scopes, schedules, and budgets may also allow Capital Projects Managers (CPM) to create more realistic project plans in the future.

The Division's lack of baseline tracking can be partially linked to a nonexistence of appropriate baseline metrics. As noted in Section 5, starting on page 69 of this audit report (discussing the County's Capital Improvement Program Plan (CIP)), project plans that include preliminary schedules and overall project cost estimates are not developed prior to project approval. Rather, proposed project "budgets" sometimes cover only portions of the capital delivery process. The County's long-term planning document shows these proposed funds over a ten-year period without any description of how these funds will be used and what milestones will be completed during this timeframe, and the capital budget that is recommended each year by the County Executive does not include these details, either. Thus, information on initial project plans is collected on an ad hoc basis. The Capital Programs Division reported that, for projects approved prior to Fiscal Year 2018-19, CPMs were asked to retroactively enter baseline dates into its tracking report. Because several of these CPMs had inherited projects from other managers, they were unable to fill out this information, which accounts for the blank schedule fields mentioned above.

Additionally, the Division does not monitor project performance in a manner that demonstrates whether a project is "on target" to be completed on time and on budget. Published best practices in capital project management for local governments call for actual results to be compared to project plans in terms of the following measures:

- Percent of project completed
- Percent of project budget expended
- Progress on key project milestones
- Contract status information including time remaining and percentage used[56]

56 Government Finance Officers Association. (2018).

In contrast, the Capital Program Division's tracking report does not show the percent completed on a project, or which milestones have been achieved to date. Actual versus budgeted expenditures are included but are not tethered to project progress or timelines. Therefore, the Division's tracking report might show that 80 percent of planning resources have been expended, but there is no way of discerning whether a proportional amount of planning work has been accomplished over the expected timeline for these deliverables. According to OMB's Capital Programming Guide, "[m]anagement systems that only track actual expenditures against planned expenditures fail to provide the key piece of management information—amount of work actually accomplished—needed to make appropriate decisions about the status of the contract."[57]

Lack of Uniform Progress Monitoring Software and Requirements

These performance monitoring deficiencies may be attributed to a lack of uniform systems or software to accommodate such progress tracking and reporting. According to both Division management and the Management Audit Division's survey administered to CPMs, there is no standard software for tracking the progress of capital projects against time elapsed and dollars spent. During the planning and design phases, CPMs are not required to use any project planning or tracking software. If scope changes occur during planning or design, records of these changes are not centrally retained. Rather, the history of these modifications must be obtained through reviewing multiple budget augmentation requests or design meeting notes.

CPMs also do not chart the progress of project designs or estimate the percentage complete on design deliverables at any given point in time. Division management reported that CPMs are responsible for ensuring that design deliverables are completed by the dates on Project Agreements with design contractors. However, it is unclear how CPMs may ensure "on-time" delivery of design documents when they are not required to regularly monitor how much work has been completed on design documents and compare this progress to some form of design schedule. This is especially the case for projects with lengthy design phases (e.g., over one year).

During the construction phase, CPMs use a range of project management software. Typically, CPMs rely on Microsoft Excel or Microsoft Project, but may also use temporary licenses[58] to programs such as Procore for larger projects such as the New Main Jail. However, CPMs are not required to independently monitor construction schedules and record adjustments to baseline estimates. Rather, when a construction contractor modifies its task schedule, CPMs review the modifications to verify whether the project can still be feasibly delivered by the contracted completion date. If not, the CPM informs the contractor that a change order must be issued. While CPMs keep a log of these change orders, they do not create a modified schedule based on these change orders, nor do they track project progress against this new schedule.

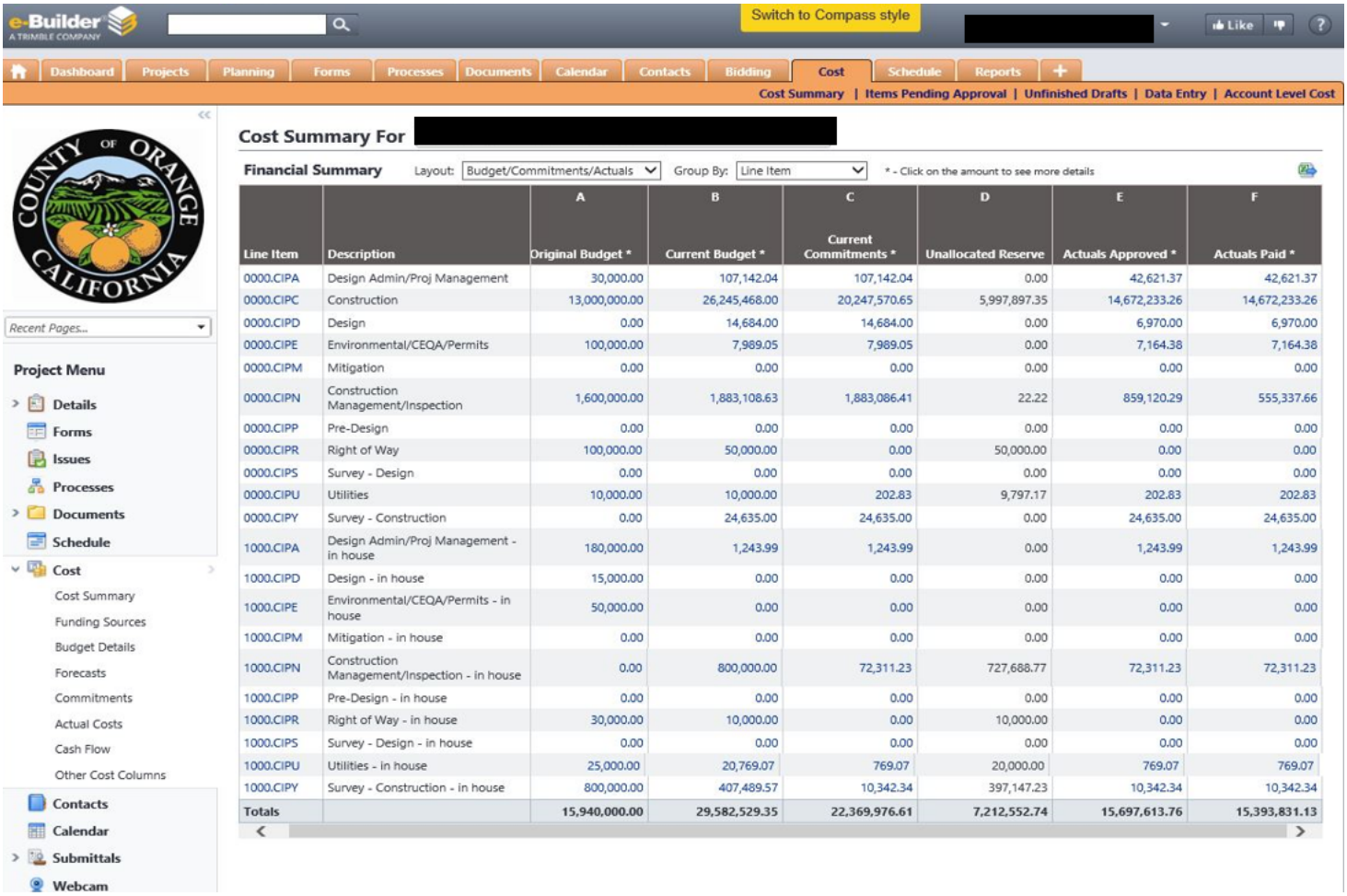
As such, the Division lacks uniform software systems and protocols to measure the performance of capital projects over all delivery phases relative to initial and modified scopes, schedules, and budgets. In contrast, other jurisdictions utilize agency-wide project management systems that integrate multiple performance measures. For instance, the City and County of San Francisco uses an Enterprise

57 Office of Management and Budget. (2019). p. 40.

58 These temporary licenses are purchased by the Division's retained construction management contractors and are billed as part of the contractors' project agreement with the County. The total cost of this software for the New Main Jail project totaled over $400,000.

Project Management system that incorporates project updates, financial and schedule tracking, and reporting. Orange County and the City of Long Beach have programs that manage projects over their entire delivery, and all project managers are required to use the same software. Unlike the Capital Programs Division's financial and schedule tracking report, both systems retain baseline schedules and budgets in addition to current estimates (see Figure 6.2 below showing Orange County's cost module). Further, these systems, as well as the City of Los Angeles's database, track project status and milestone completion. Orange County's system additionally calculates metrics such as overall project variance, construction schedule variance, and budget forecasts that predict how much a project will end up over or under budget.

Figure 6.2: *Orange County e-Builder Cost Module*



Line Item	Description	A Original Budget *	B Current Budget *	C Current Commitments *	D Unallocated Reserve	E Actuals Approved *	F Actuals Paid *
0000.CIPA	Design Admin/Proj Management	30,000.00	107,142.04	107,142.04	0.00	42,621.37	42,621.37
0000.CIPC	Construction	13,000,000.00	26,245,468.00	20,247,570.65	5,997,897.35	14,672,233.26	14,672,233.26
0000.CIPD	Design	0.00	14,684.00	14,684.00	0.00	6,970.00	6,970.00
0000.CIPE	Environmental/CEQA/Permits	100,000.00	7,989.05	7,989.05	0.00	7,164.38	7,164.38
0000.CIPM	Mitigation	0.00	0.00	0.00	0.00	0.00	0.00
0000.CIPN	Construction Management/Inspection	1,600,000.00	1,883,108.63	1,883,086.41	22.22	859,120.29	555,337.66
0000.CIPP	Pre-Design	0.00	0.00	0.00	0.00	0.00	0.00
0000.CIPR	Right of Way	100,000.00	50,000.00	0.00	50,000.00	0.00	0.00
0000.CIPS	Survey - Design	0.00	0.00	0.00	0.00	0.00	0.00
0000.CIPU	Utilities	10,000.00	10,000.00	202.83	9,797.17	202.83	202.83
0000.CIPY	Survey - Construction	0.00	24,635.00	24,635.00	0.00	24,635.00	24,635.00
1000.CIPA	Design Admin/Proj Management - in house	180,000.00	1,243.99	1,243.99	0.00	1,243.99	1,243.99
1000.CIPD	Design - in house	15,000.00	0.00	0.00	0.00	0.00	0.00
1000.CIPE	Environmental/CEQA/Permits - in house	50,000.00	0.00	0.00	0.00	0.00	0.00
1000.CIPM	Mitigation - in house	0.00	0.00	0.00	0.00	0.00	0.00
1000.CIPN	Construction Management/Inspection - in house	0.00	800,000.00	72,311.23	727,688.77	72,311.23	72,311.23
1000.CIPP	Pre-Design - in house	0.00	0.00	0.00	0.00	0.00	0.00
1000.CIPR	Right of Way - in house	30,000.00	10,000.00	0.00	10,000.00	0.00	0.00
1000.CIPS	Survey - Design - in house	0.00	0.00	0.00	0.00	0.00	0.00
1000.CIPU	Utilities - in house	25,000.00	20,769.07	769.07	20,000.00	769.07	769.07
1000.CIPY	Survey - Construction - in house	800,000.00	407,489.57	10,342.34	397,147.23	10,342.34	10,342.34
Totals		**15,940,000.00**	**29,582,529.35**	**22,369,976.61**	**7,212,552.74**	**15,697,613.76**	**15,393,831.13**

Source: Screen capture sent to Auditors by staff at Orange County Public Works.

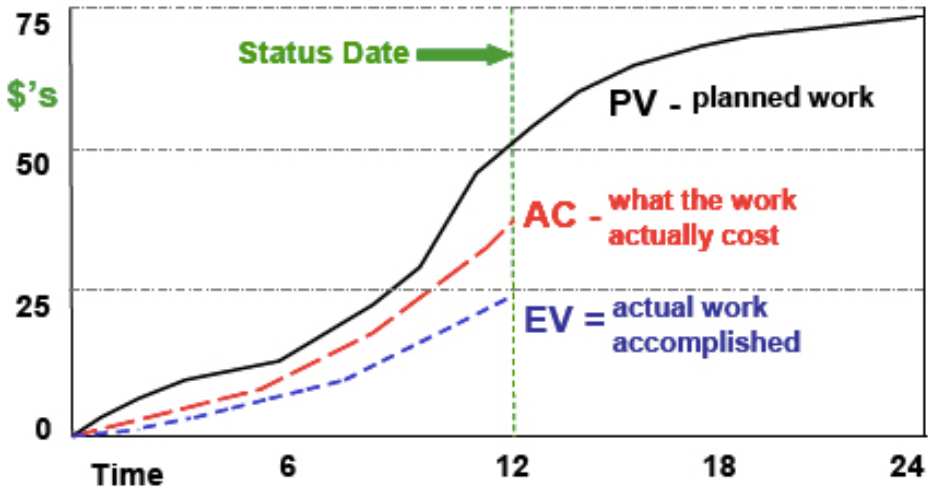
We recommend that the Capital Programs Division adopt a capital performance management system that contains baseline project plans and records all adjustments to schedules, budgets, and scopes, per best practices. For newly approved projects, baseline information should be populated from the project plans discussed in Section 5, starting on page 69 of this audit report. For ongoing projects that do not have initial metrics available, CPMs should populate baseline fields with their current best estimate of project timelines, costs, and scopes.

The new performance management system should have the capability to provide robust project progress monitoring and reporting around whether projects are "on track" to be delivered according to their baseline estimates. One potential model of illustrating this performance is through an earned value analysis (EVA). According to an article published by the Project Management Institute, EVA compares progress and costs of delivered work over time to planned work and costs. This framework rests on three primary datapoints:

- Planned Value – The budgeted cost for the work scheduled to be done
- Actual Costs – Real expenditures spent on the work accomplished
- Earned Value – The value of the work that has been actually accomplished, calculated by multiplying the percent completed on a project by its planned budget. For example, if a project to install 500 computers is budgeted for $200,000, and 350 computers have been installed, then 70 percent of the work has been completed, and the earned value is $140,000 (70 percent x $200,000).[59]

The graph in Figure 6.3 below illustrates EVA visually:

Figure 6.3: *EVA Graph*



Source: Graph presented in Project Management Institute conference paper, "How to make earned value work on your project."

59 Lukas, J. A. (2012). How to make earned value work on your project. Paper presented at PMI® Global Congress 2012—North America, Vancouver, British Columbia, Canada. Newtown Square, PA: Project Management Institute. Retrieved from https://www.pmi.org/learning/library/make-earned-value-work-project-6001.

This analysis allows users to evaluate project performance and predict final project results (see Attachment F on page 181 for list of EVA calculations). In doing so, stakeholders can better gauge whether a project will meet GAO's criteria of "success"—a capital asset that is delivered on time and on budget. A 2017 California benchmarking study found that four cities, Los Angeles, Oakland, Sacramento Department of Transportation, and San Francisco, monitor earned value during capital projects delivery.[60] Software such as Oracle's Primavera Unifier have modules that help automate EVA.[61]

Capital Programs Division management reported the difficulty in conducting this type of analysis due to a lack of direct nexus between the construction contractor's task schedule (which shows discrete construction tasks and their completion timelines) and the contractor's Schedule of Values (a listing of "definable features of work," such as "interior demolition," and their associated costs—roughly in the order of completion). However, OMB states that project milestones "must be defined in terms of products or functions that are measurable through demonstration or observation such that the percentage of completion can be determined in terms of dollars expended for milestones at certain points in time."[62] This indicates that it is the Division's responsibility to ensure that project components or milestones are developed in a manner such that CPMs can readily track the contractor's performance according to a set schedule. In fact, EVA is discussed in the Division's own procedures manual on contractor progress payments.

Based on our review of project management documents, file systems, and discussions with Division management, we believe purchasing a new project management system is necessary to fulfill cost, scope, and schedule tracking needs defined in best practices. Existing systems do not track the entirety of project delivery; do not automatically retain records of changes to baselines; cannot automate analyses or reports; or produce executive summaries. While software such as Microsoft Project contains some analytical and reporting tools (e.g., progress versus cost graphs), the system does not readily integrate all features of cost, scope, and schedule tracking. For instance, the County's Roads and Airports Department reported using this program for scheduling, but the Department has a separate, in-house database for budgeting purposes. According to a staff member, the budget analytical features in Microsoft Project "are geared towards specific projects" and do not provide a comprehensive look at the entire program. Similarly, San Mateo County's Public Works Department primarily uses Microsoft Project for scheduling and other task-oriented purposes rather than scope and budget tracking.

As such, we recommend that the Division purchase a permanent system that can incorporate the components discussed above. Division management should require all CPMs to use this system and should furnish mandatory training in its use, to ensure a minimum standard of progress reporting for all capital projects. In our discussions with other jurisdictions about their project management software, these

60 City and County of San Francisco, Sacramento Department of Public Works, Oakland Public Works Agency, City of San Jose, City of Los Angeles. (Dec. 2017). California Multi-Agency CIP Benchmarking Study. Retrieved from https://eng.lacity.org/sites/g/files/wph726/f/CABMAnnualReportUpdate2017.pdf.

61 Scroggins, Matt. (2018 May 10). Oracle's Primavera Unifier Enables Earned Value Management to Improve Project Delivery. Oracle Construction and Engineering Blog. Retrieved from https://blogs.oracle.com/construction-engineering/oracles-primavera-unifier-enables-earned-value-management-to-improve-project-delivery.

62 Office of Management and Budget. (2019). p. 40.

agencies spent a considerable amount of time—over a year—developing their scopes of work and requests for proposals for their systems. Representatives from the City of Long Beach and Orange County noted that their purchased software has a wide range of reporting, retention, and analysis capabilities, but user needs must be clearly defined and programmed into the system. Programs were not simply "out-of-box" solutions and had to be heavily customized. To this end, one jurisdiction advised designating a dedicated project manager to oversee the implementation of the new system, as well as developing committees and a team of "super users" to facilitate development.

We therefore recommend that Division assign a dedicated staff member to serve as the lead on the procurement and implementation of the new project management system. This individual should help schedule meetings to discuss potential user needs and workflows, coordinate committees for different aspects of system implementation, handle system roll-out, and serve as the primary contact for system issues.

Providing Additional Detail in Capital Status Reports and Board Transmittals

Project status reports to the Board of Supervisors reflect the Capital Programs Division's incomplete data collection and progress monitoring procedures. The Division's semi-annual updates exclude baseline budgets and schedules, modifications to original project plans, and actual percent/milestones completed (see Attachment G on page 189 for the Division's March 2019 Semi-Annual Status Report). Again, this manner of reporting violates best practices advanced by multiple organizations, which cite the need for communicating baselines, significant project plan changes, and work completed.

To note, projects sometimes cannot be completed on time due to factors beyond the control of the County, particularly when the assistance of outside entities is required. Construction costs are also subject to external factors ranging from trade disputes to asbestos contamination to inclement weather. Even so, understanding why projects have fallen behind schedule or have exceeded the planned cost and contingency amounts is important if for no other reason than informing future project estimates that may be affected by similar factors.

Budget augmentation requests submitted to the Board similarly omit original cost estimates and previous augmentation requests. Project information must therefore be gleaned from legislative files scattered across multiple fiscal years. For example, cost estimates increased by over $65 million for the New Jail over a three-year timespan, but there exists no central record of these changes. Such information gaps prevent the Board from making informed decisions about both ongoing and newly proposed projects. The Capital Programs Division should ensure that its public reporting compares project completion against baselines and adjusted metrics. Updates should also summarize major changes and the reasons behind these changes.

A new project management system would make it easier to generate reports of this nature. The City of Los Angeles' capital management database feeds into an executive dashboard that presents overall project summaries. Meanwhile, Orange County's e-Builder software has a wide range of reports that it can create automatically based on information within the system (see Attachment H on page 197 for screenshots of dashboard and listing of reports). Consequently, once the Division

develops adequate baselines and adopts a uniform project and performance management system, we believe additional reporting efforts should be minimal. While FAF implemented a construction-in-progress dashboard during the first quarter of calendar year 2020, this document only covers one phase of project delivery, and does not offer overall summaries of project portfolios (e.g., the overall percentage of projects "behind schedule").

We therefore recommend that the Capital Programs Division revise all capital status reports, project-related updates, and budget augmentation requests to the Board of Supervisors to include baseline data, a history of major changes, and performance-to-date information, such as an earned value analysis, from the new performance management system. Additionally, upon project completion, the Division should submit—along with its Notice of Completion—a summary to the Board that includes the project's history and final total costs.

CONCLUSION

A "successful" capital project is one that has been delivered on time, on budget, and provides the benefits needed. Effective evaluation of project performance entails measuring actual results against baseline project plans. All modifications to these plans should be centrally logged and incorporated into performance tracking as well. However, the Capital Programs Division 1) does not consistently compare project progress against time, cost, and scope baselines; 2) lacks a central record of all changes to these plans; and 3) has no framework for demonstrating whether a project is "on target" to be completed according to baseline estimates. Likewise, the Division's status reports and project requests to the Board of Supervisors do not adequately convey project progress or the full extent of adjustments to original plans made over time. Insufficient tracking and reporting of project progress against baseline and modified estimates increase the risk of unfettered project changes and uninformed capital planning. The County requires more robust performance management data collection, analysis, and reporting in order to mitigate these risks.

RECOMMENDATIONS

The Capital Programs Division should:

6.1 Adopt a capital performance management system that includes the following: 1) baseline metrics for schedules, budgets, and scopes; 2) a process for managing and controlling all changes to original plans; and 3) a framework for demonstrating whether a project is "on target" to be completed on time and on budget (e.g., an earned value analysis). The Division should purchase software that can accommodate these needs, and all CPMs should be required to use this system/software and should be provided with training in its use sufficient to ensure its effective and consistent deployment. (Priority 1)

6.2 Assign a dedicated staff member to serve as the lead on the procurement and implementation of the software described in Recommendation 6.1. This individual should help schedule meetings to discuss potential user needs and workflows, coordinate committees for different aspects of system implementation, handle system roll-out, and serve as the primary contact for system issues. (Priority 1).

6.3 Following the implementation of 6.1 and 6.2, baseline metrics should be populated with the project plans and schedules described in Recommendation 5.1, for newly approved projects. For existing projects, all baselines should be populated with the Capital Projects Manager's current best estimate and be adjusted for any changes moving forward. (Priority 1)

6.4 Revise all capital status reports, project-related updates, and budget augmentation requests to the Board of Supervisors to include baseline data, a history of major changes, and performance-to-date information, such as an earned value analysis, from the new performance management system. Additionally, upon project completion, the Division should submit—along with its Notice of Completion—a summary to the Board that includes the project's history and final total costs. (Priority 1)

SAVINGS, BENEFITS, AND COSTS

Implementation of Recommendations 6.1 and 6.2 will require additional time and resources for system development, and potentially a large financial investment. In our discussions with other jurisdictions, systems cost—on average—over $200,000 annually, with the most expensive system costing almost $380,000 per year. Average per-user rates widely varied, with a range of roughly between $400 and $7,600 per user.[63] We spoke to agencies with purchased systems, as well as one with a database that was developed entirely in-house. Neither option seemed to present significant cost savings over the other. One representative presented the option of purchasing basic project management software and hiring a developer to customize the solution, but an annual developer salary, coupled with the price of the base software, would still cost over $100,000 annually. While the cost of the new system will depend heavily on the type of system acquired and its fee structure, it is likely that the ongoing investment for such a system would range in the hundreds of thousands of dollars per year.

However, the County's capital program, as discussed in the Introduction of this audit report, has grown exponentially over the past five fiscal years. The size of the County's capital program during FY 2018-19 exceeded $5.2 billion dollars, and the General Fund portion of the program was $3.8 billion dollars. A capital program of this size is not facilitated by inconsistent and nebulous progress monitoring and reporting. Currently, there is no way to ascertain whether projects are "on track" to meet their budget and schedule targets in either the Division's internal or public reports. To compare, other jurisdictions that have five and seven-year capital programs valued less than $1 billion have uniform project management software. In the context of the County's capital investments, the 20-year expense of a $400,000 per-year system would be approximately 0.15 percent of the size of the County's capital program in the FY 2018-19 CIP.

63 The high range in the average cost per user was heavily driven by the number of users in the jurisdictions we contacted. Some jurisdictions had over 200 users, while others had 50. The pricing schemes for programs vary. While the number of users is sometimes a factor in rates, other programs charge by project portfolio size.

Further, if the performance management system is efficiently designed and largely automated, the system could allow staff to reallocate time previously spent on progress tracking. For instance, because different projects are kept in different systems, certain updates to the Division's aggregate financial schedule and tracking report must be made manually. This need would be eliminated through a system that pulls this data internally from information entered by CPMs. Similarly, if the performance management system can easily generate reports, Recommendation 6.4 should not require substantial additional staff time beyond initial adjustments to reporting formats. Finally, Recommendation 6.3 represents what the Division is already doing on an ad hoc basis—it merely formalizes the process and inputted data.

Current status monitoring of capital projects yields little useful information as to whether projects are likely to be successfully delivered. Implementing these recommendations will facilitate more comprehensive performance evaluation and reporting. As a result, decision makers will gain context about how a project has progressed throughout its lifespan, which will allow for better planning and controls around ongoing and newly approved projects.

Section 7: Increased Fiscal Oversight of Capital Spending

Background

From Fiscal Year 2013-14 to the outset of FY 2018-19, General Fund dollars re-appropriated by the Board of Supervisors for unfinished capital projects increased by 317.9 percent to $250.1 million. The number of projects for which funds were carried over increased over the five-year period by 28.9 percent. In addition, one-time funding of new and ongoing capital projects increased from $32.3 million to $150.8 million (366.9 percent) over the same period, translating to an average annual growth rate of 36.1 percent.

Problem, Cause, and Adverse Effect

In the last five years, the County's capital improvement program expanded to include complex acquisition and construction projects without adequate processes, resources, and competencies needed to effectuate a $5.2 billion capital program. The Administrative Capital Committee (ACC), chaired by senior staff from the County Executive's Office, centrally oversees the development of the 10-Year Capital Improvement Program Plan (CIP). The Finance Agency is responsible for management of the County's debt and administration of the Board's Debt Policy, which seeks—among other goals—to minimize the cost of debt issuance. Although ACC meetings reportedly include representatives of the Finance Agency, this informal coordination between those developing the CIP and those administering County debt has not been sufficient to ensure that public investments are maximized. For example, during FY 2019-20, the County re-appropriated $44.5 million General Fund dollars to projects that were not moving forward in that year or in this decade, while concurrently borrowing millions for office buildings and hospital acquisitions. As a result, County taxpayers will absorb an additional interest cost of approximately $1.0 million per year that could have been avoided if the $44.5 million had been re-prioritized from "dead" projects to active projects.

Recommendations

The County Budget Director should develop capital financing strategies and moderate the County's in-progress capital program. The Budget Director should also develop administrative procedures to guide this process with input from County stakeholders such as the Debt Management group and the Facilities and Fleet Department (FAF). Financial assumptions undergirding the CIP, such as debt capacity, should be presented during annual budget hearings. Finally, FAF's Capital Programs Division should assign a dedicated staff member to provide updates on ongoing projects to the Budget Director.

Savings, Benefits, and Costs

The County has a new Budget and Financial Planning Manager who could assist the Budget Director, and the Capital Programs Division could fill a vacant analyst code at no added cost. Although potential savings from better fiscal management of the County's capital program are difficult to quantify, given the CIP's $5.2 billion amount, savings is potentially in the tens of millions of dollars over the next few years.

FINDING

The Growth of the County's Capital Program

Each year, the Board of Supervisors approves a one-time General Fund appropriation for capital projects to be carried out under the management of the Capital Programs Division of the Facilities and Fleet Department (FAF). For Fiscal Year 2018-19, the Board of Supervisors approved $150.8 million of new capital funding during the annual budget process. This figure does not include monies appropriated in prior years for authorized, ongoing projects.

When money for approved projects is unspent in a given fiscal year, the remaining amount is rolled forward to the following fiscal year. The Board re-appropriated $250.1 million for ongoing projects, which resulted in total spending authority of over $400 million in FY 2018-19. Taken together, new and rollover appropriations grew at an average rate of 34.2 percent per year from FY 2013-14 to FY 2018-19 (see Figure 7.1 below).

Figure 7.1: *Snapshot of the County's Growing Capital Program* [(1)]

$M	FY 2013-14	FY 2018-19	Percent Change	Average Growth Rate
Rollovers	$59.8	$250.1	317.9%	33.1%
New Appropriations	32.3	150.8	366.9%	36.1%
Total (Capital Budget)	**$92.1**	**$400.9**	**335.1%**	**34.2%**

Source: Auditor's analysis based on County's SAP financial system data.

Notes: (1) New appropriations and the total fiscal year appropriation amounts (capital budget) are in nominal dollars based on the Adopted Budget and do not include any mid-year adjustments or off-cycle budget augmentations approved by the Board.

Said growth in capital funding outpaced general and construction inflation increases, which grew by 3.1 percent and 5.1 percent over this period, respectively.[64] Further, ballooning capital expenditures were not matched by commensurate increases in General Fund revenues, which grew at 7.5 percent per year over this same period. This outpacing of the County's programmed capital expenditures beyond its revenues has impacted local taxpayers. The County's debt burden per capita increased at an annual rate of 12.3 percent between FY 2013-14 and FY 2018-19[65] and will continue growing based on current project cost estimates programmed in the FY 2018-19 10-Year Capital Improvement Program Plan (CIP).

The 10-Year CIP published for FY 2018-19 envisions a capital program of over $5.2 billion through FY 2027-28. While the CIP presents a balanced plan wherein project expenditures over the next ten years are fully funded, none of the underlying workpapers we reviewed showed the assumptions or calculation methodologies for these funding sources. For example, the CIP projects $653.3 million of funding programmed in the Accumulated Capital Outlay Fund (ACO)—a dedicated, long-term funding source set aside of County capital investments—over the ten-year period.

64 U.S. Bureau of Labor Statistics. (2019). CPI for All Urban Consumers (CPI-U) – San Francisco-Oakland-Hayward, CA Area. Turner Building Cost Index (2019 Fourth Quarter) retrieved from http://www.turnerconstruction.com/cost-index.

65 Excludes Tobacco Settlement Asset-Backed Bonds and Pension Obligation Bonds.

However, we did not receive any evidence that this $653.3 million will be realized, nor did we receive any information on how this figure was calculated. Additionally, a state grant of $80 million for the County's new jail project will not be received, which Santa Clara's Office of Budget and Analysis (OBA) reports the General Fund will need to backfill. Lastly, debt is expected to fund approximately $1.3 billion of capital project costs over the ten-year period, yet the CIP contains no projection of debt service payments or their impact on the operating budgets of departments that will be absorbing them.

The County's Finance Agency reported that its Treasury Unit maintains an internal debt model, and that bond issuance amounts are derived from project estimates and cash flows from FAF. However, the Agency never provided auditors with documentation of this model. Without verifiable evidence demonstrating the County's ability to raise the money that will be needed to cover past, current, and future capital investments and to pay for ongoing debt service on borrowed funds, auditors could not confirm that the FY 2018-19 through FY 2027-28 CIP was, in fact, balanced. It should be noted that the County has a history of issuing lease-revenue bonds to finance buildings and capital improvements, which do not require voter approval by state law. The California State Treasurer cautions in *Guidelines for Leases and Certificates of Participation*:[66]

> If an agency does not centralize the review and oversight of tax-exempt leasing proposals, an individual department may be able to execute a tax-exempt lease for a project that it favors, but which represents a low priority from an agency wide perspective. Projects of dubious merit are less likely to be financed through conventional forms of debt, since elected officials are reluctant to authorize such measures, or place them before the voters—who, if given the chance, are likely to reject them anyway.

Other jurisdictions have developed more robust, public-facing funding plans to illustrate the viability of their capital investments. For instance, Durham County in North Carolina has created a capital finance plan model that is published in its CIP. This model, depicted in Figure 7.2 on page 98, shows various types of revenues, including property taxes, needed over the next ten years to support its capital program. The output of the model is the expected net General Fund debt for each of the ten years, which provides the Board of County Commissioners and the public with known, new, and future capital uses and anticipated sources that would be needed to pay for them.

66 Brown, Kathleen. Guidelines for Leases and Certificates of Participation. California Debt Advisory Commission. November 1993.

Figure 7.2: *Capital Financing Plan Model in Durham County's CIP*

Durham County FY 2020-29 Capital Improvement Plan
Annual Debt Service Payment Amounts and Related Revenue Support

CFP Debt Type	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Known Debt	$60,443,671	$58,365,808	$55,987,770	$46,341,921	$42,654,647	$41,108,198	$39,825,561	$36,432,762	$31,671,300	$30,311,850	**$443,143,486**
New Debt	$2,695,926	$11,109,546	$32,553,837	$34,534,860	$40,814,940	$46,099,503	$49,664,465	$54,582,111	$57,000,672	$59,083,475	**$388,139,333**
New PAYGO	$16,739,452	$8,348,396	$10,587,835	$10,157,549	$3,177,284	$5,283,337	$3,688,849	$2,400,385	$5,145,011	$2,770,597	**$68,298,694**
Other Known Costs	$924,958	$9,958	$9,958	$7,648	$0	$0	$0	$0	$0	$0	**$952,524**
Total	**$80,804,006**	**$77,833,708**	**$99,139,400**	**$91,041,978**	**$86,646,871**	**$92,491,037**	**$93,178,875**	**$93,415,258**	**$93,816,983**	**$92,165,922**	**$900,534,037**

Additional Capacity	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Reserve for Future Purchases	$0	$3,035,626	$0	$0	$2,932,384	$0	$0	$1,092,339	$495,207	$1,799,898

CFP Revenue Type	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Fund Balance Appropriated	$1,224,549	$0	$16,516,880	$6,611,211	$0	$973,565	$694,277	$0	$0	$0	**$26,020,482**
Non Property Tax Revenue	$2,173,545	$2,066,582	$2,034,988	$2,013,376	$1,991,336	$1,956,411	$1,921,036	$1,885,647	$1,849,356	$1,747,347	**$19,639,625**
Occupancy Tax	$4,556,053	$4,323,360	$4,438,061	$4,556,203	$4,677,889	$4,803,225	$4,932,322	$5,065,292	$5,202,251	$5,343,318	**$47,897,973**
Property Tax Revenue	$37,064,199	$37,620,162	$38,184,464	$38,757,231	$42,632,954	$43,272,448	$42,901,290	$43,544,810	$42,203,775	$40,466,643	**$406,647,977**
Sales Tax Revenue	$35,785,660	$36,859,230	$37,965,007	$39,103,957	$40,277,076	$41,485,388	$42,729,950	$44,011,848	$45,056,808	$46,408,512	**$409,683,434**
Total	**$80,804,006**	**$80,869,334**	**$99,139,400**	**$91,041,978**	**$89,579,255**	**$92,491,037**	**$93,178,875**	**$94,507,597**	**$94,312,190**	**$93,965,820**	**$909,889,491**

Annual Property Tax Rate Needed (Cents)

Description	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
103 (SWAP Fund) Cash Flow	$14,400,051	$15,150,051	$12,314,127	$11,688,772	$11,938,772	$11,938,772	$11,938,772	$11,938,772	$11,938,772	$11,938,772
125 (Captial Financing Fund) Cash Flow	$11,848,265	$12,348,265	$12,848,265	$11,781,588	$12,281,588	$12,781,588	$13,281,588	$13,781,588	$14,281,588	$14,781,588
304 (Debt Service Fund) Cash Flow	$20,035,831	$23,071,457	$9,890,501	$5,971,322	$8,903,706	$7,930,141	$7,235,864	$8,328,203	$8,823,410	$10,623,308
Total	**$46,284,147**	**$50,569,773**	**$35,052,893**	**$29,441,682**	**$33,124,066**	**$32,650,501**	**$32,456,224**	**$34,048,563**	**$35,043,770**	**$37,343,668**

Capital Financing Plan

Source: Adapted from Durham County's Capital Improvement Plan for Fiscal Years 2020-2029.

Our discussions with Durham County's budget staff suggest that this jurisdiction, for its robust capital finance plans and CIP development, does not have significantly more resources to devote to capital planning and fiscal oversight than Santa Clara County. Like OBA, which includes staff members who help develop the CIP as part of the County's Administrative Capital Committee (ACC), Durham County's Budget and Management Services Department (BMS) oversees both operating and capital budget needs. BMS, like OBA, administers the County budget, develops operating and capital recommendations, and maintains the CIP.

The Director of BMS told us that his group, staffed by five analysts and one manager, prepares and maintains the County's CIP and financing model in addition to administering the annual budget process, assisting departments with preparation and analysis of their operating budgets, and performing management analysis and program evaluations for the County Manager, Board of Commissioners, and County Departments. While a direct comparison is difficult due to the fact that Durham's CIP is one third the size of Santa Clara County's, their budget office is responsible for the same tasks and functions as OBA, which has 21 full-time staff to perform operating and capital budget functions.

Expansion of CIP not Accompanied by Commensurate Capital Financial Oversight

Despite rapid growth in the size of the County's capital program, which has increased the need for robust financial planning and strategy development, the County's fiscal oversight of its capital projects has not evolved to meet this need. Planning a capital program is a highly skilled endeavor that includes the following responsibilities:[67]

- Developing a prudent financial plan.
- Identifying financial resources and commitments carrying forward from previous years.
- 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.
- Quantifying the operating costs, savings, and/or revenues that will result from project implementation and incorporating those results into the financial plan.

Taking such measures ensures that a jurisdiction will have adequate resources to finance its long-term capital needs. To this end, the Government Finance Officers Association (GFOA), an association that promulgates best practices on capital management, recommends centralized fiscal oversight over "all phases of asset management."[68] Ideally, an individual designated to provide this oversight would collaborate with staff from a capital delivery entity (such as the County's Capital Programs Division) to "provide insight on budget and funding questions and report financial information during construction."[69]

67 Westerman, Nicole. "Managing the Capital Planning Cycle: Best Practice Examples of Effective Capital Program Management." Government Finance Review. (June 1, 2004).
68 Government Finance Officers Association. (2011). Role of the Finance Director in Capital Asset Management. Retrieved from https://www.gfoa.org/role-finance-director-capital-asset-management.
69 Government Finance Officers Association. (2011).

While the County's Finance Agency is responsible for raising money to pay for capital projects that are not feasible to fund through the operating budget and ensuring that debt proceeds are directed to the intended use, it is not designated to serve as a point of accountability in the execution of the CIP as a whole. In contrast with other jurisdictions[70] that have adopted a centralized financial management model to facilitate capital planning and institutionalize fiscal stewardship of their CIPs, the County's long-term capital planning activities, financial management of ongoing projects, and handling of real property assets occur in isolation. The Capital Programs Division of the Facilities and Fleet Department (FAF) and the ACC, which is chaired by senior level officials from the Office of the County Executive and staffed by OBA, oversee the annual capital request process. The Capital Programs Division then manages and budgets projects on an individual basis once these projects have been approved by the Board. Meanwhile, County departments implementing debt-financed capital programs must work in partnership with the Finance Agency to facilitate the issuance and administration of debt.[71]

We did not receive evidence demonstrating that the combined efforts of these three entities—the ACC, FAF, and the Finance Agency—have resulted in thorough analyses of County capital financing resources, needs, and strategies. As stated earlier, the CIP lacks detailed revenue projections and discussions of the assumptions surrounding identified funding sources and debt capacity. Although the Finance Agency reported that it attends monthly ACC meetings and provides input on these matters, meeting minutes documenting specific topics are not kept, and it is unclear how the Finance Agency's internal debt model impacts decision-making around financing the County's long-term capital assets.

Further, underlying CIP workpapers did not give insight into how progress on ongoing capital projects affects the prioritization and approval of new projects. While both FAF and the ACC reported that the two parties confer on the progress and financial status of ongoing projects throughout the year, we were provided neither formal requirements nor guidelines around how these progress updates affect future CIP development and allocation of capital resources. As with the Finance Agency, reporting is primarily done through oral presentations by Capital Programs staff during the ACC's meetings. We found no materials on project timing, costs, and schedules resulting from these meetings, and a methodology showing how the status of existing projects affects the ranking and funding of new projects is unavailable.

The lack of transparency on how capital projects prioritization occurs relative to ongoing project status has resulted in a number of deficiencies, as discussed in more detail later in this audit section. Most significantly, the Board continuously approves large appropriations for new projects despite increasing numbers of incomplete and canceled projects. At exit conferences, senior personnel across multiple involved departments relayed that their staffing and operations were depleted by the "Great Recession." However, as planning and budgeting personnel were reportedly struggling to build up a functional capital program following this period, the CIP grew in response to Board demands for new projects, which did not always consider the

70 For instance, at the Contra Costa Water District, a financial manger called the "project control manager" is assigned to CIP supervision. The 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. Additionally, the City of Philadelphia created a Capital Program Office to centralize project management and enhance fiscal oversight, and the City of San Diego explored a similar model following recommendations from a 2011 Audit of its Capital Improvement Program.

71 Board Policy 4.7 – Debt Policies.

County's ability to pay for or manage the required work. As a result, the capacity of the Capital Programs Division to complete the recommended projects in the timelines presented in the CIP may be based on unrealistic assumptions regarding project costs, schedules, and the capacity of project managers.

Without appropriate analysis to justify funding of projects, officials responsible for capital planning cannot ensure that capital decisions are well-supported to decision makers and the public. When the County's capital program revolved primarily around minor maintenance projects, as reported by Capital Programs Division, robust fiscal oversight of capital planning and financing may not have been a critical need. However, with multi-million-dollar facility acquisitions and several complex construction projects in progress or on the horizon, we believe the County Budget Director should carry out this much needed oversight. The job specifications for the County Budget Director include the following:

- Advises senior administration on the development and recommendation of strategic financial revenue, fare and expenditure policies for the County
- Directs the analysis, prioritization and/or feasibility studies of all functions with a budgetary impact on the County
- Evaluates existing programs and policies and initiates actions for improvement

Capital financial planning, prioritization, and estimation of the opportunity costs of County capital projects fall within the purview of these responsibilities. As chair of the ACC and head of OBA, the County Budget Director is already involved with the development of the County CIP and management of the annual budget process. Therefore, we recommend that the County Budget Director undertakes capital financial management and planning responsibilities that include developing capital financing strategies, quantifying debt based on debt affordability models (with input from the Finance Agency), and moderating the County's in-progress capital program. In the performance of these duties, the County Budget Director should assess the progress of previously approved, unfinished capital projects and evaluate whether unutilized capital appropriations should be re-allocated to other County needs and Board priorities—issues discussed in greater detail below.

The Capital Programs Division Spends Less than Half of Its Annual Budget

Since at least FY 2013-14, annual appropriations for capital projects managed by the Capital Programs Division have far exceeded actual expenditures. Figure 7.3 on page 102 shows that, on average, the Division exercises less than half of its spending authority in a given year and re-appropriates[72] the remaining surpluses at year-end.

72 Re-appropriation is the right to use an unspent appropriation beyond the time period for which it was originally granted. The need for re-appropriation arises as a result of the fact that budget authority is normally granted for a discrete time period, the fiscal year. Since capital projects span multiple fiscal years and receive phased appropriations, the Board of Supervisors approves the rollover of unspent funds at year-end to allow work on existing projects to continue in the new budget year. This means that the Capital Programs Division can use some or all of what has not been spent of the previous years' appropriations in addition to the current year's budget allocation.

Figure 7.3: *History of Growing Surplus Funds for Capital Program ($M)* [1]

Fiscal Year	Original Budget	Prior Year Rollover	Modified Budget	Actuals Spent	Committed	Year-End Surplus[2]	Surplus as a % of Actuals & Commitments
2013-14	$32.3	$59.8	$113.1	$33.4	$27.1	$52.6	87%
2014-15	27.3	52.6	113.5	36.2	13.3	63.9	129%
2015-16	53.0	63.9	170.0	61.5	40.2	68.3	67%
2016-17	135.1	68.3	276.9	73.0	43.7	160.3	137%
2017-18	151.8	160.3	389.5	87.9	51.6	250.1	179%
2018-19	$150.8	$250.1	$463.4	$109.9	$28.9	$324.5	234%

Totals may not round due to rounding.

Source: Management Audit Division.

Notes: (1) Modified Budget for FY 2018-19 excludes $500 million for the purchase of Champion Point and Verity Health System. For a lateral comparison to prior fiscal year results, the Management Audit Division adjusted FY 2018-19 totals by excluding expenditures and encumbrances related to these financed acquisitions.
(2) Modified Budget minus Actuals Spent and Committed.

Each year's re-appropriation materials that are submitted to the Board in late June include a list of projects for which the funds are anticipated to be used. However, in practice, any approved funds that have not yet been committed to a specific project task or deliverable by the Capital Programs Division (see "Committed" column in Figure 7.3 above) are not formally obligated to any single use (e.g., a construction contract). Currently, there is little scrutiny over the status of the projects for which there are surplus funds, and the Board has fully re-appropriated unspent capital dollars every year.

By having no mechanism or party to assess whether these dollars are appropriately reserved or even necessary, the County misses an opportunity to identify and re-allocate funds that may be better used towards other County needs, which should be a policy decision for the Board of Supervisors. For instance, $44.5 million of the $324.5 million in surpluses (14 percent) that were rolled over for FY 2019-20 were associated with projects that were identified for closure or deferred to an undisclosed period beyond ten fiscal years. These projects are summarized in Figure 7.4 on page 103.

Figure 7.4: *FY 2019-20 Adopted Rollover Budget for Projects with Existing Surpluses and no Planned Activity in the Coming Budget Year*

Project Description	Project Status as of March 31, 2019	Surplus Funds Remaining as of June 30, 2019	FY 2019-20 Adopted Rollover Budget
Ambulatory Surgery Specialty Center	Deferred (at least 10 years)	31,591,210	31,591,210
Purchase & Improve Health Satellite Office(s)	Closeout	11,000,000	11,000,000
VMC 2nd Administrative Office Building (AOB)	Closeout	400,000	400,000
Office of the Clerk-Recorder expansion project	Closeout	1,500,000	1,500,000
Total		**$44,491,210**	**$44,491,210**

Source: Auditor's analysis based on FY 2019-20 Recommended and Adopted Capital Project Budget, 10-Year CIP, Semi-Annual Capital Project Status Report, and final re-appropriations from FY 2019 to FY 2020 approved for Fund 50 projects on September 10, 2019.

It is unclear why this $44.5 million was re-appropriated instead of returned to the General Fund, given that these funds were for projects whose statuses indicated that there would be no activity on them during FY 2019-20. There are opportunity costs to reserving funds for expenditures that do not materialize within the period for which they are appropriated. For instance, rather than borrowing $277.2 million to acquire health facilities and fund their capital improvements,[73] the County could have borrowed $232.7 million, or $44.5 less and saved taxpayers an estimated $28.5 million in interest costs over the 30-year bond financing term, or nearly $1.0 million annually. Having the Budget Director investigate and report the nature of rollovers and make recommendations around re-allocating these funds to other County uses may prevent such inefficiencies in the future.

Continuing Appropriations for Projects with Large Surpluses of Unspent Funds

In addition to these prior-year rollovers, the County continues to approve additional funding for ongoing projects that have not yet depleted their previously approved funds. For example, a surplus of nearly $5.0 million exists in a project titled "Renovate Tasman Properties," for which an additional $100.0 million was requested in FY 2019-20. Again, because the County's CIP does not include a discussion of how estimated yearly budgets will be spent (i.e., on planning, design, construction, or closeout activities), the purpose of these additional funds is unclear (see Section 5 of this audit report for more information on this issue).

73 On June 11, 2019, the Santa Clara County Financing Authority issued $277.2 million of lease revenue bonds (2019 Series A and A-T) to finance the acquisition of two hospitals and one health center (the "acquired health facilities") and to finance the costs of certain capital improvements to, and equipping of, the acquired health facilities. The bonds are fixed rate, with level debt service payments of approximately $15.2 million over a 30-year term starting in FY 2019-20.

Proposed additional funding for six projects with pre-existing surplus funds totaled $173.0 million at the outset of FY 2019-20 (see Figure 7.5 below). However, the total actual annual expenditures for all capital projects (other than one-time property purchases) have never exceeded $110.0 million. It is thus extremely unlikely that the totality of this $173.0 million, along with the $55.0 million of surplus funds from prior years that were rolled over in addition to the $173.0 million, will be expended for these six projects in a single year. Evaluation of such budget recommendations by the County Budget Director, along with spending plans discussed in Recommendation 5.1, on page 79 and Recommendation 5.2, on page 80 of this audit, could curb the encumbrance of funds that will not realistically be spent.

Figure 7.5: *FY 2019-20 Adopted Budget and Existing Surplus for Select Ongoing Projects*

Project Description	Project Status as of March 31, 2019	FY 2019-20 Adopted Budget	Surplus Funds from Prior Appropriations
Renovate Tasman Properties	Construction	$100,000,000	$4,605,871
Construct Civic Center Power Distribution System	Design	4,000,000	2,152,217
Plan New Child, Adolescent and Adult Inpatient Psychiatric Facility	Planning	1,000,000	2,000,000
Construct Emergency Department Expansion for VMC at Bascom	Design	30,000,000	39,932,766
Construct new Vietnamese-American Service Center (VASC)	Construction	37,000,000	4,246,286
TB/Refugee Clinic at 1996 Lundy Avenue	Planning	1,000,000	2,020,747
Total		**$173,000,000**	**$54,957,888**

Source: Auditor's analysis based on FY 2019-20 Recommended and Adopted Capital Project Budget, 10-Year CIP, Semi-Annual Capital Project Status Report, and final re-appropriations from FY 2019 to FY 2020 approved for Fund 50 projects on September 10, 2019.

Unclear Methodology around how Long-Term Capital Planning is Impacted by Progress of Existing Program

Based on our review of workpapers provided by OBA staff that support the ACC, we could not determine how the status of the County's existing capital program factors into annual funding requests and recommendations of new projects. While the ACC, with assistance from FAF, reportedly considers this information in its planning and prioritization of new projects, we did not receive any analyses showing the financial implications of approving new projects while accounting for the movement (or lack thereof) on previously approved projects. The Capital Programs Division does not retain internal documentation that would answer whether project delays, cost overruns, or factors outside the Division's control are driving the growth in excess appropriations and tying up General Fund dollars.

Repeatedly approving new projects with such a large volume of ongoing projects results in unrealistic long-term capital planning. Despite an almost $75.0 million increase in year-end rollovers from FY 2018-19 to FY 2019-20, the Board adopted yet another $235.8 million in one-time capital project funds for FY 2019-20. The Capital Programs Division cannot execute all uncompleted or uninitiated projects when new projects are added to its queue each year. As mentioned above, the Division has been unable to expend more than $110.0 million in any given fiscal year for its projects, and the backlog of existing projects has grown 28.9 percent over five years. Without a designated entity to view long-term capital planning relative to the progress and expenditures of existing projects, it is likely that the County will continue to approve new projects that may not realistically be completed over the ten-year planning horizon. The consequence of these approvals is more inefficiently allocated funds that could be used for non-capital purposes or addressing the County's deferred maintenance needs.

Prioritization of projects within the context of the County's *entire* capital program entails consistent review of the status of ongoing projects, an analysis of the County's long-term financial capacity, the ability to reassess priorities and recommend re-allocations of rolled over project dollars when needed, and development of viable financing strategies. To facilitate this, the Capital Programs Division should assign a permanent staff member to liaise with the County Budget Director and provide updates on project progress, spending, and schedules. These updates will provide valuable context for the Budget Director in making determinations around rollovers for ongoing projects and the recommendation of new projects during the annual capital request process.

Ultimately, the County Budget Director will oversee capital funding needs, analyze debt and develop financing strategies, review the nature of rolled over funds for ongoing capital projects, and develop the CIP considering the County's existing capital program. To ensure that the County has a consistent framework for these oversight activities, we recommend that the Budget Director develop administrative procedures to guide these processes with input from County stakeholders such as the Finance Agency's Debt Management Group and the Capital Programs Division. Finally, we recommend that the Budget Director work with the Debt Management Group to create a capital finance plan model similar to the one contained in Durham County's CIP. The major assumptions in the model should be documented, presented, and discussed by the Budget Director during the County's annual budget hearings.

The County Budget Director indicated that our recommendations are consistent with the ACC's aspirations, but that full implementation will likely take a few years and require additional staff since no employee is currently assigned full-time to work on the capital budget and the CIP. However, as mentioned earlier, Durham County's analog to OBA performs similar tasks as those we are recommending with a combined staff of seven full-time equivalent (FTE) positions compared to 21 FTE in OBA. Again, we recognize that this may not be an "apples-to-apples" comparison, as staffing levels are impacted by the needs and scale of the two organizations. Nonetheless, capital budgets that result in excess appropriations of $250.1 million for unspecified purposes in a single year and whose year-over-year growth rate outpaces General Fund revenues speak to the need for increased fiscal oversight and performance monitoring of public investments.

Thus, at minimum, we recommend that the Budget Director and supporting staff prioritize the development of a capital financing model delineating funding sources and documenting assumptions. These tasks should be accomplished by the outset of FY 2021-22. At that time, the Budget Director should report to the Board the degree to which other oversight components of our recommendations were implemented, the barriers to implementation, if any, and a projection for when these items will be fully implemented.

CONCLUSION

The County's capital program has grown exponentially since FY 2013-14 with no commensurate expansion of fiscal oversight and long-term planning. Within this context, re-appropriations of unspent monies for ongoing capital projects have increased by over 300 percent during this time period. These re-appropriations, particularly for projects that have no projected activity associated with them over the next ten years, can result in an inefficient accumulation of General Fund dollars that could potentially be used for other, short-term County needs. Further, additional funding is continuously approved for multiple projects already associated with surplus funds, even though it is extremely unlikely that the totality of these funds will be spent in a given fiscal year. Finally, there are no procedures around how long-term future planning should take the existing state of the County's capital program and discrete projects into account, resulting in the approval of new projects and yet more capital investments that are potentially not backed by realistic financing strategies or completion schedules. Managing a capital program the size of Santa Clara County's requires greater oversight and financial analysis than what currently exists.

RECOMMENDATIONS

The County Budget Director should:

7.1 Oversee all aspects of infrastructure asset management on a County-wide level. This oversight should include review of capital funding needs; analyzing debt capacity and developing capital financing strategies; and evaluating the status of ongoing projects and the nature of re-appropriated surpluses, along with recommending re-allocation of these funds, if necessary. The County Budget Director should also create a capital finance plan model for the County's Capital Improvement Program Plan (CIP) that includes debt service payments and revenue sources for the proposed CIP. The Budget Director should document and present the major assumptions of this model during annual budget hearings.

At minimum, the capital finance plan model and associated documentation should be prioritized and completed by the outset of Fiscal Year 2021-22. At that time, the County Budget Director should report to the Board the degree to which other oversight components of our recommendations were implemented, the barriers to implementation, if any, and a projection for when these items will be fully implemented. (Priority 1)

7.2 If Recommendation 7.1 is approved, the County Budget Director should develop administrative policies and procedures to guide the processes described in Recommendation 7.1, as well as policies around the recommendation of new capital projects based on the outcome of these analyses. Administrative policies and procedures should be developed with input from stakeholders such as the Finance Agency's Debt Management group and Capital Programs Division staff. (Priority 1)

The Capital Programs Division should:

7.3 Assign a dedicated staff person with a background in finance to serve as a liaison to the County Budget Director and apprise the Director of the status of ongoing projects, including the updates discussed in Recommendation 6.4. (Priority 1)

SAVINGS, BENEFITS, AND COSTS

While Recommendations 7.1 – 7.2 assign significant new responsibilities to the County Budget Director, the Office of Budget and Analysis has a new Budget and Financial Planning Manager and existing Management Analysts who could assist with these efforts. Meanwhile, the Capital Programs Division could assign an existing FTE to serve as the liaison to the Budget Director, per Recommendation 7.3. As of the beginning of Fiscal Year 2019-20, there was a vacant Senior Management Analyst position within the Capital Programs Division. If the Division fills this vacancy, the new staff member could perform the functions outlined in Recommendation 7.3 at no extra cost.

The development of administrative policies and procedures around capital needs and financing will better ensure a long-term capital program that the County can financially support and execute. Lastly, implementing these recommendations may allow the County to re-allocate inefficiently encumbered capital funds—such as the case with the $44.5 million in rollovers associated with closed out and deferred projects—to other, more pressing County needs and priorities.

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Section 8: Hospital-Related Capital Projects

Background

Valley Medical Center (VMC) capital projects comprised $2.8 billion (54 percent) of the County's $5.25 billion, ten-year capital program starting in Fiscal Year 2018-19. Of the $150.8 million in newly approved projects during FY 2018-19, 41.5 percent were hospital projects. The County's health system operates as a "business" type enterprise, and as such is supposed to pay for its capital improvements with enterprise fund resources. However, on average, capital subsidies are the largest share of annual contributions by County taxpayers to the hospital system.

Problem, Cause, and Adverse Effect

Although VMC has its own Capital Projects Fund intended to "consolidate all capital and remodeling expenditures" for the hospital, a substantial portion of the hospital's capital costs have become a local taxpayer expense. According to the County's 10-Year Capital Improvement Program Plan (CIP), County taxpayers can expect to spend, on average, $180 million per year on hospital facilities—more than three times the amount the County spends on "indigent" care, which amounts to approximately $55.5 million per year. Additionally, on the last day of FY 2016-17, the administration shifted depreciable assets of $463.3 million from VMC's books to the General Fund, with the Board of Supervisors' approval coming retroactively. As of early 2020, it was unclear whether the cost to maintain these assets is a County cost or will be covered by hospital revenues. Meanwhile, planning and management of hospital-related projects is split between the Capital Programs Division of the Facilities and Fleet Department (FAF) and VMC's Facilities Department despite FAF managing all other County capital projects funded by the General Fund. Further, this arrangement functions without a formal division of roles and responsibilities. FAF's Deputy Director, who serves as a "liaison" between FAF and VMC, is not in the "chain of command" over hospital projects, which is headed by VMC's Chief Executive Officer rather than FAF's Director. Therefore, the Capital Programs Division has no formal authority over VMC's County taxpayer-funded capital assets, which obscures accountability for the cost and execution of hospital projects.

Recommendations

To ensure adequate oversight of local taxpayer funds, the Board of Supervisors should adopt a policy that all General Fund-backed capital projects be managed by FAF's Capital Programs Division, even if they are part of the hospital system. For major hospital projects slated to be financed through VMC's Capital Projects Fund, VMC should present the Board with a project charter showing both the proposed management structure of the project and a financial analysis demonstrating that VMC has the funds and debt capacity to undertake such a project, as well as verifiable sources of revenue to maintain the capital asset following project completion. Lastly, the Board should prohibit transfers of VMC's debts or construction-in-progress to the General Fund without prior Board approval.

Savings, Benefits, and Costs

Moving management of all hospital-related capital projects to FAF's Capital Programs Division will improve operational efficiency and streamline the reporting structure and oversight of local taxpayer-funded VMC capital projects.

FINDING

Hospital-Related Capital Projects and their Financing

Capital projects related to the Santa Clara Valley Medical Center Hospitals and Clinics (VMC) represent the single largest proportion of the County's spending on long-term capital needs. Additionally, during Fiscal Year 2018-19, 41.5 percent of the $150.8 million in newly approved capital projects were hospital projects, with the single largest project being a $25 million Ambulatory Surgery and Specialty Center. In total, the 10-Year Capital Improvement Program Plan (CIP) for FY 2018-19 estimated a budget of $2.8 billion for hospital projects over the next ten years. Of this, $1.8 billion is estimated to come from local taxpayers (the General Fund).

Within the County's health system, VMC operates as an "enterprise"—a business-like entity that is intended to be supported through fees charged for its services. However, under California Welfare and Institutions Code[74], the County is required to provide services to "indigent" persons who cannot otherwise afford healthcare. To this end, VMC provides services to under-insured or uninsured individuals regardless of their ability to pay. Thus, although VMC is an enterprise department, the hospital receives subsidies from the General Fund to cover deficits generated from provision of care to those without a means to pay.

However, these General Fund subsidies are not necessarily intended to cover VMC's capital expenses. VMC has its own Capital Projects Fund meant to "consolidate all capital and remodeling expenditures" for the hospital. This Capital Projects Fund, which is funded through enterprise resources, is separate from the County's General Capital Improvement Fund, which is funded with direct General Fund transfers. Yet, the County's FY 2018-19 CIP envisioned $1.8 billion of $2.8 billion hospital-related project costs (64.3 percent) being paid for by the General Fund through FY 2027-28. Over the CIP's ten-year time frame, this translates to an average annual cost of $180 million.

VMC executive management reported that General Fund contributions have always helped fund the hospital's capital projects, and that this capital subsidy helps the County accomplish its mission of providing care to under-insured individuals. Without these capital assets in place, VMC reported that providing indigent care would be costlier in the long run. However, the Management Audit Division was unable to verify this claim. During FY 2018-19, indigent care services only comprised $55.5 million or 3 percent, of VMC operating expenses—less than one-third of the average annual General Fund capital contribution projected by the CIP. Thus, it is questionable whether the degree of General Fund capital subsidy can be tied to providing indigent care under the County's Welfare and Institutions Code obligations.

Additionally, in FY 2016-17, the County administration transferred VMC projects under construction and depreciable assets of $463.3 million to the General Fund. This transfer was approved retroactively by the Board of Supervisors in September 2017. With this action, the ownership of these assets shifted to County taxpayers, as well as the risk of any construction overages on in-progress projects.

74 California Welfare and Institutions Code § 170000

While VMC reportedly pays a facility lease charge for using these transferred assets, it is possible that some future maintenance and replacement costs originally under VMC's purview may have transferred to the General Fund as well. The Capital Programs Division and VMC gave differing accounts regarding who is responsible for the maintenance and replacement of VMC transferred assets. Executive management at FAF reported that building owners are typically responsible for maintaining the core structure and foundation of the building, which includes plumbing, lighting, and HVAC systems (i.e., the facility's "warm shell"). Thus, if a facility is a General Fund-financed facility, the General Fund also funds the maintenance of this facility. Meanwhile, building users (such as VMC) are responsible for non-essential tenant improvements.

In contrast, VMC reported that its own personnel and operating dollars maintain hospital campus facilities, even if they are owned by County taxpayers. The exception to this is larger capital backlog or replacement projects, which would "likely" be handled by FAF. However, even if VMC uses its own operating funds to finance maintenance and repairs, the hospital's operating costs—as stated earlier in this audit section—are subsidized by the General Fund. This subsidy generally exceeds the amount required to pay for the care of patients whose services are not covered by Medi-Cal, Medicare, or other insurance. Thus, the true proportion of General Fund dollars financing the maintenance and replacement of transferred hospital assets is unknown. To prevent such financial uncertainties in the future, we recommend that major transfers of hospital projects, hospital assets, or hospital debts be prohibited from transfer to the General Fund without prior approval of the Board of Supervisors.

Further, we identified at least two projects—one for a Women's and Children's Center and another for the Gilroy Urgent Care Center—that were budgeted in both VMC's Capital Projects Fund and the General Fund. At the end of FY 2018-19, the Women and Children's Center had an available budget of $442,252 in VMC's Fund and $19.7 million in the General Fund. Meanwhile, the Gilroy Urgent Care Center had an available budget of $227,911 in VMC's Fund and $290,789 in the General Fund. It is unclear what either the hospital or County taxpayers were responsible to construct and what assets would be owned by each.

Ambiguous Management of Local Taxpayer-Backed Capital Projects at the Hospital

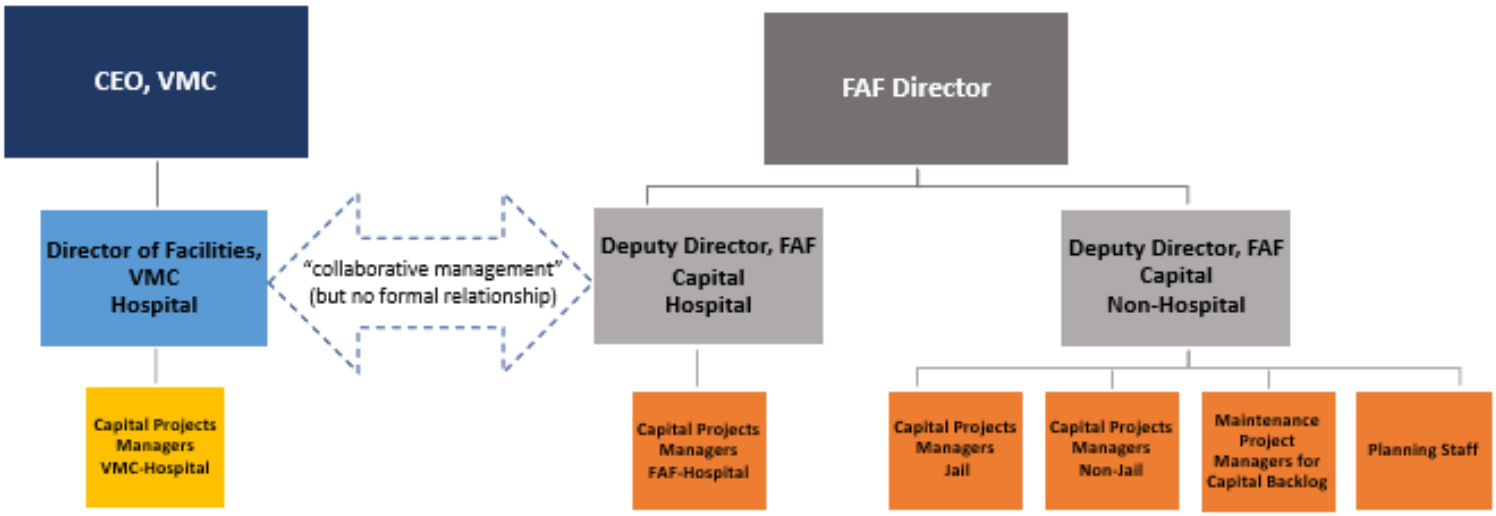
Generally, FAF's Capital Programs Division is responsible for managing all County capital projects financed through the County's General Capital Improvement Fund, which is directly reimbursed by the County's General Fund. Meanwhile, enterprise departments with associated capital funds such as the Roads and Airport Fund and the Parks Fund manage their own capital projects. As discussed above, while VMC falls into the latter category in theory, a sizable portion of both VMC's ongoing and new capital projects is funded with General Fund dollars. However, the Capital Programs Division does not have sole authority to manage these County taxpayer-funded hospital projects, which deviates from the capital management model for all other County departments.

Instead, management of hospital projects is split between the County Division and VMC without a formal division of roles and responsibilities. The County Capital Programs Division has a dedicated unit for VMC projects, consisting of three Capital Projects Managers (CPM) supervised by a FAF Deputy Director. The Deputy Director position was filled during FY 2018-19, and FAF reported that one of the Deputy Director's major roles is to serve as a "liaison" between FAF and VMC insofar as the hospital's capital projects delivery. Meanwhile, VMC has its Facilities Department containing CPMs funded out of VMC's operating budget. Through the end of calendar year 2019, this group was managed by VMC's Director of Facilities.

Like the funding of hospital projects, the division of labor between FAF and VMC is unclear. VMC reported that the hospital's Facilities Department manages all projects funded out of VMC's Capital Projects Fund, but the Department also reported that "many of the CPMs are now managing larger Fund 50[75] projects." Adding to this ambiguity, at least two of FAF's CPMs working on hospital projects have hospital email addresses, blurring the distinction between VMC and FAF staff. When we inquired how this dual management structure functions in practice, the two departments reported working collaboratively, stating that FAF's Deputy Director and VMC's Facilities Manager (who has since left the County) engage in regular "verbal communications." However, neither party provided documented procedures or other evidence of this collaboration.

We also did not observe any protocols for resolving potential disagreements between VMC and FAF, which is especially problematic due to the split reporting structure of hospital capital projects management. As shown in Figure 8.1 below, FAF's newly hired Deputy Director is not the "chain of command" over projects managed by VMC's CPMs. This unit ultimately reports to VMC's Chief Executive Officer rather than FAF's Director.

Figure 8.1: *Organizational Structure of Capital Projects Management*



Source: Management Audit Division.

75 Fund 50 is the County's General Capital Improvement Fund.

Then, despite the costs of many future hospital projects being borne by County taxpayers, the Capital Programs Division—which manages all other General Fund County projects—has no formal authority over a subset of taxpayer-funded hospital capital projects. To further illustrate this point, VMC's Director of Facilities was reportedly listed as the Owner's Authorized Representative (OAR) (the delegated authority for entering into contracts on behalf of the County) for hospital projects until at least March of 2019. The Management Audit Division also observed VMC executive management personnel listed as signatories on a design Project Service Agreement amendment for the expansion of VMC's Emergency Department—a project identified as a General Fund-backed project in the FY 2018-19 CIP.

This split structure is prone to risk in that, if FAF disagrees with VMC on an aspect of a project, its authority is unclear, as is the accountability for project delays and overages. VMC executive management reported that VMC has always viewed FAF as the "lead" agency for capital, and that FAF plays a large role in setting the priorities of hospital projects; however, the formal chain of command does not indicate this structure. Further, having two departments manage capital projects for a single hospital network may lead to communication lapses, operational inefficiencies, and increased staff costs that would otherwise be avoided if all projects were managed by one entity.

To clarify roles and avoid operational inefficiencies and redundancies, we recommend that the Board of Supervisors adopt a policy that all General Fund-backed capital projects shall be solely managed by FAF's Capital Programs Division, even if it is part of the hospital system. Meanwhile, VMC's Facilities Department should oversee minor maintenance and repair projects funded through VMC's Capital Projects Fund. If major hospital projects are slated to be financed through VMC's Capital Projects Fund, we recommend that VMC presents the Board with a project charter showing the proposed management and reporting structure of the project and a financial analysis demonstrating that VMC has the funds and debt capacity to undertake such a project, as well as verifiable sources of revenue to maintain the capital asset following project completion. This recommendation serves to reduce the risk that hospital project funds will be insufficient for the work, thus potentially becoming an unanticipated General Fund expense. Executive management at VMC should also create a policy that clarifies the distinction between a major capital project and a minor repair funded through VMC's Capital Projects Fund.

CONCLUSION

Hospital-related capital projects comprise the largest proportion of capital spending in the County, and major hospital projects are substantially subsidized by the County's General Fund. However, there are apparent inconsistencies in both the funding and management of hospital projects insofar as which projects are budgeted as a part of VMC's Capital Projects Fund and managed by VMC instead of FAF. These inconsistencies can be tied to a lack of controls around how hospital projects are financed and an absence of written policies or documented procedures on how project management responsibilities should be divided between FAF and VMC's capital divisions. This lack of clarity hinders the County's ability to systematically plan, budget, and execute hospital-related capital projects.

RECOMMENDATIONS

The Board of Supervisors should:

8.1 Adopt a policy that all General Fund-financed capital projects shall be solely managed by the Capital Programs Division of the Facilities and Fleet Department, including projects that are a part of the hospital system. (Priority 1)

8.2 Adopt a policy disallowing transfers of Santa Clara Valley Medical Center's debts, construction-in-progress, or any other projects initiated by hospital capital personnel to the General Fund, or transfers of taxpayer funds to the hospital, without prior Board approval. (Priority 1)

Santa Clara Valley Medical Center (VMC) should:

8.3 Establish a policy that defines the distinction between a minor capital repair funded through VMC's Capital Projects Fund and a major capital project. This policy should clearly outline what types of projects may and may not be funded out of VMC's Capital Projects Fund, including planning processes for projects that will eventually be financed through the General Fund. (Priority 1)

8.4 For any major capital projects slated to be financed through VMC's Capital Projects Fund, present the Board with a project charter showing the proposed management and reporting structure of the project and a financial analysis demonstrating that VMC has the funds and debt capacity to undertake such a project, as well as verifiable sources of revenue to maintain the capital asset following project completion. (Priority 1)

SAVINGS, BENEFITS, AND COSTS

Taken together, these recommendations align the management structure of General Fund-financed hospital capital projects with the rest of the County's. These measures also help eliminate possible redundancies and operational inefficiencies associated with dual management and give formal decision-making authority to the FAF Deputy Director hired to oversee hospital projects. Finally, the implementation of these recommendations will prevent unexpected General Fund subsidization of the delivery and potential maintenance of enterprise-initiated capital projects. These recommendations prevent unexpected costs to the General Fund, and, by extension, the potential redirection of funds intended for other County programs.

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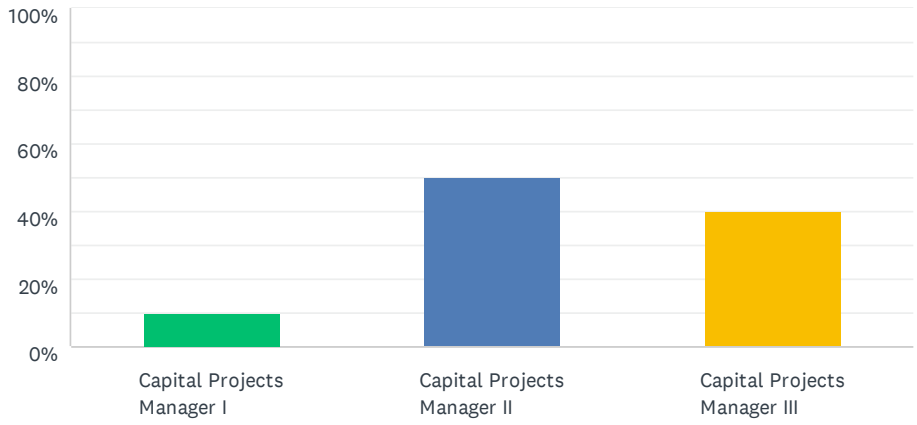
Q1 What is your job title?

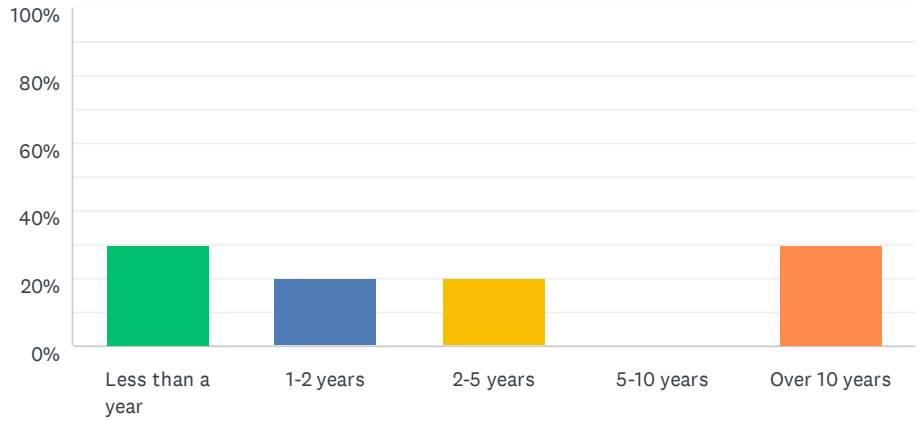
Answered: 10 Skipped: 0



ANSWER CHOICES	RESPONSES	
Capital Projects Manager I	10.00%	1
Capital Projects Manager II	50.00%	5
Capital Projects Manager III	40.00%	4
TOTAL		10

Q2 How long have you been working for the Capital Programs division of Facilities and Fleet (FAF) as a Capital Projects Manager?

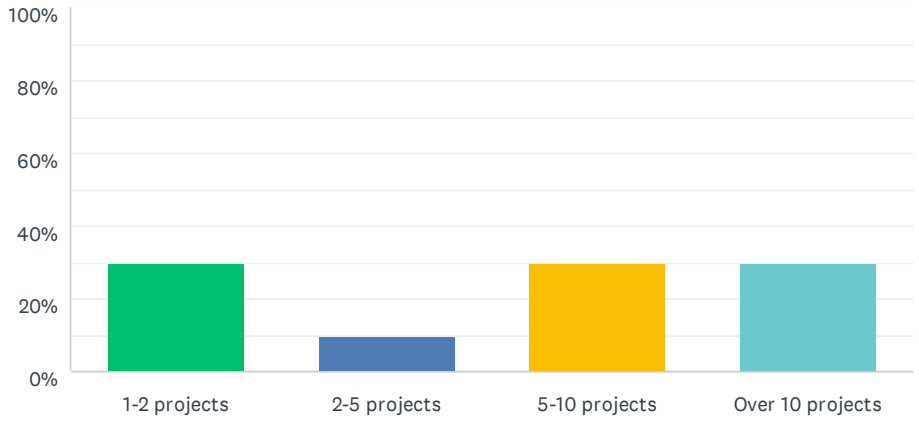
Answered: 10 Skipped: 0



ANSWER CHOICES	RESPONSES	
Less than a year	30.00%	3
1-2 years	20.00%	2
2-5 years	20.00%	2
5-10 years	0.00%	0
Over 10 years	30.00%	3
TOTAL		10

Q3 Throughout your time as a Capital Projects Manager with FAF, how many capital projects have you been responsible for managing?

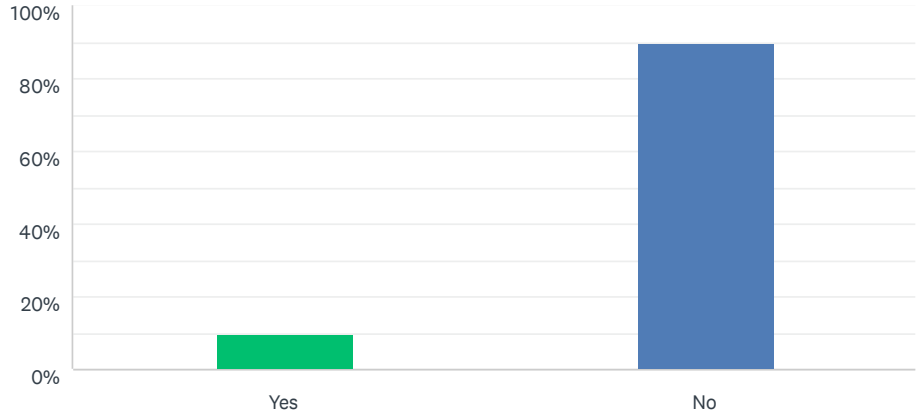
Answered: 10 Skipped: 0



ANSWER CHOICES	RESPONSES	
1-2 projects	30.00%	3
2-5 projects	10.00%	1
5-10 projects	30.00%	3
Over 10 projects	30.00%	3
TOTAL		10

Q4 Have you held any positions aside from Capital Projects Manager during your employment with FAF's Capital Programs Division?

Answered: 10 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	10.00%	1
No	90.00%	9
TOTAL		10

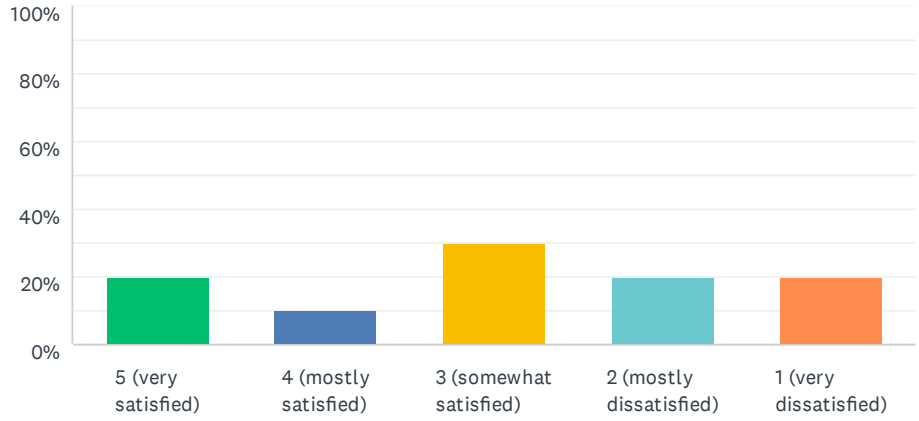
Q5 Please specify your previous job title(s) with the Capital Programs Division

Answered: 1 Skipped: 9

#	RESPONSES	DATE
1	-----	[redacted]

Q6 How would you rate your satisfaction with the promotional and career growth opportunities within the Capital Programs Division (with 5 being very satisfied and 1 being very dissatisfied)?

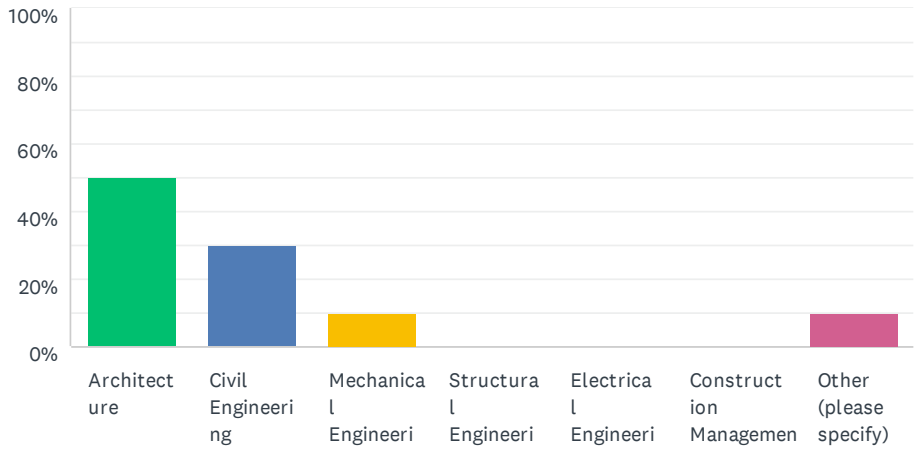
Answered: 10 Skipped: 0



ANSWER CHOICES	RESPONSES	
5 (very satisfied)	20.00%	2
4 (mostly satisfied)	10.00%	1
3 (somewhat satisfied)	30.00%	3
2 (mostly dissatisfied)	20.00%	2
1 (very dissatisfied)	20.00%	2
TOTAL		10

Q7 Which field BEST covers your primary education and experience?

Answered: 10 Skipped: 0



ANSWER CHOICES	RESPONSES	
Architecture	50.00%	5
Civil Engineering	30.00%	3
Mechanical Engineering	10.00%	1
Structural Engineering	0.00%	0
Electrical Engineering	0.00%	0
Construction Management	0.00%	0
Other (please specify)	10.00%	1
TOTAL		10

#	OTHER (PLEASE SPECIFY)	DATE
1	-----	2/22/2019 9:04 AM

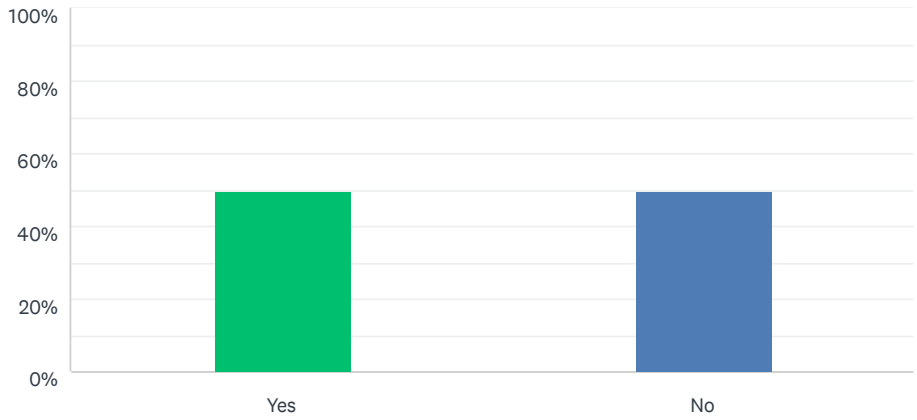
Q8 Please list any professional certifications or licenses you possess (e.g., architecture, engineering, CCM, PMI, etc.). If none, please write "N/A."

Answered: 10 Skipped: 0

#	RESPONSES	DATE
1	LEED AP	[redacted]
2	ARCHITECTURE, LEED-AP	[redacted]
3	---	[redacted]
4	Civil Engineer	[redacted]
5	California Architect # C30052 LEED Accredited Professional NAHRO Certified Specialist of Inspections - Housing Quality Standards	[redacted]
6	Mechanical Engineering	[redacted]
7	Professional Engineer	[redacted]
8	CASp, Architect licensed in AZ, LEED general	[redacted]
9	Architecture License, Enclosure Commissioning Certification, LEED AP Certification	[redacted]
10	Professional Engineer (P.E.) License in California - Civil Engineer	[redacted]

Q9 Are there any capital projects that you have ENTIRELY managed from the beginning of the Planning phase to the end of the Construction phase?

Answered: 10 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	50.00%	5
No	50.00%	5
TOTAL		10

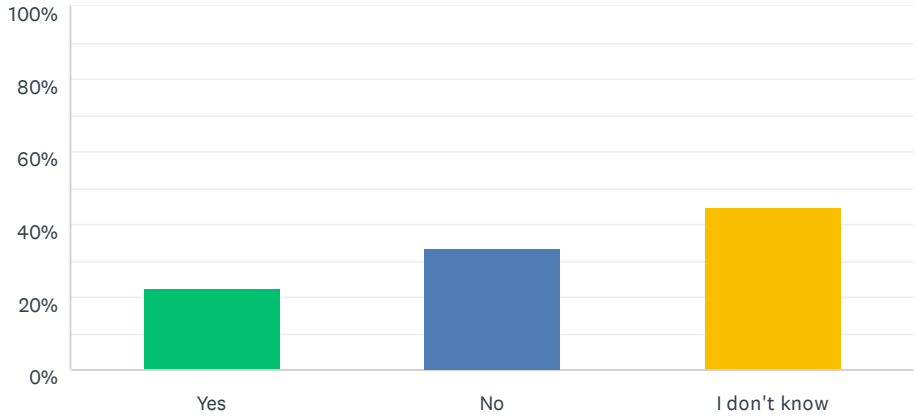
Q10 For projects you have managed in their entirety, what were 1) the names of these projects and 2) when did the Planning phase begin and the Construction phase end for these projects (month and year)?If you have managed more than five projects, please only include projects for which major new construction was involved.

Answered: 4 Skipped: 6

#	RESPONSES	DATE
1	-----	[redacted]
2	For County Capital projects, County Capital Program doesn't structure CPM to manage projects from planning phase to construction phase. [redacted]	[redacted]
3	NonDisclosure	[redacted]
4	[redacted]	[redacted]

Q11 Does the Capital Programs Division have a formal process to facilitate and document management transitions, such as when Capital Projects Managers are reassigned to a project that is already in progress?

Answered: 9 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	22.22%	2
No	33.33%	3
I don't know	44.44%	4
TOTAL		9

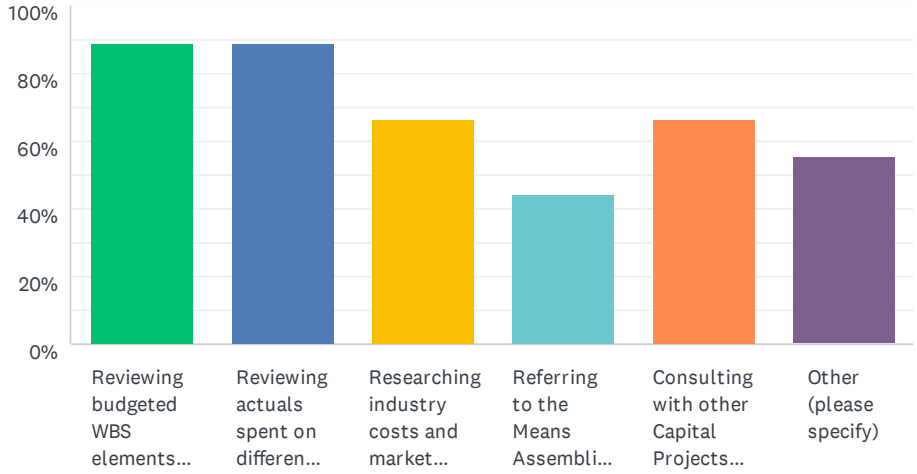
Q12 What is your role in determining preliminary project budget estimates prior to their approval by the Board of Supervisors? If you do not have a role, please write "N/A."

Answered: 9 Skipped: 1

#	RESPONSES	DATE
1	N/A	[redacted]
2	Not every project comes with a determined scope or a preliminary budget estimate from the FAF Planning Group. In those cases I am tasked with crafting preliminary budget estimates.	[redacted]
3	N/A	[redacted]
4	Each of my projects has its own need and phase. Some of my projects have their project budgets in place. Sometime, I needed to determine my project budget estimates prior to their approval by the Board of Supervisors. If the project needs to have approval from Board of Supervisors, I would prepare the LED file.	[redacted]
5	I prepare a Rough Order of Magnitude (ROM) estimate then check it against the estimate of the A&E. If I'm satisfied, I will include the estimate value to the LEG file	[redacted]
6	N/A	[redacted]
7	Perform a budgetary estimate for the project	[redacted]
8	Capital Projects Managers have no role in determining preliminary budgets. Our planning staff prepares budgets and have little experience with capital projects. They primarily speak and write well.	[redacted]
9	N/A	[redacted]

Q13 Which of the following strategies do you utilize to estimate costs for WBS elements in green sheets? (check ALL that apply)

Answered: 9 Skipped: 1



ANSWER CHOICES	RESPONSES	
Reviewing budgeted WBS elements for similar prior projects	88.89%	8
Reviewing actuals spent on different WBS elements for similar prior projects	88.89%	8
Researching industry costs and market rates for different WBS elements	66.67%	6
Referring to the Means Assemblies Cost Data Manual	44.44%	4
Consulting with other Capital Projects Managers on how they budget their projects	66.67%	6
Other (please specify)	55.56%	5
Total Respondents: 9		

#	OTHER (PLEASE SPECIFY)	DATE
1	Gordian Database	[redacted]
2	-----	[redacted]
3	Professional Cost Estimators for construction and/ or "2-7" Fomular created by CSU for capital projects	[redacted]
4	It could be a combination of all of the above	[redacted]
5	Consulting with consultants and contractors	[redacted]

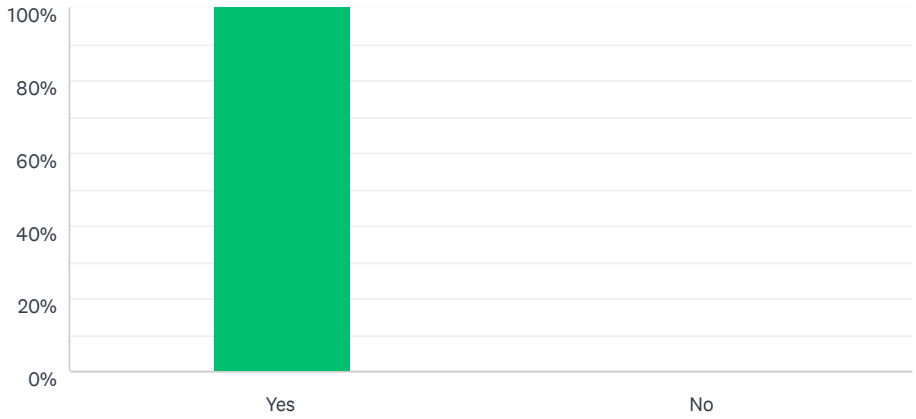
Q14 How do you calculate your estimates for the amount of time you will bill to a capital project you are managing?

Answered: 8 Skipped: 2

#	RESPONSES	DATE
1	Scale of project scope and anticipated time-frame for design and construction.	[redacted]
2	-----	[redacted]
3	FAF Capital Program has its formula to calculate the CPM time/ fees. Also, I often use '2-7' formula to double check FAF Capital Program's numbers.	[redacted]
4	This will depend on a couple of things. Do I have a CM on the project, How many projects I'm managing, and the project duration from design to end of construction to client turn over. But for ROM budget, I will use project duration minus weekends times 8 hours per day. Then add 25% for contingency.	[redacted]
5	daily	[redacted]
6	based on the project schedule	[redacted]
7	Approximately 10% - 15% during programming and design. Approximately 25% - 60% during construction -- depending on the complexity of the scope or contract.	[redacted]
8	This estimate is similar to the previous estimate for WBS lines items - based on prior projects, talking to coworkers, work experience, etc.	[redacted]

Q15 Have you ever managed a capital project that utilized a Construction Management firm?

Answered: 8 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	100.00%	8
No	0.00%	0
TOTAL		8

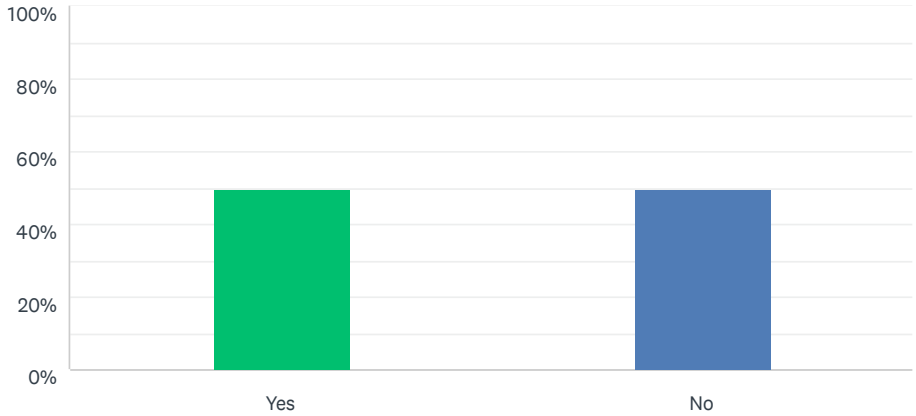
Q16 Please describe your review process to ensure the Construction Management firm's monthly reports, change order negotiations and logs, construction cost estimates, and other deliverables were complete and accurate.

Answered: 8 Skipped: 2

#	RESPONSES	DATE
1	Involvement of CM firm has been limited to design phase. Monthly reports are verified against design deliverables.	[redacted]
2	-----	[redacted]
3	I referred to their PSA and generated CM's PA to guide them for their services. All their services should comply with their PA requirements. The review process include daily log, 1-1 weekly meeting, monthly project progress report .....and etc. Also, I set up a construction management web-based system, so all members in the project team can clearly view all documents, like drawings, schedule of value, schedule and logs. Once all baselines are there, it will be very clear if monthly reports, negotiations and other deliverables were complete and accurate or note. Again, CM and CPM should know those baselines very well in order to detect any changes.	[redacted]
4	I require my CM to email me a daily report with project pictures, a weekly meeting minutes and we review contractors monthly progress for payment that will include as-built, logs (RFI, Submittal, Change Orders, PCO, Schedule, issues and forecast “if needed”)	[redacted]
5	Monthly Re[port: I review this prior to authorizing payment each month. Change Order Log: I maintain this myself. Change Order Negotiations: The CM firm is certainly involved in this, but on most larger COs, I am equally involved in the negotiations and price discussions, before the price is finalized with the contractor. Construction Cost Estimates: By this I assume you mean the price of each change order. Once again I am fairly involved, but the CM firm also provides an independent estimate to review the contractor's estimate against.	[redacted]
6	Standard	[redacted]
7	Involve in the process before CM develop the paperwork.	[redacted]
8	Ensure information is up to date and accurate. At times conduct field verifications and interview design consultant and contractors.	[redacted]

Q17 Are there any ABSOLUTE cutoff points during the Design or Construction phases of a project where scope changes are no longer accommodated, regardless of the requesting party?

Answered: 6 Skipped: 4



ANSWER CHOICES	RESPONSES	
Yes	50.00%	3
No	50.00%	3
TOTAL		6

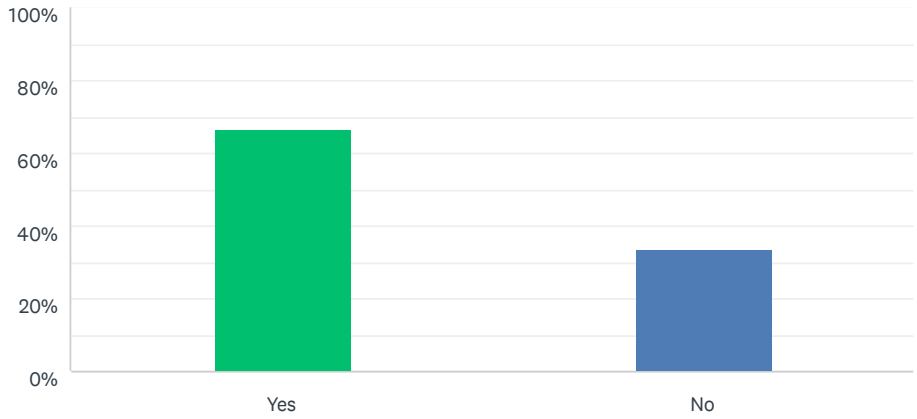
Q18 What is the cutoff point during the Design or Construction phases of a project where scope changes are no longer accommodated?

Answered: 4 Skipped: 6

#	RESPONSES	DATE
1	When the project team has signed off one phase and move forward to next phase according to the approved schedule and/ or budget.	[redacted]
2	During design, we will have a spreadsheet where we can determine the essentials, the other items that are not important but the client wants will be tracked and depending on the budget it may be added or be included as an “alternate”... during construction, scope changes will depend on budget and most specially “time”	[redacted]
3	This largely has to do with the nature of the change requested. If the change is easily accommodated,	[redacted]
4	depends on project budget and constructability at the time of the request	[redacted]

Q19 Do you use project management software to monitor capital projects?

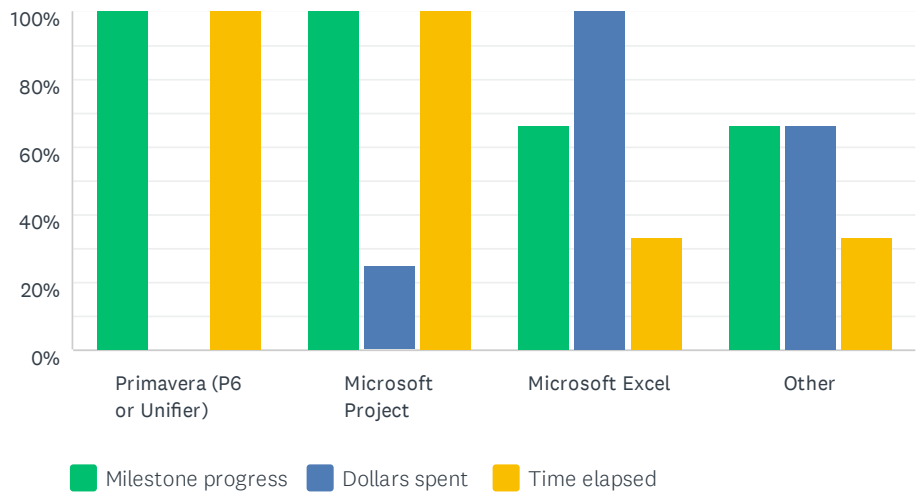
Answered: 6 Skipped: 4



ANSWER CHOICES	RESPONSES	
Yes	66.67%	4
No	33.33%	2
TOTAL		6

Q20 What project management software do you use to monitor capital projects, and for which of the following metrics? (check ALL that apply)

Answered: 4 Skipped: 6

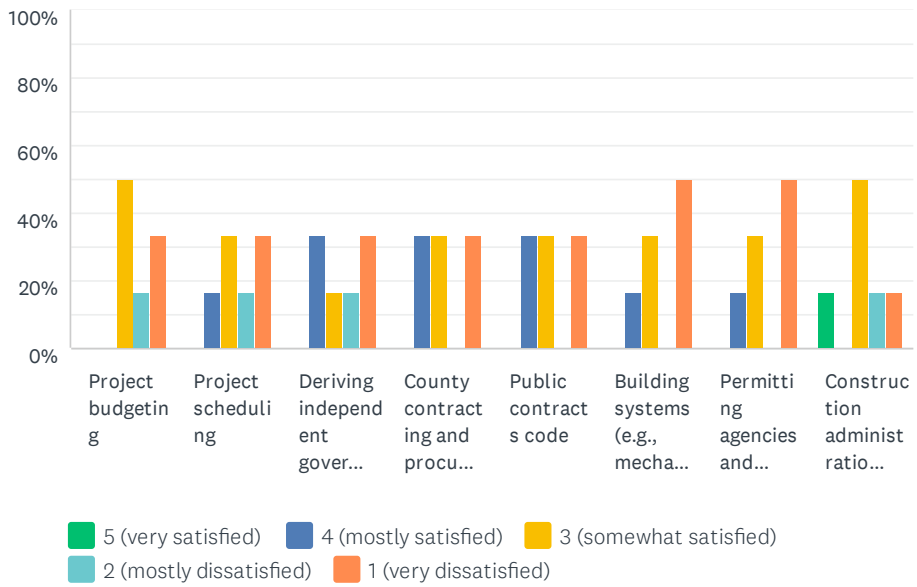


	MILESTONE PROGRESS	DOLLARS SPENT	TIME ELAPSED	TOTAL RESPONDENTS
Primavera (P6 or Unifier)	100.00% 1	0.00% 0	100.00% 1	1
Microsoft Project	100.00% 4	25.00% 1	100.00% 4	4
Microsoft Excel	66.67% 2	100.00% 3	33.33% 1	3
Other	66.67% 2	66.67% 2	33.33% 1	3

#	OTHER (PLEASE SPECIFY)	DATE
1	SAP	[redacted]
2	Currently, I'm using Procore. Some years ago, I used Prolog.	[redacted]
3	Microsoft Access	[redacted]

Q21 How would you rate your satisfaction with the Capital Program division's training on the following management topics (with 5 being very satisfied and 1 being very dissatisfied)?

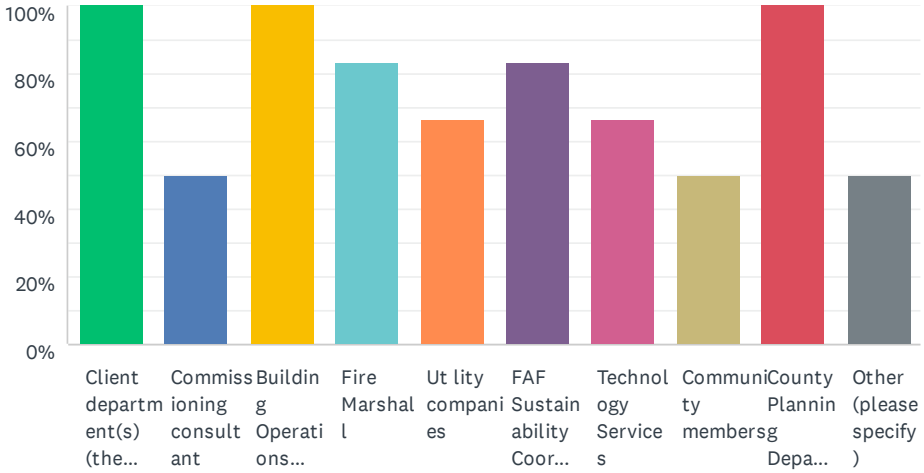
Answered: 6 Skipped: 4



	5 (VERY SATISFIED)	4 (MOSTLY SATISFIED)	3 (SOMEWHAT SATISFIED)	2 (MOSTLY DISSATISFIED)	1 (VERY DISSATISFIED)	TOTAL	WEIGH AVERA
Project budgeting	0.00% 0	0.00% 0	50.00% 3	16.67% 1	33.33% 2	6	
Project scheduling	0.00% 0	16.67% 1	33.33% 2	16.67% 1	33.33% 2	6	
Deriving independent government estimates for contractors and change orders	0.00% 0	33.33% 2	16.67% 1	16.67% 1	33.33% 2	6	
County contracting and procurement polices/procedures (e.g., RFPs, invitations to bid, sole/single source contracting, etc.)	0.00% 0	33.33% 2	33.33% 2	0.00% 0	33.33% 2	6	
Public contracts code	0.00% 0	33.33% 2	33.33% 2	0.00% 0	33.33% 2	6	
Building systems (e.g., mechanical and electrical systems)	0.00% 0	16.67% 1	33.33% 2	0.00% 0	50.00% 3	6	
Permitting agencies and processes	0.00% 0	16.67% 1	33.33% 2	0.00% 0	50.00% 3	6	
Construction administration/management and contractor oversight	16.67% 1	0.00% 0	50.00% 3	16.67% 1	16.67% 1	6	

Q22 Please check ALL stakeholders that you consult with during the Planning phase of a project in order to develop project scope and preliminary needs.

Answered: 6 Skipped: 4

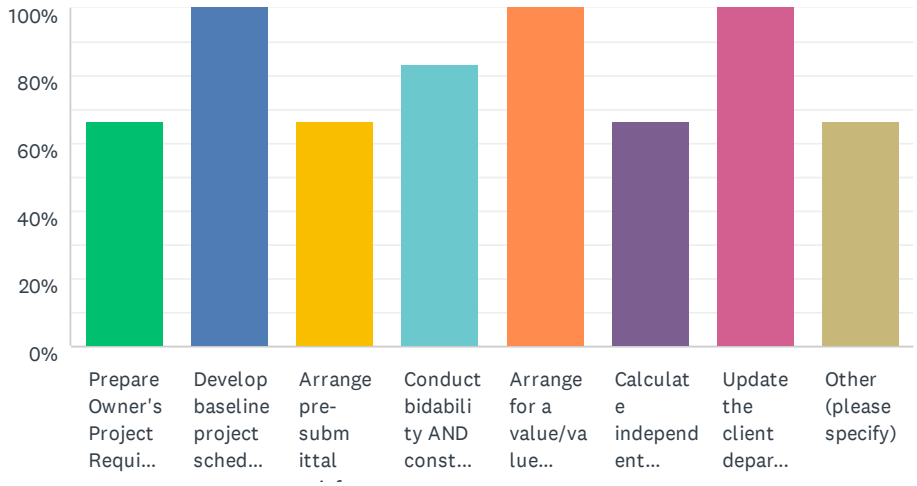


ANSWER CHOICES	RESPONSES	
Client department(s) (the occupier(s) of the facility)	100.00%	6
Commissioning consultant	50.00%	3
Building Operations staff	100.00%	6
Fire Marshall	83.33%	5
Utility companies	66.67%	4
FAF Sustainability Coordinator	83.33%	5
Technology Services and Solutions Department (TSS)	66.67%	4
Community members	50.00%	3
County Planning Department	100.00%	6
Other (please specify)	50.00%	3
Total Respondents: 6		

#	OTHER (PLEASE SPECIFY)	DATE
1	Local government, such as City if appliable.	[redacted]
2	County Arborist for tree protection, County Building Department and other authorities having jurisdiction	[redacted]
3	State agencies if funded by State	[redacted]

Q23 Which tasks are standard responsibilities that you complete during the Planning and Design phases for capital projects that you manage (check ALL that apply)?

Answered: 6 Skipped: 4

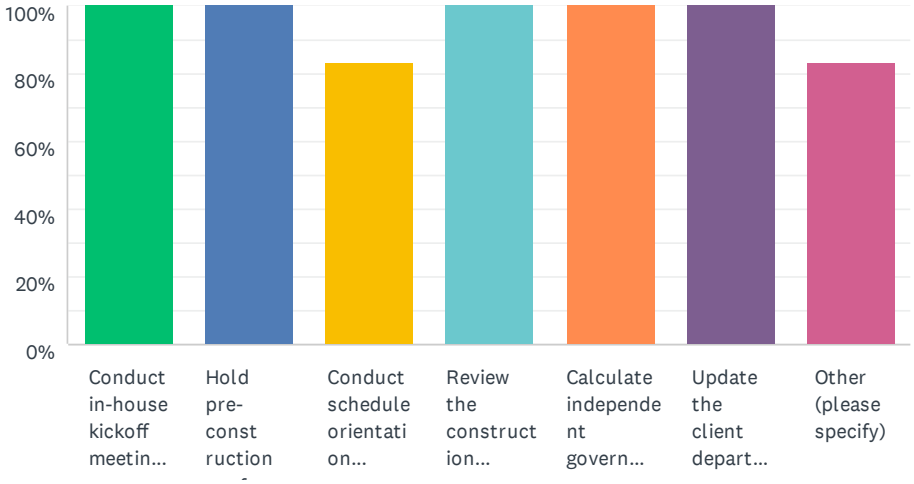


ANSWER CHOICES	RESPONSES	
Prepare Owner's Project Requirements (OPRs)	66.67%	4
Develop baseline project schedules for the Planning, Design, and Construction phases	100.00%	6
Arrange pre-submittal briefings for design consultants	66.67%	4
Conduct bidability AND constructability reviews for design documents	83.33%	5
Arrange for a value/value engineering analysis, either through a formal team or cost consultant	100.00%	6
Calculate independent government estimates for design change orders	66.67%	4
Update the client department on project progress	100.00%	6
Other (please specify)	66.67%	4
Total Respondents: 6		

#	OTHER (PLEASE SPECIFY)	DATE
1	Design team RFQ's and selection process; CEQA compliance process; legislative files for engagement of consultants, Drafting of PSA's, PA's, SSO's and related amendments; preliminary budgets as needed, community outreach, reports to committees. Project Manual Divisions 0 and 1 drafting.	[redacted]
2	Project clarification/ presentation and receiving approvals from all related parties for each programming, planning, design development and 100% Construction Document.	[redacted]
3	1. Ensuring regular meetings with Architect & Engineers to ensure the whole team is on the same page with regards to the project scope 2. Pre-planning meeting and follow-up meetings as needed with AHJs 3. Review drawings at periodic milestones to ensuring cross-coordination across A and all E discipline and to ensure that all project scope is captured so as to mitigate change orders during construction. This periodic review also gives Building Operations and other County departments and opportunity to weigh in and have their concerns addressed during design.	[redacted]
4	Prepare "front end" specification documents based on the design scope	[redacted]

Q24 Which tasks are standard responsibilities that you complete during the Construction phase for capital projects that you manage (check ALL that apply)?

Answered: 6 Skipped: 4



ANSWER CHOICES	RESPONSES	
Conduct in-house kickoff meetings with the construction management team (County staff and consultants) prior to construction	100.00%	6
Hold pre-construction conferences with the construction contractor	100.00%	6
Conduct schedule orientation meetings with the construction contractor	83.33%	5
Review the construction contractor's Schedule of Values	100.00%	6
Calculate independent government estimates for construction change orders	100.00%	6
Update the client department on project progress	100.00%	6
Other (please specify)	83.33%	5
Total Respondents: 6		

#	OTHER (PLEASE SPECIFY)	DATE
1	Review and approval of change orders, RFI's and submittals as needed, project closeout. Post occupancy assessments.	[redacted]
2	There are more responsibilities listed in County E-Manual. Please refer them in E-Manual.	[redacted]
3	Coordinate/Negotiate change orders, review progress payment requests, review as-built drawings	[redacted]
4	There are many other standard tasks, including change order review and negotiations, regular internal budget reviews, regular review of project schedule, etc.	[redacted]
5	Manage the County's Quality Control and Quality Assurance requirements	[redacted]

Q25 Please provide any feedback on the challenges, opportunities, or experiences you have encountered in your role as a Capital Projects Manager.

Answered: 6 Skipped: 4

#	RESPONSES	DATE
1	I have faced a few challenges in making the adjustment to the Public Works realm, especially coming from a lengthy private industry career. The opportunity for growth is there, but management needs to capitalize on it by instituting a more structured training program that relies less on "learning by doing" entirely.	[redacted]
2	When a CPM manages several projects at the same time, supports from the department become very important. However, our department currently doesn't provide a good support structure to CPM. Therefore CPM often struggles a lot of paper work in office, but actually they should visit site regularly and check contractor's work. Currently, the department hired more inspectors to support CPM's work during construction phase, which is definitely beneficial to CPMs and projects. Perhaps, the department can work on Contract support. Our contract support to CPM is still very weak. The managers should communicate with staff more. I don't mean our supervisors communicating with us. I hope my supervisor's boss can communicate with us more on our department goal, staff structure or other meaningful things, not just potlucks or retirement parties. Often I found they only talked to their 'friends' and/ or promoted their 'friends'.	[redacted]
3	I have experienced to coordinate with multiple agencies like City of San Jose and VTA alongside with our own Building Ops and permitting department and planning department all at the same time while also coordinating with clients and building managers and landlords and their representatives and also dealing with contractors in the bidding process after finishing the Division 0 and 1 that turned to project manual.	[redacted]
4	From the viewpoint of someone who has extensive design and construction industry experience, I noticed the following: 1. The upper management is not experienced and does not have a solid understanding of building design and construction. This causes regular and sometimes significant problems during project execution. 2. Due to the extensive and ever increasing paperwork requirements, we are forced to hire help causing our project costs to increase. Keeping up with the paperwork and dealing with upper management that doesn't understand the process and nuances of design and construction are by far the biggest challenges. 3. There is no established methodology for how and when to reach out to supporting departments such as TSS, Building Ops, etc. for their input. 4. Our specifications (Div. 0 & 1) have to be revised for a division that is no longer self-permitting. There are also many other holes in the specs such as no definitions for beneficial occupancy, substantial completion, etc. 5. I have been fortunate to interact extensively with many County departments and each and every person I worked with has been great and very helpful. Its really wonderful to see everyone coming together to work towards the common goal of doing what's best for the County. 6. I have found a lot of knowledge (and support)when I reach out to Building operations personnel for their feedback on issues / questions during construction. Especially given that these are the people who will be maintaining the buildings and spaces once we get them built, its paramount to rope them into the decision making process for issues that affect them. I have found that there is a wealth of knowledge here that we as CPMs can tap into. At the upper management level however, there appears to be a strong silo mindset rather than an attitude of "we are all the County, lets work together towards the greater good". I was surprised by this and it would be beneficial if this were not the case. 7. The way to mitigate cost and schedule overruns on projects is to reduce paperwork, provide experienced upper management that can bring their experience to bear in guiding CPMs and provide a lot of training to CPMs in a variety of design and construction related issues.	[redacted]
5	Keep the team updated on the projects and work together	[redacted]
6	Excessive administrative documents and procedures with multiple levels of coordination have been added that takes up too much time from the project manager and slows the projects' progress.	[redacted]

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Q1 What is the name of your County?

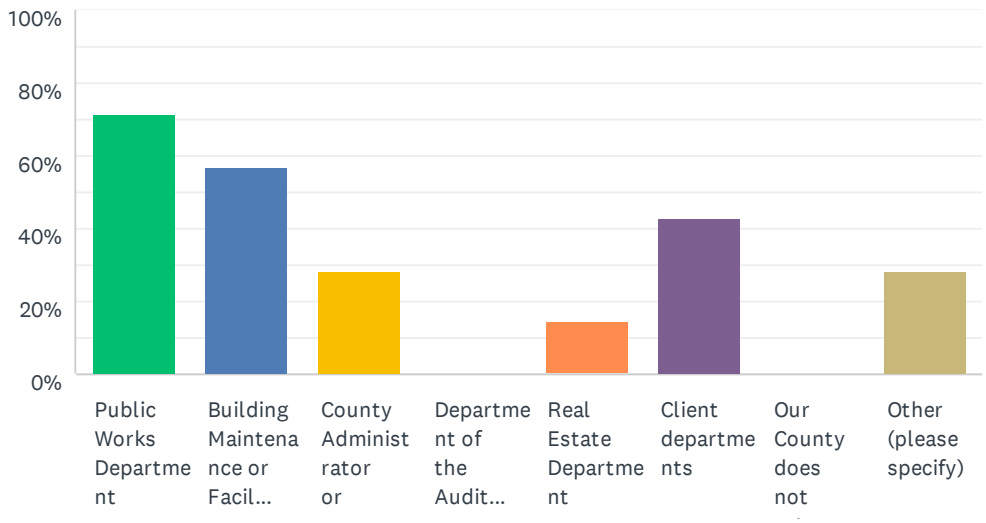
Answered: 7 Skipped: 0

#	RESPONSES	DATE
1	Multnomah County, Oregon	[redacted]
2	Los Angeles	[redacted]
3	Sonoma	[redacted]
4	xyz*	[redacted]
5	County of Ventura	[redacted]
6	Orange County	[redacted]
7	San Mateo	[redacted]

* This respondent put in placeholder responses for multiple free-form questions, but we included their responses because respondent answered the other multiple-choice questions in the survey.

Q2 Which entities are responsible for your County's annual prioritization of capital projects? (check ALL that apply)

Answered: 7 Skipped: 0

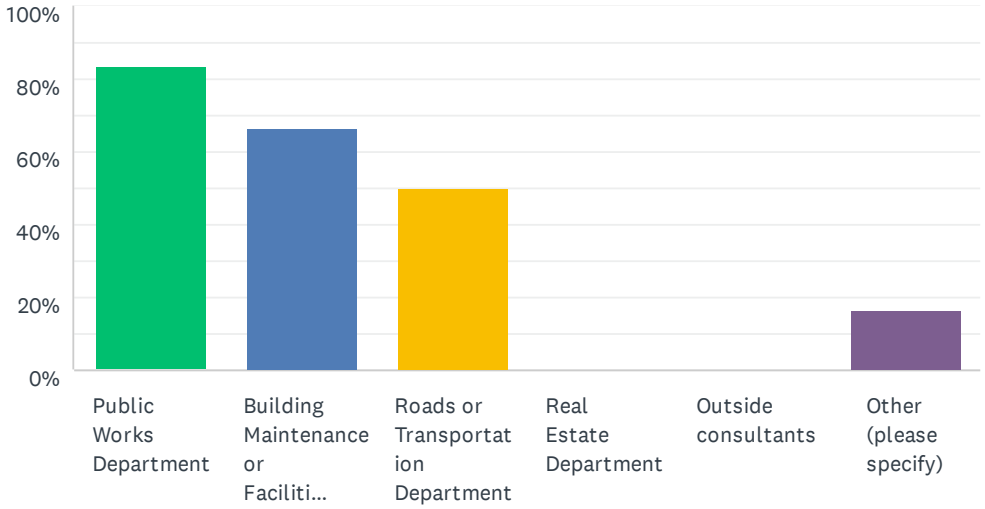


ANSWER CHOICES	RESPONSES	
Public Works Department	71.43%	5
Building Maintenance or Facilities Department	57.14%	4
County Administrator or County Executive's Office	28.57%	2
Department of the Auditor-Controller or Controller-Treasurer	0.00%	0
Real Estate Department	14.29%	1
Client departments	42.86%	3
Our County does not prioritize capital projects annually	0.00%	0
Other (please specify)	28.57%	2
Total Respondents: 7		

#	OTHER (PLEASE SPECIFY)	DATE
1	Board of Supervisors	[redacted]
2	Each agency is responsible for prioritazation	[redacted]

Q3 Which entities in your County are generally responsible for leading capital project execution and delivery? (check ALL that apply)

Answered: 6 Skipped: 1



ANSWER CHOICES	RESPONSES	
Public Works Department	83.33%	5
Building Maintenance or Facilities Department	66.67%	4
Roads or Transportation Department	50.00%	3
Real Estate Department	0.00%	0
Outside consultants	0.00%	0
Other (please specify)	16.67%	1
Total Respondents: 6		

#	OTHER (PLEASE SPECIFY)	DATE
1	Project Development Unit - Vertical construction-reports to County Manager	[redacted]

Q4 Please describe the primary County departments/entities responsible for managing each of the following phases of a capital project (including coordinating bidding/RFP processes):

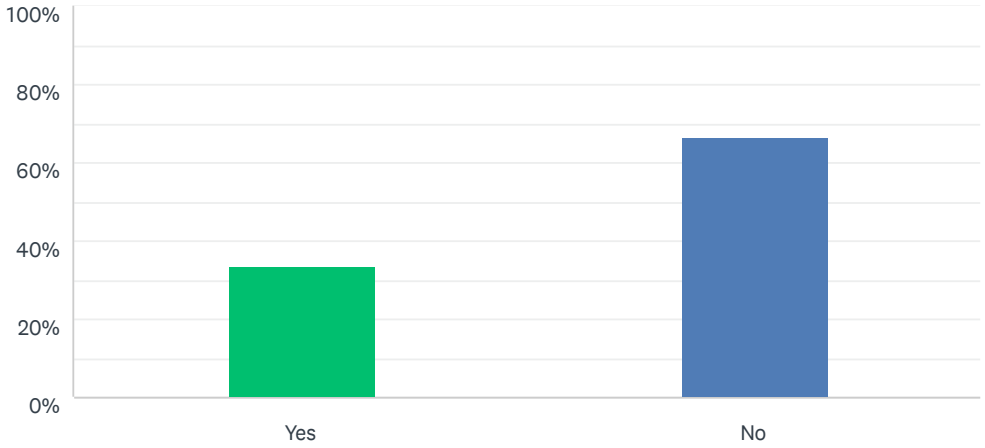
Answered: 6 Skipped: 1

ANSWER CHOICES	RESPONSES	
Planning/Scoping	100.00%	6
Design	100.00%	6
Construction	100.00%	6

#	PLANNING/SCOPING	DATE
1	Facilities & Property Management	[redacted]
2	Public Works	[redacted]
3	Public Works, General Services	[redacted]
4	ryq	[redacted]
5	Public Works	[redacted]
6	Public Works and the Project Development Unit	[redacted]
#	**DESIGN**	**DATE**
1	Facilities & Property Management	[redacted]
2	Public Works	[redacted]
3	Public Works, General Services	[redacted]
4	rqu	[redacted]
5	Public Works	[redacted]
6	Public Works and the Project Development Unit	[redacted]
#	**CONSTRUCTION**	**DATE**
1	Facilities & Property Management	[redacted]
2	Public Works	[redacted]
3	Public Works, General Services	[redacted]
4	bud	[redacted]
5	Public Works	[redacted]
6	Public Works and the Project Development Unit	[redacted]

Q5 Does your County have a dedicated Finance Director, Fiscal Officer, or Budget Manager specifically for capital projects?

Answered: 6 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	33.33%	2
No	66.67%	4
TOTAL		6

Q6 Please list the following:

Answered: 2 Skipped: 5

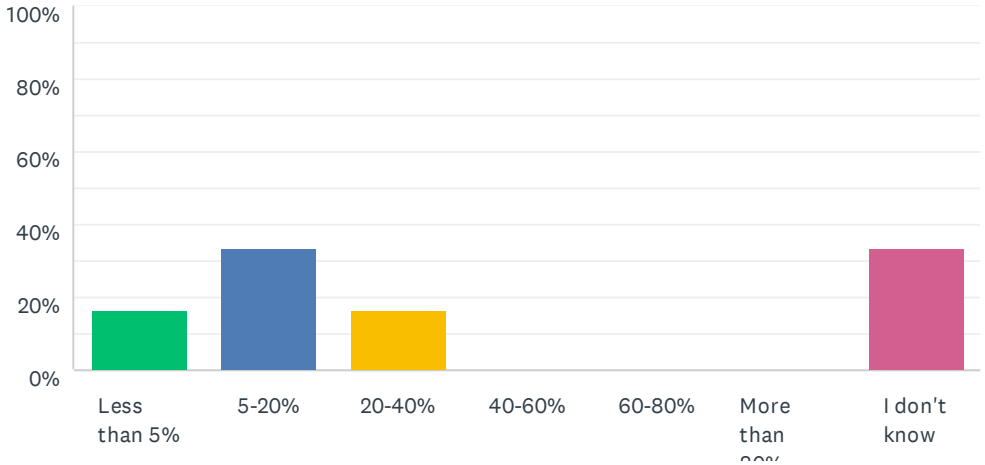
ANSWER CHOICES	RESPONSES	
The title of your dedicated finance staff member for capital projects	100.00%	2
What department(s) they work for	100.00%	2

#	THE TITLE OF YOUR DEDICATED FINANCE STAFF MEMBER FOR CAPITAL PROJECTS	DATE
1	Sr Manager, CEO	[redacted]
2	Capital Programs Manager	[redacted]

#	WHAT DEPARTMENT(S) THEY WORK FOR	DATE
1	Chief Executive Office	[redacted]
2	Public Works/Infrastructure Programs/Programming	[redacted]

Q7 What share of your Fiscal Year 2018-19 funding for capital projects is budgeted to come from the General Fund, including repayment of bonds, transfers and loans to capital funds, and direct payments?

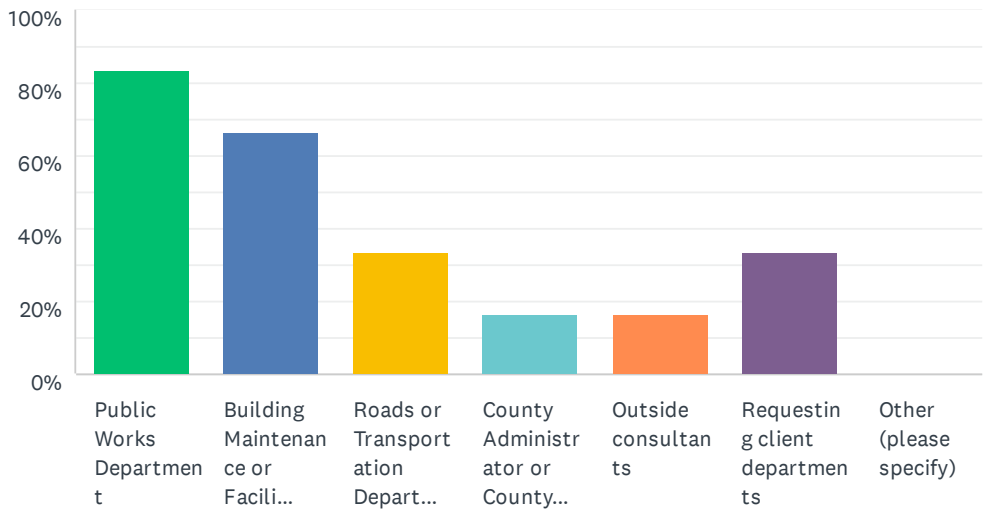
Answered: 6 Skipped: 1



ANSWER CHOICES	RESPONSES	
Less than 5%	16.67%	1
5-20%	33.33%	2
20-40%	16.67%	1
40-60%	0.00%	0
60-80%	0.00%	0
More than 80%	0.00%	0
I don't know	33.33%	2
TOTAL		6

Q8 Who is responsible for establishing initial budget estimates for capital projects? (check ALL that apply)

Answered: 6 Skipped: 1

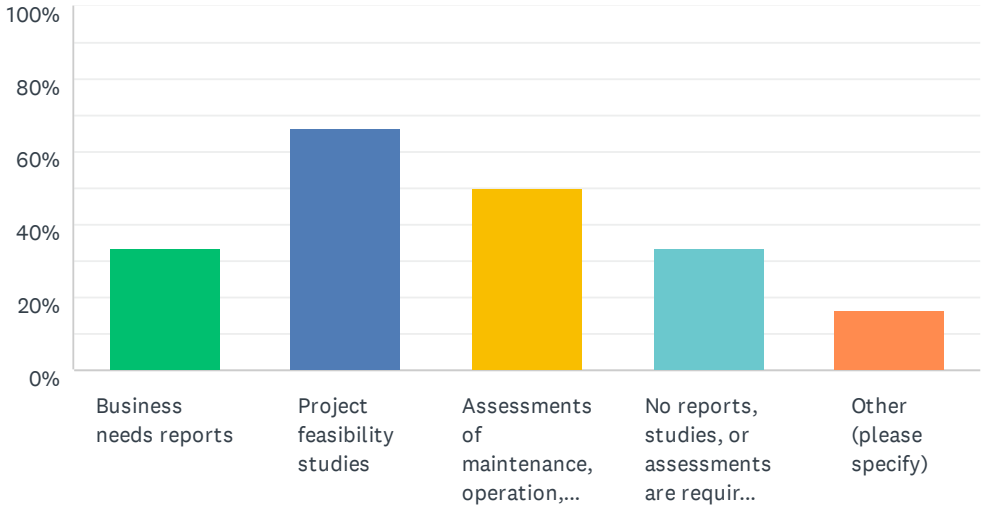


ANSWER CHOICES	RESPONSES	
Public Works Department	83.33%	5
Building Maintenance or Facilities Department	66.67%	4
Roads or Transportation Department	33.33%	2
County Administrator or County Executive's Office	16.67%	1
Outside consultants	16.67%	1
Requesting client departments	33.33%	2
Other (please specify)	0.00%	0
Total Respondents: 6		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q9 Which of the following must be completed BEFORE the budget and scope of capital projects are approved by your County's governing body? (check ALL that apply)

Answered: 6 Skipped: 1

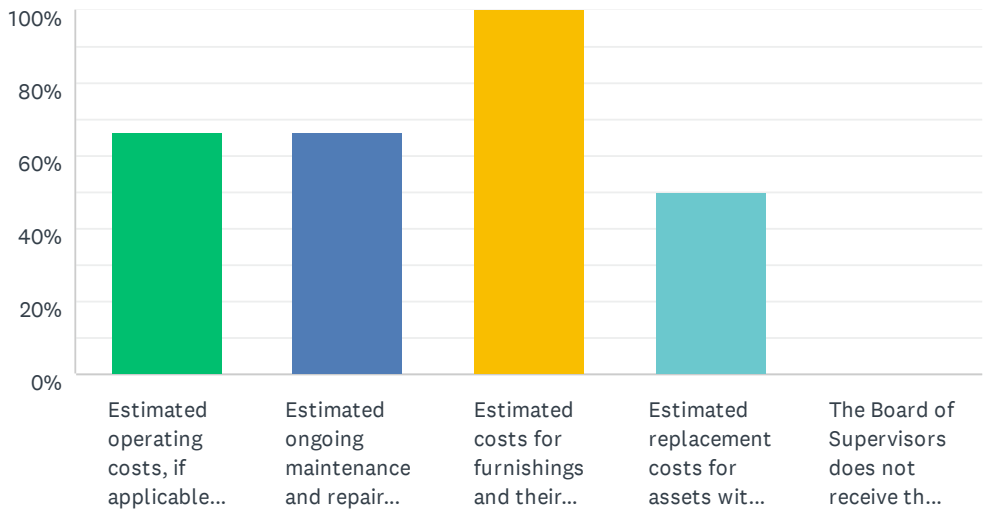


ANSWER CHOICES	RESPONSES	
Business needs reports	33.33%	2
Project feasibility studies	66.67%	4
Assessments of maintenance, operation, staffing, and replacement costs and requirements	50.00%	3
No reports, studies, or assessments are required before project approvals	33.33%	2
Other (please specify)	16.67%	1
Total Respondents: 6		

#	OTHER (PLEASE SPECIFY)	DATE
1	not all of the check boxes above apply to all projects	[redacted]

Q10 Does your Board of Supervisors ever receive cost estimates for capital projects that include any of the following? (check ALL that apply)

Answered: 6 Skipped: 1



ANSWER CHOICES	RESPONSES	
Estimated operating costs, if applicable (staff, utilities, etc.)	66.67%	4
Estimated ongoing maintenance and repair costs	66.67%	4
Estimated costs for furnishings and their installation, if applicable	100.00%	6
Estimated replacement costs for assets with a useful life of 10 years or less	50.00%	3
The Board of Supervisors does not receive this information	0.00%	0
Total Respondents: 6		

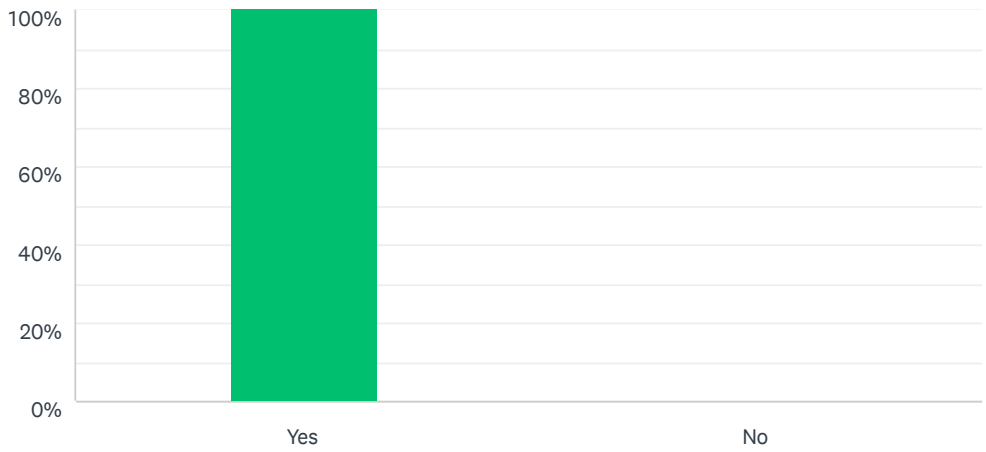
Q11 At what point in the capital project life-cycle does your Board of Supervisors receive this information?

Answered: 6 Skipped: 1

#	RESPONSES	DATE
1	This information is only provided upon request.	[redacted]
2	It varies but at the latest at the time of committing to the construction contract	[redacted]
3	During the design/project approval phase.	[redacted]
4	mid	[redacted]
5	Planning, at the approval of the 7-year CIP	[redacted]
6	not sure	[redacted]

Q12 Are newly approved capital projects tied to pre-existing long-range strategic plans for jurisdictional needs (e.g., Master Plans)?

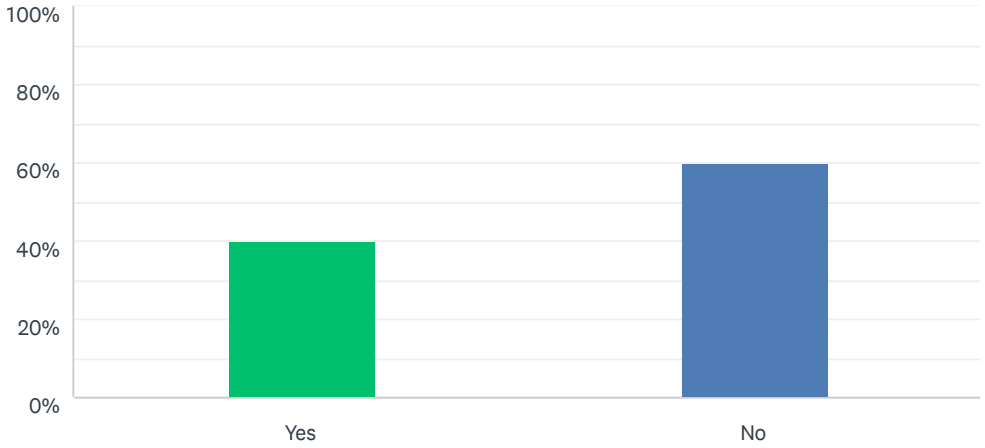
Answered: 5 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	100.00%	5
No	0.00%	0
TOTAL		5

Q13 Are the strategic, business, and/or financial links between newly approved projects and pre-existing long-range plans documented?

Answered: 5 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	40.00%	2
No	60.00%	3
TOTAL		5

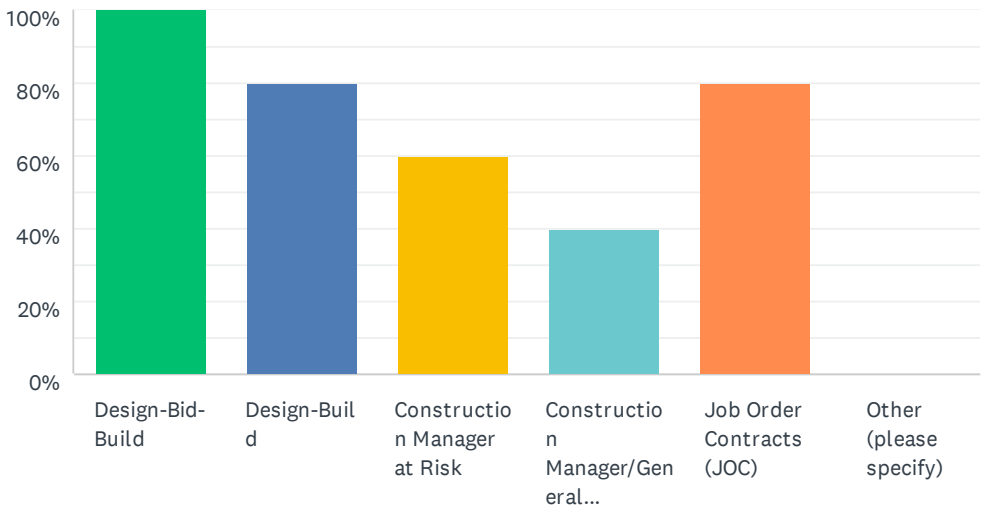
Q14 Where are these strategic, business, and/or financial links documented?

Answered: 2 Skipped: 5

#	RESPONSES	DATE
1	Board Items	[redacted]
2	7-year capital improvement program	[redacted]

Q15 Which delivery method(s) does your County use for its capital projects? (check ALL that apply)

Answered: 5 Skipped: 2

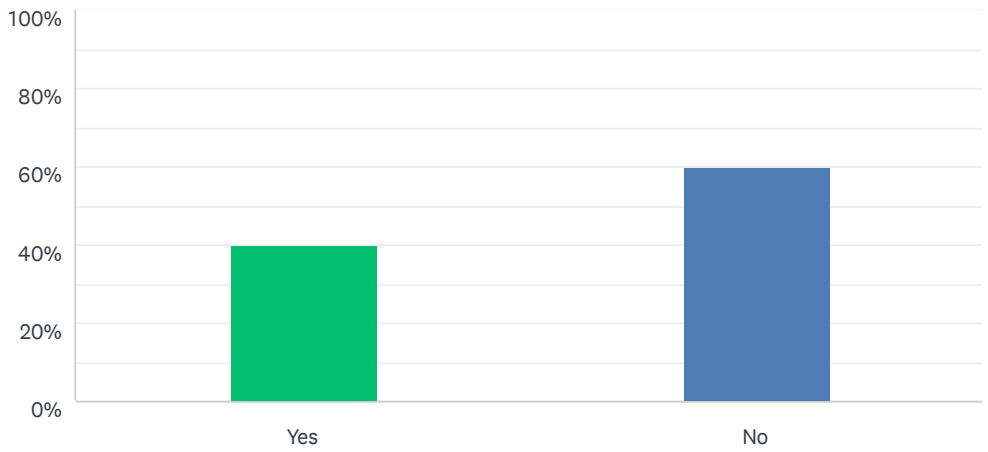


ANSWER CHOICES	RESPONSES	
Design-Bid-Build	100.00%	5
Design-Build	80.00%	4
Construction Manager at Risk	60.00%	3
Construction Manager/General Contractor (CM/GC)	40.00%	2
Job Order Contracts (JOC)	80.00%	4
Other (please specify)	0.00%	0
Total Respondents: 5		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q16 Do you have any written policies or procedures that guide when the delivery methods from the previous question should be used?

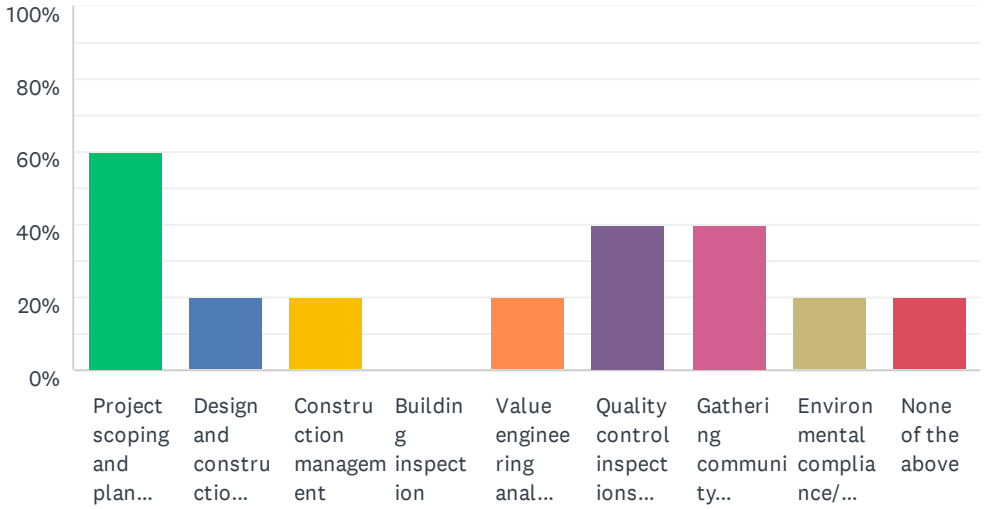
Answered: 5 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	40.00%	2
No	60.00%	3
TOTAL		5

Q17 Which of the below functions related to capital projects are performed exclusively by your County's in-house staff as opposed to outside professionals? (check ALL that apply)

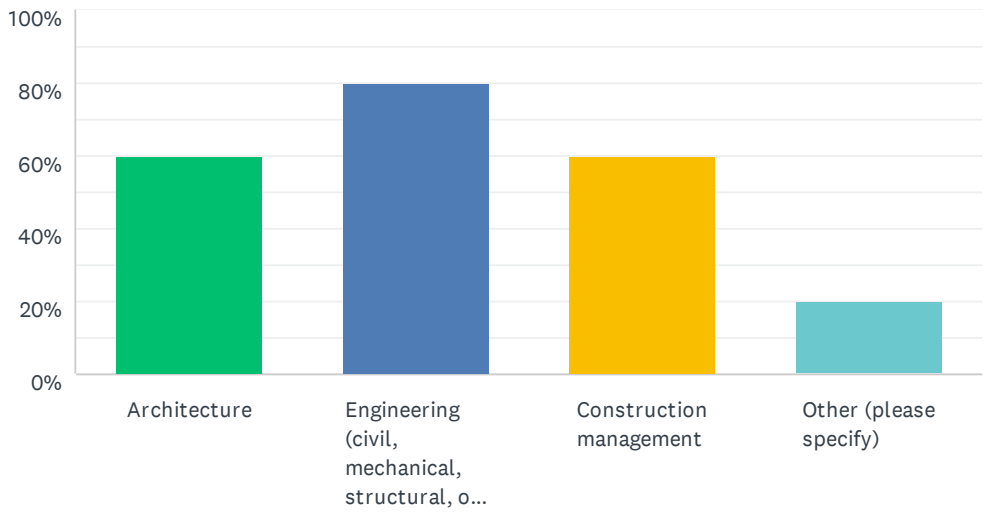
Answered: 5 Skipped: 2



ANSWER CHOICES	RESPONSES	
Project scoping and planning	60.00%	3
Design and construction cost estimates	20.00%	1
Construction management	20.00%	1
Building inspection	0.00%	0
Value engineering analysis or studies	20.00%	1
Quality control inspections of construction contractor deliverables	40.00%	2
Gathering community stakeholder input	40.00%	2
Environmental compliance/CEQA	20.00%	1
None of the above	20.00%	1
Total Respondents: 5		

Q18 Generally, what is the background of your County's in-house capital project managers? (check ALL that apply)

Answered: 5 Skipped: 2

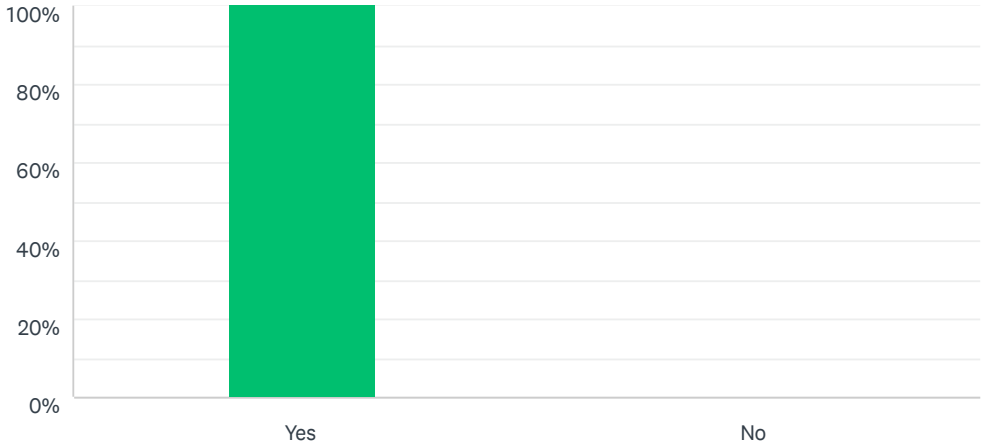


ANSWER CHOICES	RESPONSES	
Architecture	60.00%	3
Engineering (civil, mechanical, structural, or electrical)	80.00%	4
Construction management	60.00%	3
Other (please specify)	20.00%	1
Total Respondents: 5		

#	OTHER (PLEASE SPECIFY)	DATE
1	Trades	[redacted]

Q19 Does your County contract with Construction Management firms for overseeing its capital projects?

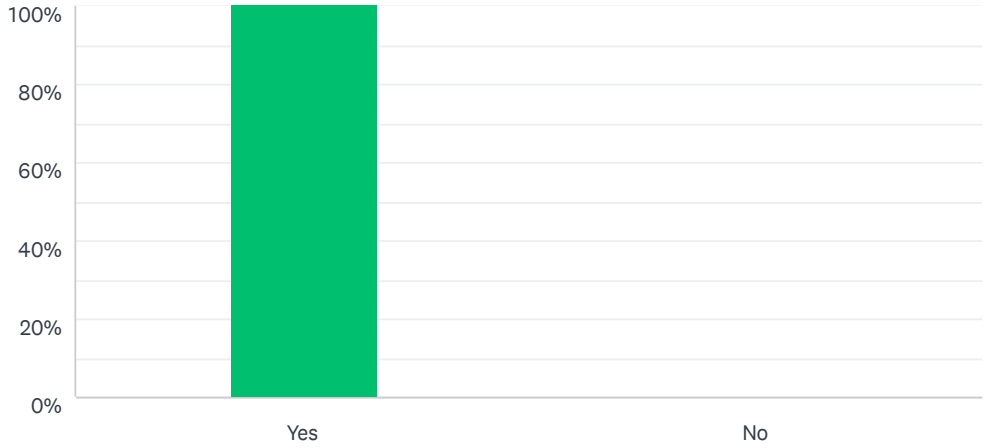
Answered: 5 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	100.00%	5
No	0.00%	0
TOTAL		5

Q20 Are Construction Management firms retained and used for projects that already have in-house County construction management teams and project managers?

Answered: 5 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	100.00%	5
No	0.00%	0
TOTAL		5

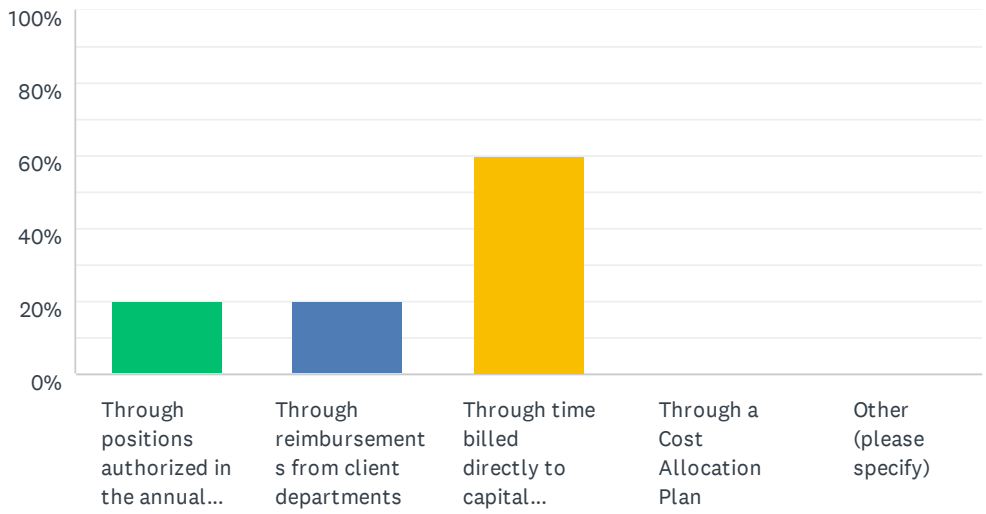
Q21 How are responsibilities divided between in-house County staff and the contracted Construction Management firm(s)?

Answered: 5 Skipped: 2

#	RESPONSES	DATE
1	We only hire outside construction management firms on major capital projects.	[redacted]
2	County does pay estimates with CM firms performing field work.	[redacted]
3	half	[redacted]
4	contracted firms are used for staff augmentation and specialty inspections	[redacted]
5	In house just performs general oversight.	[redacted]

Q22 How are the salaries of your County's in-house capital project managers funded?

Answered: 5 Skipped: 2



ANSWER CHOICES	RESPONSES	
Through positions authorized in the annual operating budget	20.00%	1
Through reimbursements from client departments	20.00%	1
Through time billed directly to capital projects	60.00%	3
Through a Cost Allocation Plan	0.00%	0
Other (please specify)	0.00%	0
TOTAL		5

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

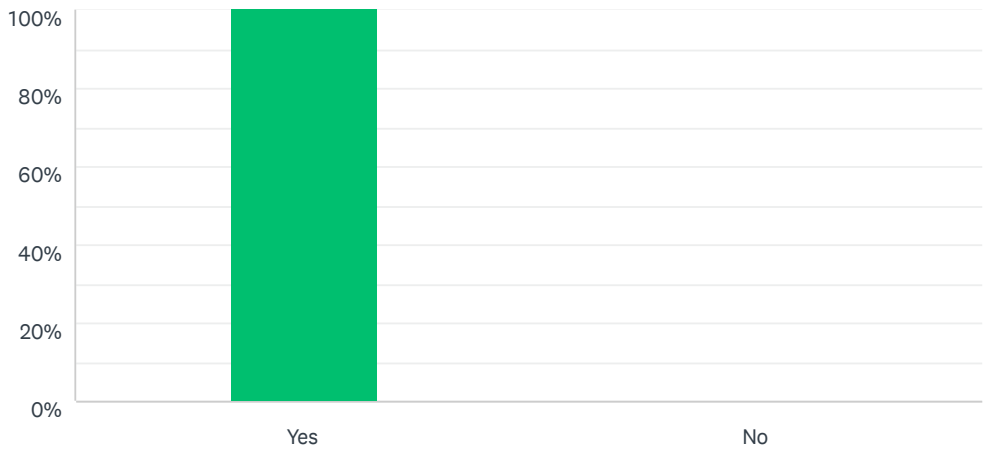
Q23 What financial and schedule tracking system(s) does your County use to monitor the actual percent of a project completed against time elapsed and dollars spent? If your County does not use any such systems, please write "N/A."

Answered: 5 Skipped: 2

#	RESPONSES	DATE
1	N/A. Currently planning to implement such a system.	[redacted]
2	EFS	[redacted]
3	z	[redacted]
4	Project Information Management System - eBuilder	[redacted]
5	MS Project And WINCAMS	[redacted]

Q24 Does your County conduct post-project reviews to identify lessons learned from a project?

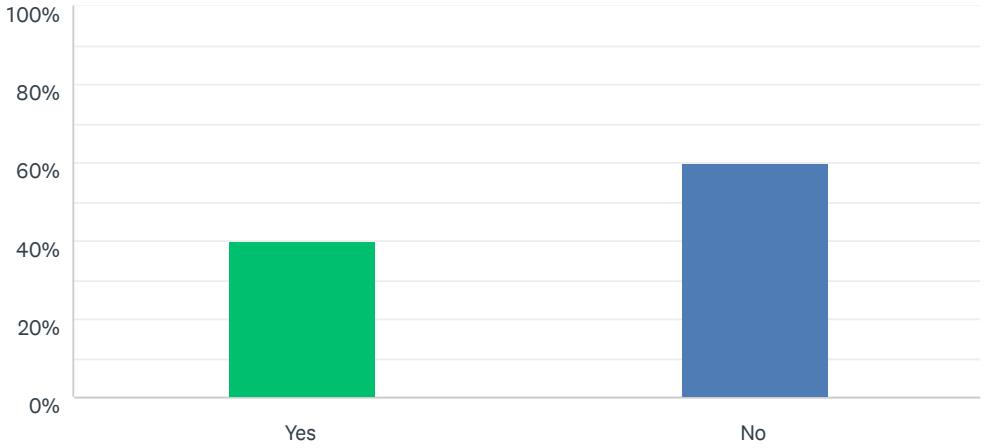
Answered: 5 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	100.00%	5
No	0.00%	0
TOTAL		5

Q25 Has your County ever made any major changes in either capital project management or contracting processes that have resulted in improvements such as shorter project completion times or reduced costs?

Answered: 5 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	40.00%	2
No	60.00%	3
TOTAL		5

Q26 Please describe the change(s) implemented and their effects (if possible, please give examples from specific projects).

Answered: 2 Skipped: 5

#	RESPONSES	DATE
1	z	[redacted]
2	alternative delivery methods, preliminary scoping reports	[redacted]

County of Santa Clara

Facilities and Fleet Department

County Center at Charcot
2310 North First Street, Suite 200
San Jose, California 95131-1011
(408) 993-4600

March 5, 2020

Cheryl Solov
Contract Management Audit Manager
Santa Clara County Board of Supervisors, Management Audit Division
County Government Center, East Wing, 10th Floor
70 W. Hedding St.
San Jose, CA 95110

Subject: Management Audit of Capital Programs Division of the Facilities and Fleet Department – Department Accomplishments

Dear Cheryl Solov:

Thank you for the opportunity to provide a description of the Capital Programs Division accomplishments.

Capital Programs Accomplishments:

1. Construction was completed in FY20 for 150 West Tasman.
   The Administrative Space Committee has experienced an unprecedented number of requests for office and service space over the past few years. As a result, The County procured the Tasman Campus comprising of 4 buildings (110, 130, 150 and 180 West Tasman). 150 W. Tasman was the initial building to be renovated and design and construction was completed with an extremely aggressive construction schedule. The renovation of 150 Tasman is complete and is occupied by TSS.

2. Designs were completed in FY20 for the Vietnamese American Services Center (VASC) Located at 2410 Senter Road in San Jose. The Service Center will deliver integrated, accessible and culturally responsive social and health services to support the local community, specifically the Vietnamese - American community.

The fundamental goal is connecting the community to the County services in a seamless and collaborative model. The service center model will bring key County agencies together to collaborate and address the overall needs of the community.

3. Designs were completed in FY20 for the Animal Shelter and construction is 30% complete.
   Located at 90 Highland Avenue, San Martin. The proposed animal shelter is at the southeastern portion of the parcel and include a one-story building, parking, livestock barn and pastures, and dog play yards spanning approximately 4.5 acres. The 37,000 square foot one-story building would house functions such as the adoption area, animal holding and housing areas, spay and neuter clinic, veterinary medicine and support areas, administrative areas, and a community multiuse center. It will also house the existing aging County Animal Shelter at 12370 Murphy Avenue, San Martin. The relocation will provide the latest practices for disease control, odor control, and acoustics, promote health, reduce stress and create a calming environmental for both animals and people. The project is scheduled to be completed in Spring 2021.

4. Construction was completed in FY20 for DTAC.
   On May 10, 2016 the Board approved the purchase of the property from SCCFCU for use of County Finance Agency's Department of Tax and Collections. On December 12, 2017, the Board adopted the contract documents for the project and authorized advertisement for invitation to bid to renovate the County – owned property. The facility is a 3-story building with a basement located at 852 N. 1st Street, San Jose.

5. Construction was completed in FY20 for the Main Jail Cell Hardening.
   Based on the most recent jail needs assessment, the jails have a shortage of maximum-security inmate beds. To address this shortage the Board approved Capital Project CP16004 – "Main Jail North Cell Hardening" as part of the FY 2016 Recommended Budget, to convert four existing medium security housing unit 4A and three housing units on the 5th floor (5A,5B and 5C) from medium security to maximum security housing units. The scope includes subdividing the existing housing unit into three 16 bed housing PODs. The scope includes two new showers, exterior windows, replacing wood doors and adding a new housing control station.

6. Designs were completed in FY20 for Elmwood ADA path of travel.
   This project includes the realignment for the interior spaces of the Santa Clara County Elmwood and Main Jail North complex and barrier removal to interior facilities used by inmates. Work also includes plumbing upgrades, convert existing cells, showers and dorm rooms in multiple buildings to provide accessibility features.

7. Demolition of Main Jail South is in progress.
   The project consists of demolition of the existing Main Jail South building including the footing and drilled piers. Modify the existing mechanical, plumbing, fire protection, and electrical requirements to keep Main Jail North in operation during and after the demolition. Provide temporary provisions include emergency generators and temporary loading dock.

8. Demolition of Old City Hall Annex is complete.
   The Civic Center Master Plan contemplates the near-and long-term redevelopment of the Civic Center site. Demolition of the non-historic Old City Hall Annex building was required to provide a temporary parking lot that will provide parking space and space flexibility as capital projects are executed in and around the County's Hedding Street campus. Project completion date was July 31, 2019.

9. Renovations were completed in FY20 for Muriel Wright.
   The Muriel Wright Ranch Campus Renovation project converted the 1963-era former adolescent minimum-security detention and rehabilitation facility into a residential behavioral health and substance abuse counseling center for both patients from the community as well as inmates upon their release. In April 2017 the Board adopted plans and specifications and authorized solicitation of construction bids for the conversion project. In June 2017 the Board awarded a construction contract to D.L. Falk Construction, Inc. in the amount of $4,723,400, and construction commenced in August 2017. Construction was sufficiently complete in September 2019 for the building official to issue a temporary certificate of occupancy, and the construction work was fully approved in February 2020.

Sincerely,

DocuSigned by:
BE6829EDA66F4E9...
Jeff Draper
Director, Facilities and Fleet Department

CC: Sylvia Gallegos, Deputy County Executive
Gabe Cabrera, Contract Management Audit Project Manager
Roger Soohoo, Deputy Director - Capital Programs, Facilities and Fleet Department

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Roles and Functions of Facilities and Fleet (FAF) Department, Capital Programs Division

The FAF Capital Programs Division is part of the Facilities and Fleet Department. An organization chart for FAF is provided here.

Capital Programs manages the planning, design, and construction of facility capital projects for the County, except for those facilities managed by the Roads and Airports Department, and the Parks and Recreation Department.

Capital projects are those projects for construction of new facilities and associated infrastructure such as parking lots; alteration or substantial renovation of existing facilities; upgrades of building systems, such as expanding the capacity of heating, ventilating or air conditioning systems; and incidental roads, and water and sewer lines.

Maintenance or repair projects are typically handled separately by the FAF Department Building Operations Division. Maintenance is defined as recurring work necessary to preserve or maintain a facility so it can be used for its designated purpose. In other words, recurring work necessary to prevent deterioration. Maintenance projects include painting (but not for the purposes of "decorating"), servicing and lubrication of equipment, facility cleaning, etc. Repair means to restore a real property facility, system, or component, or replace it in-kind, so that it may effectively be used for its designated purpose. Repair projects include replacement of heating, ventilating or air conditioning equipment that has reached the end of its useful life, re-roofing a building, replacement of worn flooring, etc. Repair does not include the expansion or alteration of an existing structure or infrastructure to accommodate new equipment or new operational requirements.

Emergency maintenance/repair problems should be reported to the FAF Building Operations 24-hour Maintenance Control Center (MCC) at (408) 299-3682. Routine maintenance/repair problems are usually handled via the individual Agency's/Department's Facility Manager, who liaises with FAF Building Operations.

For leased facilities the FAF's point of contact is Property Management, (408) 993- 4750.

Capital Programs, Building Operations, and Property Management are all divisions within the FAF Department..

Within Capital Programs this is the Planning component and the Project Execution entities. The Planning entity establishes the project parameter, including initial scope, budget for the execution entity to program, design and construct. The planning entity also supports the project with community interface

throughout the project. Planning also collects and maintains facility data. Add list of Planning Documents.

Governing County Documents

The Reader is referred to the County Ordinance Code (Also, http://www.municode.com/Resources/gateway.asp?pid=13790&sid=5) which provides the legal charter under which the County operates.

The County Board Policy Manual articulates ethical standards and administrative policies that the Board has adopted. The policies in the manual guide the Board in its conduct and interaction with the public, various County commissions and committees, and persons and entities that may do business with the County. Officials and employees who conduct the business of the County are acting on behalf of the Board of Supervisors and are so directed to abide by the policies in the manual. Many Board policies directly affect the operation of Capital Programs Division.

Public Purpose. The buildings constructed, renovated and upgraded by Capital Programs Division (Division) are an essential element in enabling the County to provide services to the citizens of Santa Clara County. These buildings include health, criminal and juvenile justice, social services, and general administration facilities.

Means of Performance. Capital Programs Division's professional project management staff, supported by administrative and financial staff, typically manages 70-120 projects valued at hundreds of millions of dollars at any given time. To accomplish this workload the Division selects architects, engineers, and project and construction managers, and other consultants, through a competitive qualification process. The Division then develops, and the Board approves, contracts/agreements with these consultants. If these contracts are valued at less than $100,000 the Director of the County's Procurement Department has approval authority.

The staff of the Division is skilled in accomplishing the myriad of tasks needed to bring a project from conception to completion. This effort includes: working with County agencies and departments to define project scope; preparing project cost estimates and budgets; selecting, and developing and managing contracts with consultants who, in turn, perform the detailed planning, programming, and design of capital projects. All construction projects are executed through competitively bid contracts awarded by the Board, or if below $100,000, through the Procurement Department.

Architectural Programming Phase of Design

The Design of a project will normally have five distinct phases.

I. Overview

The purpose of the Architectural Programming phase of a project's design is for the Project Manager is to establish clear expectations of what is to be designed during the Schematic, Design Development and Construction Document phases of design.

The Architectural Program (Program) establishes more than just the size of a facility (if it is new construction) or space needs/configuration for the building occupants. The Program should define the benchmark by which the success of the project is judged.

Often, Programming is mistakenly thought of as **just** consisting of space allocation and location among occupants of a building. Or that Programming only applies to new construction. Both are erroneous.

Instead, I would argue that the Programming phase is the most important part of a Project, any project. Be it new construction, or building renovation.

During this phase two key questions are essentially answered: (1) What is the (facilities) "problem" we are trying to solve? How are we going to solve it?

It is during the Programming phase of the project that the FAF PM has the most influence on the scope and design of the project.

II. Involvement of Stakeholders

Participation of stakeholders in the development of the Program is key to the success of the project and key to the avoidance (or at least containment) of change orders during construction.

Stakeholders include:

- the Customer (occupier of the facility);
- The Commissioning Consultant;
- Building Operations staff (who will maintain the facility);
- the Fire Marshal;
- FAF Sustainability Coordinator;
- ISD (for telecommunication and IT systems); and
- other interested parties.

During this phase of design it is the responsibility of the Project Manager to clearly document the Program.

III. Role of the FAF PM during Programming

The PM functions as a "referee" as well as the key person who has to understand the solutions identified to solve the "problem," making sure the "problem and the solutions" are properly documented.

When I say "referee" it is in the context that often the various stakeholders substitute "wants" for "needs." Given the opportunity many stakeholders may overstate the "problem" being solved and impose excessive demands as "solutions." So, often, the PM must apply practical experience in separating "wants" from "needs" and keeping to their overall construction budget. Sometimes the PM may have to elevate decision-making (on wants vs. needs) to senior management level.

In addition to the Architectural Programming document prepared by the A-E, or at the very least as part of it (**a very important part**), the Project Manager, in conjunction with the A-E, should prepare a document called the **Owner's Project Requirements (OPR).** This document is also sometimes referred to as the "Design Intent." The **OPR** includes written documentation of the functional requirements of the facility and the expectations of how it will be used and operated. Included are project goals, budgets, limitations, and schedules.

More information about what an OPR is, and how to prepare one (OPR Workshop), are provided.

The **OPR** generally consists of concise objective statements, qualitative in nature.

Examples include:

- Description of project
- Use of the facility, including operating hours
- Justification for project
- Project Budget and Budget Limitations (if any)
- Statement of Project design goals, objectives and criteria (for example, obtaining a LEED rating);
- Building Energy Consumption goals (for example, compared to CA Title 24 requirements);

- Sustainability goals (The FAF PM should discuss with the FAF Sustainability Coordinator);
- Proposed/Desired Project Schedule
- Aesthetic considerations
- Description of the functions/program(s) to be housed
- Staffing plans - positions and number of personnel
- Indoor and outdoor space requirements, needs and relationships, and work-flow analysis;
- How does trash flow in the building (no, this is not a joke)? Where will the trash bins be stored? In an enclosed area (fenced in?)? Allow for enough room for trash collection vehicles to maneuver around the bins to pick them up;
- Comparison of requested space to similar projects and space standards. This comparison could include projects done by agencies outside of the County.
- Does a Condition Assessment need to be performed (for renovation projects)?
- Code requirements and restrictions
- Fire Deficiency corrections (for renovations of existing buildings). Does a separate Fire Code deficiency study need to be done for the facility?
- ADA deficiency corrections (for renovations of existing buildings). Does a separate ADA study need to be done for the facility?
- Establishment of governing fire codes and requirements of the Fire Marshal;
- Communication system goals. For example, is a WiFi system required? Needs for server rooms vs. County migration to cloud-based systems? Is a cell phone amplification system required to ensure complete cell phone coverage in the building?
- Emergency power and what systems should be on e-power;
- Is the water supply considered "hard?" Does a water-softening system need to be installed?
- Are there rooms with special mechanical and electrical requirements, such as humidity levels, air change requirements, lighting or glare requirements, or storage of HazMat which will require special ventilation?
- If the building has multiple rooms of the same type (like a hospital bed building) should the need for construction of mock-up rooms be included in the design documents?

- System furniture needs and budgeting;
- Parking requirements;
- Identification of requirements to coordinate with outside Agencies, Utility Providers and Companies
    - Does there need to be a connection to an outside Telecom provider such as AT&T?
    - Will there be street improvements that require coordination and permits from local jurisdictions such as the City of San Jose?
    - Will there be a need to connect to water and sewer services?
    - Will there be a need to connect to Recycled water systems?
- Is there potential to encounter HazMat such as asbestos and LBP? If so, actions need to be in place to have surveys done before design commences?
- Should the A-E employ utility locator services to identify (or verify) points-of-connection for utilities?
- Should the A-E perform any kind of video analysis of connecting pipes, such as water or sewer, to ensure existing pipes are not clogged or corroded?
- Does the building meet current seismic standards? If not, are upgrades required?
- If the project requires site excavation work, identify the (very important!) need to perform a complete soil contaminants survey to identify (and, if needed) plan for how to mitigate soil contaminants;
- Is an Emergency responder Radio Frequency Amplification system required? See this web site: https://www.sanjoseca.gov/DocumentCenter/View/40583
- Has the County built a similar building before? If so, what issues have arisen in the operation and maintenance of the existing building?
- Are there any special security requirements, including video cameras and physical security? How are the cameras to be monitored and video actually recorded and stored? What about a desk area for a security guard? What about security camera video monitoring equipment for the Security guard? Are any surveillance requirements consistent with the County Ordinance Code requirements (https://connect.sccgov.org/sites/policies/policypages/Pages/Surveillance-Reference-Policy.aspx)?
- Are there spaces in the building that need their own, separate A/C system? For example, while the building's main HVAC system may shut down during

unoccupied hours, are there rooms that need to be kept cool 24/7, such as server rooms, or medicine storage rooms?

- How are the building mechanical and lighting systems to be controlled? How does the occupier of the building want them controlled? Should there be local thermostat over-rides, for example? What about lighting controls? Timers? Photo cells?
- Will there be Owner-furnished Contractor-installed equipment?
    - Does this equipment need special infrastructure, such as backing (for wall-mounted equipment)? What about structural support? Power supply? Water supply?
    - Can the client furnish catalog cuts of the OFCI so the above information can be determined?
- Are there special Board Policy (https://connect.sccgov.org/sites/policies/policypages/Pages/Board%20Policy%20Manual%20-%20Table%20of%20Contents.aspx) requirements such as gender-neutral restrooms? Lactation rooms? Etc.

My suggestion is that the PM prepare a spreadsheet of the above, eliminating those items that don't apply, and tracking, for inclusion in the Programming document prepared by the A-E, for those that do. Then, during the Schematic design stage the FAF PM and the A-E should review the spreadsheet and ensure that each item is being addressed during the design.

The OPR should be a living document, updated as necessary. It should be reviewed by the Chief of Design and the Manager, Capital Programs, and distributed to all parties who have a stake in the project.

While our design PSA does have a detailed section on Architectural Programming the PM should ensure that an OPR is prepared for every project, and that it be used as the benchmark for the project in gauging its success in meeting the goals for the project.

An example of an OPR document is provided at this web site:
https://www.documents.dgs.ca.gov/bsc/CALGreen/CX-SAMPLE-PROJECT.pdf

If you Google OPR you can find many other examples.

Or, see the sample template from the USGreen Building Council.

A sample Project Agreement for Programming services is also attached.

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EARNED VALUE ANALYSIS CALCULATIONS

For organizations utilizing earned value analysis (EVA), an article published by the Project Management Institute[1] defines different types of calculations that can be used to demonstrate how a project has progressed according to original schedules and budgets. The relevant excerpt of this article is attached.

If the Division adopts EVA, metrics such as Cost Performance Index (CPI), Schedule Performance Index (SPI), and Estimate at Completion (EAC), discussed below, should be included in the Division's biannual capital status reports to the Board, as well as in any legislative file detailing action on individual projects.

[1] Lukas, J. A. (2012). How to make earned value work on your project. Paper presented at PMI® Global Congress 2012—North America, Vancouver, British Columbia, Canada. Newtown Square, PA: Project Management Institute. Retrieved from https://www.pmi.org/learning/library/make-earned-value-work-project-6001.

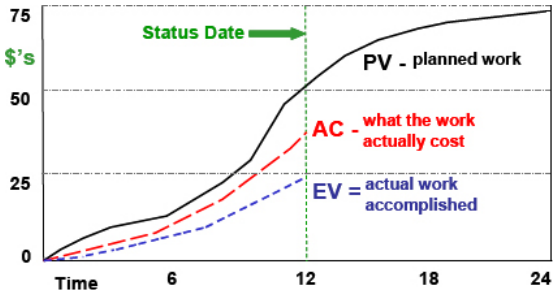

Exhibit 2 – Typical Graph Showing PV, EV, and AC.

Planned Value (PV) is the budgeted cost for the work scheduled to be done. This is the portion of the project budget planned to be spent at any given point in time. This is also known as the budgeted cost of work scheduled **(BCWS).**

Actual Costs (AC) is simply the money spent for the work accomplished. This is also known as the actual cost of work performed **(ACWP).**

Earned Value (EV) is the percent of the total budget actually completed at a point in time. This is also known as the budgeted cost of work performed **(BCWP).** EV is calculated by multiplying the budget for an activity or work package by the percentage progress:

EV = % complete x budget

For example, if a Work Package is the installation of 500 new computers in an office, and 350 computers are installed, the Work Package progress is 70% complete (350/500). If the budget for this Work Package is US$200,000, the earned value is US$140,000 (0.70 x $200,000).

An effective method to show the relationship between PV, EV, and AC is shown in Exhibit 3 below.

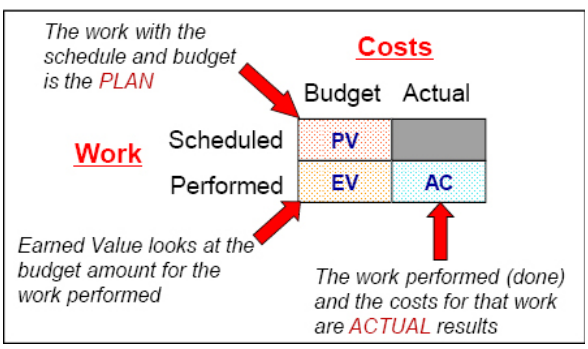

Exhibit 3 – Relationship of Earned Value Terms.

Earned Value Calculations

With the terms PV, EV, and AC defined, along with how to determine progress, some key calculations can easily be done, which provide important information on how the project is doing. The formulas for earned value calculations are:

• Cost Variance: **CV = EV – AC**	• Cost Performance Index: **CPI = EV/AC**
• Schedule Variance: **SV = EV – PV**	• Schedule Performance Index: **SPI = EV/PV**

A CPI value of 0.83 implies that for every project dollar spent, only US$0.83 in earned value was accomplished. A CPI of less than one and a negative CV indicates project cost performance is below the plan.

A SPI value of 1.05 implies that for every dollar of work the project had planned to accomplish at this point in time, US$1.05 worth of work was actually done. A SPI greater than one and a positive SV indicates more work has been accomplished than was planned. Note how this is worded, since a SPI > 1.0 does not necessarily mean you are ahead of schedule! You can accomplish more work than planned by working on non-critical path Work Packages. You need to look at the critical path to determine whether you are ahead, on or behind schedule.

Exhibit 4 shows the Planned Value, Actual Cost, and Earned Value for a project. Note that when the planned spend curve is compared to the actual spent, it shows a variance of +US$15. An uneducated observer is likely to conclude the project team is accomplishing the planned work and doing it for less money.

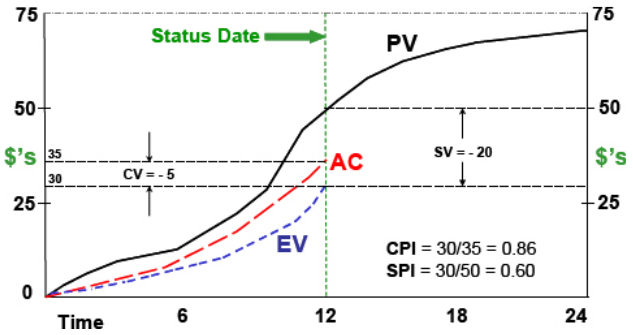

Exhibit 4 – Earned Value Analysis shows this project is in trouble!

However, analyzing the project using earned value gives a different picture. Reading from the graph shows a cost variance of -US$5 and a schedule variance of -US$20. The project team has accomplished ("earned") $US30. However, at this point in time, the schedule plan was to accomplish US$50 of work. Therefore, the project team is US$20 behind in schedule work. In addition, the actual cost for the work accomplished was US$35 and the budget for the work accomplished was only US$30. This means the project team has overspent for the work done. The bottom line Earned Value Analysis clearly demonstrates this project is in trouble!

Progressing Techniques

On projects, determining realistic progress for Work Packages (WP) can be difficult, but is essential for ensuring the earned value analysis is accurate and meaningful.

So, how much work was accomplished? This is a common question project managers ask team members. Too often, progress is reported in a qualitative manner. One frequent expression is: "I'm almost complete" or "I'm 90% done." After weeks of hearing that same progress report, the project manager begins to suspect that just maybe the person responsible for the Work Package really doesn't know how much progress has been made.

Quantitative techniques are obviously much better than qualitative (subjective) techniques for measuring project progress. One thing to keep in mind when measuring project progress is that it's an estimate! Many

people spend too much time trying to generate a very exact number, especially when using quantitative techniques. The key is to make it 'fit for use.' Don't spend exorbitant amounts of time determining exact numbers on a small Work Package. Focus your efforts on the larger value Work Packages. Remember that measuring progress is an estimate, and that the inherent errors on each Work Package will tend to cancel out as you roll up the progress numbers to the project level.

Since the types of Work Packages on a project vary, no single progress reporting method is suitable. The seven most common methods for reporting project progress are described below (Lukas, 2002, pp 2–3).

Quantitative progressing techniques are:

Units completed — tasks that involve repeated production of easily measured pieces of work, when each piece requires approximately the same level of effort.

Incremental milestones — Work Packages (WP) that can easily be divided into a series of tasks handled in sequence. The work is divided into separate, measurable tasks, and completing each task is considered achieving an 'incremental milestone.' Progress is earned only when reaching each milestone.

Start-finish — used with low value and/or short duration activities without readily definable intermediate milestones. Either no or some limited progress is 'earned' when the activity is started, and 100% progress is earned at the completion of the activity.

Qualitative (subjective) progressing techniques are:

Level of effort (LOE) — used when it's very difficult to measure what work was accomplished for the budget spent. My preferred approach with LOE assumes the progress is equal to the actual costs divided by the budget. For example, if the project manager's budget on a project is US$20,000, and US$10,000 has been charged to the project, then the progress is calculated as 50%. However, some publications use a different approach and set the EV = PV.

Individual judgment — used for complex work not easily measured by other methods. Even though this is subjective, getting multiple opinions on the work accomplished by knowledgeable team members helps establish a reasonable estimate on progress.

Two other progressing techniques commonly used are listed below. They can be either quantitative and/or qualitative, depending on how they are used. The techniques are:

Combination techniques — good for complex work occurring over a long time period and use two or more of the other progressing techniques. An example would be installing a building foundation. The excavation progress would be units completed (cubic yards of earth removed), the formwork incremental milestones, and pouring the concrete start-finish (0%/100%).

Apportioned relationship — has a direct intrinsic performance relationship to another discrete Work Package, which is called the 'measurement base.' For determining progress, the apportioned Work Package progress is the same value as the measurement base Work Package.

Forecasting Using Earned Value

SPI: A Barometer on Schedule Performance

Exhibit 5 shows a useful graph, which is a plot of the project SPI versus time. A SPI greater than 1.0 implies the team is accomplishing more work than planned, and a SPI less than 1.0 indicates the team is accomplishing less work than planned. You need to be careful when using SPI, because you really can't determine the project health without knowing how the team is doing against the critical path in the project schedule. A team can achieve an SPI > 1.0 by working on non-critical path activities. Therefore, it is possible to have an SPI > 1.0 and be behind schedule! You need to look at the project float to determine the complete schedule performance for the project.

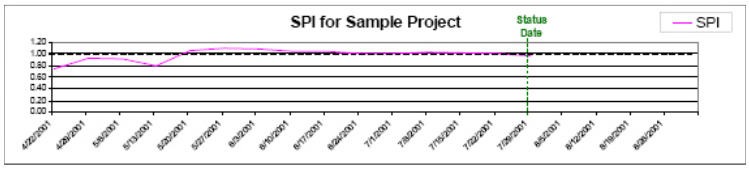

Exhibit 5 – Plotting SPI is a good schedule performance metric.

Exhibit 5 is from an actual project (Lukas, 2003, p. 7), and like many projects, the SPI for the first few reporting periods is less than 1.0, since the team is in start-up mode and project activities are just being started. A SPI of less than 1.0 can happen early in the project when start-finish progressing is being used for many of the Work Packages. However, if the SPI does not move toward 1.0 after the first few reporting periods, it is an indication of possible schedule problems and therefore probably time to start taking corrective action.

Using CPI To Determine Final Project Cost

The Cost Performance Index is an excellent indicator of the cost efficiency for completed work. One main use of CPI is forecasting the final project cost. Before listing the common formulas used, a few terms need to be defined (PMI, 2008, p.184):

Estimate to Complete (ETC) - the expected additional cost needed to complete the project.

Estimate at Completion (EAC) - The expected total cost of the project when the defined scope of work is completed.

Budget at Completion (BAC) - The total approved budget when the scope of the project is completed (including any project contingencies).

Most techniques for forecasting EAC include some adjustment of the original cost estimate based on project performance to date. The three common formulas are:

EAC_1 = AC + (BAC - EV). This formula is called the 'mathematical' or 'overrun to date' formula in some textbooks. However, using the term 'overrun to date' is misleading because the project could be under on costs and ahead of schedule. This formula assumes the plan will be met for the remaining work (CPI = 1.0), and yields the most optimistic EAC when a project is not doing well.

EAC_2 = BAC/CPI. This formula is called the 'cumulative CPI' in some textbook and assumes the entire project will be done at the same cost performance (current CPI does not change).

EAC_3 = AC + ((BAC - EV) / (CPI x SPI)) or **BAC/(CPI x SPI).** This formula considers both cost and schedule impact on the EAC, and usually yields the most pessimistic EAC for a project not doing well. Note that these two calculations are not equivalent! From my experience, the 'simplified' formula works as well or better on many projects.

Exhibit 6 shows the relationship of BAC, ETC, and EAC. Note that the project cost contingency is not spread as part of the Planned Value curve. Contingency is a provision in the project plan (extra cost and time) to mitigate the typical (but undefined) unplanned events that happen on projects — to cover 'known unknowns.' When calculating the ETC and EAC, some thought should be given as to whether an adjustment is needed for the remaining contingency.

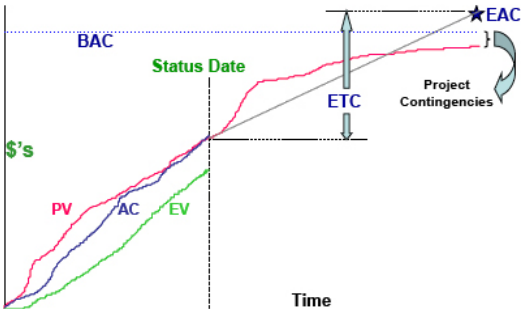

Exhibit 6 – Displaying ETC, EAC, and BAC on the EV graph.

To Complete Performance Index

Another useful evaluation tool is the '**To Complete Performance Index**' (TCPI), which provides a forecast of the required performance level, expressed as the CPI, which must be achieved on the remaining work in order to meet the project financial goal. The TCPI calculation can look at either the current authorized budget or the current estimate-at-completion.

TCPI provides a "sanity check" for the project manager on whether the required CPI for the rest of the project is realistically obtainable. Of the two formulas, looking at the CPI required to complete the project based on the estimate-at-completion is probably more meaningful. The two TCPI formulas are (PMI, 2008, p.185):

$$TCPI_{(BAC)} = \frac{\text{Work Remaining}}{\text{Funds Remaining}} = \frac{(BAC - EV)}{(BAC - AC)}$$

$$TCPI_{(EAC)} = \frac{\text{Work Remaining}}{\text{Funds Remaining}} = \frac{(BAC - EV)}{(EAC - AC)}$$

Exhibit 7 – TCPI Formulas Based on BAC and EAC.

Research has shown the cumulative CPI will stabilize as early as the 20% completion point of the project, and "researchers found the cumulative CPI does not change by more than 10% once a contract is 20% complete; in most cases, the cumulative CPI only worsens as a contract proceeds to completion" (Christensen, 1994, p.19). This may be too pessimistic, but once 30% completion is reached, it's reasonable to expect the CPI won't change by more than 10% unless the project is stopped and re-planned.

For example, if the project CPI is 0.80 at 30% completion, the best you can expect is a final CPI of 0.88, which means your budget will overrun by at least 13.6% (1/0.88).

Making Earned Value Work

There are many project maturity models in use today and many use a five-level format, where level 1 is chaos, level 2 is some rudimentary project management techniques in use, but inconsistently across projects, and level 3 is having a process and procedures in use across all projects. If your organization is not at least at maturity level 3, you should not attempt implementing earned value across the organization. Here is an analogy. If you are just learning to dive, you would dive off a board close to the water surface to learn the basics. If you're new to diving, you would not start with the 10-meter diving height unless you are looking to fail! The same applies to the use of earned value analysis. If you don't have a project organization with a maturity level of 3 or higher, trying to apply EVA will only lead to failure.

Listed below are the top ten items needed on projects when implementing earned value:

1. Project Requirements
2. Work Breakdown Structure
3. Change Management Process
4. Integrated Project Plan
5. Correct Schedule and Budget
6. Schedule and Budget Contingency
7. Contingency Management
8. Cost Collection System
9. Accurate Reported Progress
10. Management Support

1 – Project Requirements

A project is undertaken to deal with a specific opportunity or problem. Therefore, every project has a specific objective such as ‘meet new Environmental Protection Agency (EPA) air emission standards.’ Requirements define the project product — what will be created and used by the client as a result of doing the project.

Unfortunately, all too often a client starts a project, and engages a project team who immediately starts working with the client to define the scope of the project. For example, a client may hire a project team to install a water spray scrubber to meet EPA emission rules, and the project team immediately jumps into action and starts the design of equipment, structural supports, and ductwork without stepping back to ask the more pertinent question of whether the equipment will really solve the problem. In this case, the problem is reducing specific air emissions and the customer already picked the ‘how’ (the water spray scrubber), which may not meet the real need because requirements, including types of contaminants and final concentration levels, were not defined.

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SEMI-ANNUAL CAPITAL IMPROVEMENT PROJECTS STATUS REPORT **March 31, 2019**

PROJECT NUMBER	PROJECT TITLE	PROJECT SCOPE	PROJECT APPROVAL	BUDGET	ACTUAL & COMMITTED	AVAILABLE	FUNDING SOURCE	PROJECT PHASE	COMMENTS
263-CP10011	Berger 2 and 3 Seismic Evaluation	Upgrade structural and non-structural (HVAC, electrical, plumbing, etc.) components of the buildings to improve seismic performance of the two buildings.	2010	14,145,000	12,227,969	1,917,031	General Fund/FEMA	Closeout	In Process of Closing
263-CP12002	Civic Center Master Plan	Master plan County Government Center Complex at Hedding Street In San Jose including housing option onsite	2012	10,600,000	6,950,258	3,649,742	General Fund	Planning	CEQA is only deliverable at this time
263-CP12003	SB-81 James Ranch	Construct a new 84-bed dorm at James Ranch juvenile facility.	2012	25,792,601	23,374,241	2,418,360	State Grant with General Fund Match	Construction	Construction scheduled to Complete Winter 2019
263-CP13004	Elmwood M1 Plan & Design	Remodel Bldg. M1 second floor at Elmwood Facility increasing medium-security inmate beds in order to meet the demands of AB109, State Public Safety Realignment program.	2013	663,100	658,899	4,201	General Fund	Closeout	In Process of Closing
263-CP13017	Fairgrounds Development Plan	Provide study to evaluate possible uses for property	2013	1,850,000	835,979	1,014,021	General Fund	Planning	Pending CEO/BOS Direction
263-CP14003	Multilingual Signage	Provides for development of County standards for implementation of multilingual signage	2014	1,450,000	881,831	568,169	General Fund and Grant Fund	Design	Permits schedule to complet Summer 2019
263-CP15002	Comms Workstation	Provides for design and construction of new county communications workstations	2015	1,600,000	1,596,138	3,862	General Fund	Closeout	In Process of Closing
263-CP15003	Comms Waterless Suppression	Provides for design and construction of new waterless fire protection systems in sensitive areas subject to water damage	2015	1,600,000	1,522,284	77,716	General Fund	Construction	In Process of closing
263-CP15007	SCVMC Emergency Room Predes/Design	Provides for design and construction of new emergency room	2015	4,400,000	2,068,908	2,331,092	General Fund	Design	Design scheduled to complete Winter 2019
263-CP15014	Design Main Jail South Tower 1	Provides for program development information to support grant application for a new jail facility.	2015	884,438	884,438	-	General Fund	Closeout	In Process of Closing
263-CP15018	BHSD Space Design	Provides for programming and design efforts to modify the 2nd floor to support Behavioral Health call center and admin spaces.	2015	700,000	366,442	333,558	General Fund	Design	Awaitin bid results
263-CP16003	New Jail Facility Design & Construction	Provides for design funds for MJS replacement	2016	54,000,000	34,696,114	19,303,886	General Fund	Design	RFSOQ Scheduled for release Fall 2019
263-CP16004	Main Jail North Cell Hardening	Construction phase of Main Jail Level 4 Security Cell Conversion project.	2016	21,630,000	21,238,044	391,956	General Fund	Closeout	In Process of Closing

263-CP16005	Elmwood M - 1 Sun Deck & Remodel	Construct new sundeck and remodel existing housing unit to incorporate new Isolation and ante room.	2016	4,700,000	4,692,518	7,482	General Fund	Closeout	In Process of Closing
263-CP16007	Crime Lab Door	Provides for separate secured door for evidence delivery	2016	289,850	226,891	62,959	General Fund	Closeout	In Process of Closing
263-CP16008	Elmwood Kitchen Exhaust	Provides for additional kitchen exhaust system to support existing system for high demand load cooking	2016	2,091,448	1,704,252	387,196	General Fund	Construction	Construction scheduled to complete Summer 2019
263-CP16012	Medical Examiner Expand Office	Expand existing technician and investigation office space.	2016	494,280	422,094	72,186	General Fund	Closeout	In Process of Closing
263-CP16013	ISD Office Space Design	Develop masterplan and design of first phase of tenant space modifications	2016	1,650,000	1,646,104	3,896	General Fund	Closeout	In Process of Closing
263-CP16020	Main Jail ADA Repairs	Provides for Accessibility improvements to Main Jail North	2016	10,600,000	8,907,691	1,692,309	General Fund	Construction	Construction scheduled to complete Summer 2022
263-CP16021	Main Jail N. Video Surveillance System	Replaces existing Video Surveillance System with new system	2016	10,820,000	9,863,496	956,504	General Fund	Closeout	In Process of Closing
263-CP16022	Winter Shelter Modular Relocation	Provides for the relocation and installation of Modulars	2016	2,100,000	2,037,609	62,391	General Fund	Construction	Scheduled to complete Fall 2019
263-CP16024	ROV Warehouse Reconfiguration	Provides for the reconfiguration of existing spaces at for use by ROV	2016	250,000	90,804	159,196	General Fund	Closeout	In Process of Closing
263-CP16027	Board Chambers ADA/AV Improvements	Provides for renovations of the existing control booth and inclusion of ADA access	2016	1,300,000	1,215,424	84,576	General Fund	Closeout	In Process of Closing
263-CP16028	Main Jail North & Elmwood ADA Assessment	Provides for Accessibility Studies on improvements in Main Jail North and the Elmwood Facility	2016	700,000	283,547	416,453	General Fund	Design	Rescoping with new Consultant
263-CP16029	Elmwood ADA Improvements	Provides for Accessibility improvements in the Elmwood Facility	2016	10,900,000	8,202,421	2,697,579	General Fund	Construction	Construction scheduled to complete Fall 2022
263-CP16030	Acquire Credit Union Bldg & Renovation	Provides for the acquisition of the facility for future County Department use	2016	18,460,000	17,808,751	651,249	General Fund	Construction	Construction scheduled to complete Fall 2019
263-CP17001	FY 2018 Capital Planning	Provides for development of as-needed facility studies	2017	300,000	255,937	44,063	General Fund	Closeout	In Process of Closing
263-CP17004	Remodel 2450 S. Bascom for BH	Provides for the Renovation of 2450 Bascom for Behavioral Health	2017	9,500,000	853,559	8,646,441	General Fund	Design	Design schdeduled to start Fall 2019

263-CP17005	VMC Ambulatory Specialty Center Design	Provides for Design of new Surgicenter	2017	35,000,000	3,408,790	31,591,210	General Fund	On Hold	Postponing the project and moving most of the money to the ED project to balance the Capital Budget.
263-CP17006	VMC Emergency Dept. Improvements	Provides for Programming of Emergency Department Renovations	2017	39,436,655	810,436	38,626,220	General Fund	Design	CDs inProress. Scheduled to submit increment 1 Winter 2019.
263-CP17007	Hamlin Court North County CWSP	Provides for the renovation of the existing warehouse as a temporary winter shelter for winter of 2016	2017	5,600,000	4,635,426	964,574	General Fund	Construction	Construction scheduled to complete Fall 2019
263-CP17008	West Wing Renovations	District Attorney's Interview Room and Workout Room	2017	1,800,000	1,627,926	172,074	General Fund	Closeout	In Process of Closing
263-CP17011	Vietnamese-American Service Center	New Construction of 50,000 gross (40,000 net) SF building and a new 140 parking space garage	2017	11,000,000	6,413,817	4,586,183	General Fund	Design	Design scheduled to complete Summer 2019
263-CP17012	Electric Vehicle Charging Infrastructure	Provides for vehicle charging stations in various County owned sites	2017	2,500,000	1,295,681	1,204,319	General Fund	Construction	Construction scheduled to complete spring 2020
263-CP17013	Programming 2nd AOB VMC Campus	Feasibility and Programming of New AOB on VMC Campus	2017	400,000	-	400,000	General Fund	Closeout	Closing the project and using the savings to balance the Capital Budget
263-CP17014	Remodel Muriel Wright	Renovates existing facility to support Behavioral Health and Reentry Needs.	2017	9,590,000	9,222,910	367,090	General Fund	Construction	Construction scheduled to complete Summer /Fall2019
263-CP17015	Programming Design RAIC East Valley	Feasibility and Programming of New Receiving and Intake Center (RAIC)	2017	4,500,000	-	4,500,000	General Fund	On Hold	Project is on hold
263-CP17016	Replace Lenzen Fire Alarm System	Replaces existing outdated fire alarm system	2017	900,000	559,900	340,100	General Fund	Construction	Construction scheduled to complete Fall 2019
263-CP17017	Replace Fire Alarm Panel at MJN	Replaces existing outdated fire alarm system	2017	4,835,000	3,700,715	1,134,285	General Fund	Construction	Construction scheduled to complete Springr 2020
263-CP17018	Replace Cell Doors Control Elmwood M4,M5	Replaces existing outdated door locking systems	2017	1,740,000	162,820	1,577,180	General Fund	On Hold	Pendding evaluation for entire campus
263-CP17019	RFP for Downtown Medical Center Site	Provides for Masterplan and Program for a Downtown Medical Center	2017	653,000	653,000	-	General Fund	Planning	Project is part of the Masterplanning effort for East Santa Clara Campus in partnership with Housing Authority. County has decided not to pursue Condominiumization, will build own County building at a later date.
263-CP17020	Replace Pneumatic Controls Mediplex Bldg	Replaces existing outdated HVAC control systems	2017	2,250,000	12,008	2,237,992	General Fund	Closeout	In Process of Closing

263-CP17021	Holden Ranch Parking Lot	Improves existing parking pavement needs	2017	1,100,000	1,060,432	39,568	General Fund	Construction	Construction is scheduled to complete Summer 2019
263-CP17022	Parisi House Generator	Provides for emergency power backup	2017	855,000	555,608	299,392	General Fund	Closeout	Resubmitted drawings to Planning Department for approval of emergency power separtion
263-CP17023	Crime Lab Leak Detection & Flood Prevent	Provides for the installation of a leak detection system	2017	500,000	489,927	10,073	General Fund	Closeout	In Process of Closing
263-CP17024	VMC Women's and Children's Center	Feasibility and Programming of new spaces	2017	21,250,000	1,511,013	19,738,987	General Fund	Design	North 2/3 Finishes Refresh and Minor Upgrades in Plan Check at OSHPD. South 1/3 Remodel in CDs with estimated completion in 30 days.
263-CP17025	ROV Remodel Berger 2 Warehouse	Provides for renovation of existing spaces and increases ROV space needs to accommodate new voting machines	2017	1,500,000	1,439,817	60,183	General Fund	Closeout	In Process of Closing
263-CP17026	10th Floor Renovations	Provides for tenant improvements for half of the floor to meet increased staffing	2017	1,400,000	1,299,372	100,628	General Fund	Closeout	In Process of Closing
263-CP17028	Animal Shelter Design	Provides for a new animal shelter to replace existing antiquated shelter	2017	4,000,000	3,426,920	573,080	General Fund	Design	Designs are in Permit review
263-CP17029	9th Floor reconfiguration	Provides for tenant improvement for entire floor	2017	3,295,000	3,276,618	18,382	General Fund	Closeout	In Process of Closing
263-CP17030	Correctional Suicide Prevention Cells	Upgrades 50 existing cells to include suicide prevention features	2017	9,004,500	8,508,481	496,019	General Fund	Construction	Construction scheduled to complete Fall 2022
263-CP17033	Elmwood Womens Housing ADA Improvements	Provides for ADA improvements	2017	900,000	461,683	438,317	General Fund	On Hold	Project is on hold
263-CP17034	Replace Juvenile Hall Surveillance	Provides for replacement and improvements to existing JH cameras	2017	7,200,000	6,033,690	1,166,310	General Fund	Construction	Construction scheduled to complete Summer 2020
263-CP17035	Enborg Lobby Security Improvements	Provides for physical security measures in the public lobby	2017	600,000	-	600,000	General Fund	Construction	Mental Health Urgent Care lobby complete. Safety Doors in Centrla wellness in review.
263-CP17036	Elmwood Men's Housing ADA Improvements	Provides for design of ADA features for Various Elmwood Housing	2017	1,500,000	861,572	638,428	General Fund	On Hold	Project is on hold
263-CP17037	Elmwood & MJ Suicide Prevention Barriers	Provides for design and construction of suicide prevention barriers in various pods at Main Jail and Elmwood	2017	2,350,000	2,240,213	109,787	General Fund	Closeout	In Process of Closing
263-CP17038	Elmwood & MJ Custody Health Services	Provides for design of new Custody Health Administration offices in Main Jail	2017	4,500,000	1,131,964	3,368,036	General Fund	Design	Repackaging Designs for Bidding

263-CP18001	FY 2019 Capital Planning	Provides for development of as-needed facility planning studies	2018	350,000	234,135	115,865	General Fund	Planning	Scheduled for complete Summer 2019
263-CP18003	South County Animal Shelter Construction	To provide new animal medical and surgery rooms, multipurpose room, barn and administration areas for the new shelter	2018	38,000,000	34,604,280	3,395,720	General Fund	Design	Designs are in Permit review
263-CP18004	HUB Acquisition & TI's	The acquisition, planning, and construction for the HUB, a youth-led and organized community center dedicated to supporting current and former foster youth, ages 15 to 24.	2018	10,000,000	6,172,359	3,827,641	General Fund	Planning	Program scheduled to complete Summer 2019
263-CP18005	ADA Program - All Buildings	Provides for initial study of ADA requirements for non-correctional County facilities	2018	1,500,000	-	1,500,000	General Fund	Planning	Scopes are scheduled to complete Winter 2019
263-CP18006	Power distribution replacement for Civic	To minimize service disruption to both the Sherriff and County Administration Buildings	2018	2,500,000	316,988	2,183,012	General Fund	Design	Design scheduled to complete Spring 2020
263-CP18007	Clerk-Recorder's Office - Expansion Proj	Study to determine feasibility of expanding Clerk-Recorder's Office	2018	1,500,000	-	1,500,000	General Fund	Closeout	CIP-To be closed through Leg. File
263-CP18008	HHS SMOP	Santa Clara Valley Health and Hospital System evaluation of their service model and operational plan along with facilities assessments	2018	1,000,000	819,511	180,489	General Fund	Planning	SMOP scheduled to complete Fall 2019
263-CP18009	VMC Burn Unit Upgrade	Completely renovate the 3rd Floor of the West Wing (Building K) for a new Burn Unit to replace the unit on the 4th Floor	2018	4,900,000	1,953,246	2,946,754	General Fund	Design	Documents in plan review. Design team to respond to OSHPD backcheck 1.
263-CP18010	VHC Gilroy Urgent Care	Remodel portion of the Valley Health Center Gilroy (HIM, Dental, WIC) for the purposes of building an Urgent Care	2018	7,000,000	60,102	6,939,898	General Fund	Construction	Under construction. Phase II of V phase project is 60% complete.
263-CP18011	VMC Campus Infrastructure	Rebuild the VMC exterior environment including streets, sidewalks, lighting, and landscaping	2018	27,500,000	27,461,410	38,590	General Fund	Construction	10% construction. Contractor s working in several areas/phases concurrently however overall project is behind schedule due to multiple field issues. Milestone 1 completion date is projected to be 60
263-CP18012	Demo of City Hall Annex	Provides for development of demolition drawings and demolition of annex.	2018	7,100,000	4,053,272	3,046,728	General Fund	Construction	Demolition is scheduled to complete Fall 2019
263-CP18014	Elmwood SMOP	Provides for the development of a Service Model Operation plan for Elmwood	2018	500,000	473,312	26,688	General Fund	Planning	SMOP scheduled to complete winter 2019
263-CP18015	Elmwood Harden West Gate Station & Lobby	Provides for the design of additional security features for the Elmwood West Gate Lobby	2018	1,100,000	225,945	874,055	General Fund	Design	Designs are in Permit review but may need to be rescoped pending cost evaluation
263-CP18016	EVOC Construction	Provide Emergency Vehicles Drivers Training	2018	7,000,000	4,546,176	2,453,824	General Fund	Construction	Construction scheduled to complete Summer 2019 pending PGE related work
263-CP18017	ESA Floor reconfiguration	ESA 8th floor reconfiguration	2018	2,500,000	1,906,828	593,172	General Fund	On Hold	On hold

263-CP18018	Security Assessment for E and W Wing	Assess security at both East and West wings of Hedding	2018	200,000	-	200,000	General Fund	Closeout	In Process of Closing
263-CP18019	Security Assessment/Implement at BHSD	Assess security at 8 Behavioral Health Services sites	2018	500,000	171,091	328,909	General Fund	Closeout	In Process of Closing
263-CP18020	West Wing 5th Floor Reconfiguration	Additional conference room and offices	2018	334,000	257,617	76,383	General Fund	Construction	Construction is scheduled to complete Fall 2019
263-CP18021	Distributed Generation SCADA System	Install supervisory control and data acquisition system to connect and manage all County distributed generation systems	2018	750,000	-	750,000	General Fund	Planning	RFP development
263-CP18022	Juvenile Probation Structural Analysis	Structural analysis of exisitng Admin Bldg. at Juvenile Hall	2018	100,000	-	100,000	General Fund	Planning	Program scheduled to complete Fall 2019
263-CP18023	AOB 1 - Floor Reconfiguration	Upgrade finishes and office reconfigurations in this Administrative Building	2018	1,500,000	619,149	880,851	General Fund	Construction	Phase I (HR Remodel) is complete . Phase II (Remodel Suite 290) commences in May 13, 2019. Phase III will address common areas on all floors.
263-CP18024	RRC Sobering Station	Renovate existing space to accommodate sobering area	2018	1,000,000	310,947	689,053	General Fund	On Hold	On hold
263-CP18026	Landscape Inventory & Assessment Plannin	Landscape inventory and operational need assessment of exiting County campuses	2018	230,000	204,328	25,672	General Fund	Planning	Developing Scope
263-CP18027	TDM Implementation Plan	Employees' Transportation Demand Management Study	2018	250,000	236,587	13,413	General Fund	Planning	Planning is on schedule to be completed by 5/1/19. However, the consultant will be available to present the highlights of the plan at a later date. DOA runs through 12/31/2019
263-CP18028	1996 Lundy Avenue	Initial study/CEQA	2018	7,240,000	5,219,253	2,020,747	General Fund	Planning	Programming complete. Cost estimate being developed
263-CP19001	Renovate Board Offices at Civic Center	Renovate Board Offices at Civic Center	2019	1,700,000	1,662,219	37,781	General Fund	Closeout	In Process of Closing
263-CP19002	Replace HVAC at Elmwood M1/W1/W4/M4/M5	HVAC upgrades W4 and M2	2019	2,900,000	218,743	2,681,257	General Fund	Design	Design scheduled to complete winter 2019
263-CP19003	Relocate 2nd Floor Dental Suite at MJN	Relocate of existing dental suite, renovate men/women restrooms	2019	1,700,000	372,688	1,327,312	General Fund	Construction	Construction scheduled to complete Spring 2020
263-CP19004	Relocate/Remodel RAIC	Relocate and Remodel RAIC	2019	3,000,000	4,830	2,995,170	General Fund	On Hold	On hold
263-CP19005	Upgrade ADA at Berger Campus (ROV)	Upgrade ADA at Berger Campus (ROV)	2019	150,000	-	150,000	General Fund	Design	Design scheduled to complete Fall 2019

263-CP19006	Manage Julian 3rd Building Project	Manage Julian 3rd Building Project	2019	400,000	366,300	33,700	General Fund	Construction	Construction scheduled to complete Fall/winter 2019
263-CP19007	Add Pony Chillers Gilroy/Downtown Clinic	Add Pony Chillers - Gilroy	2019	150,000	-	150,000	General Fund	Planning	Planning scheduled to complete Winter 2019
263-CP19008	Behavioral Health Services Facility	Behavioral Health Services Facility	2019	2,000,000	-	2,000,000	General Fund	Planning	Currently negotiating A/E Proposal for PSA.
263-CP19009	Purchase 614 Tully	Purchasing 614 Tully	2019	11,000,000	-	11,000,000	General Fund	Closeout	In Process of Closing
263-CP19010	Expand Sunnyvale Primary Care	VHC remodel with $7 mil budget	2019	7,000,000	-	7,000,000	General Fund	Planning	Program validation and cost estimates by VHC Executive
263-CP19011	Tenant Improvements at West Tasman Dr	Tenant Improvements	2019	29,873,113	24,733,437	5,139,676	General Fund	Construction	Construction scheduled to complete Fall 2019
263-CP19012	Renovations at Reentry Resource Center	Renovation	2019	1,500,000	187,951	1,312,049	General Fund	Design	Design scheduled to cpomplete Fall 2019
263-CP19013	11th Floor Renovations	CEO's 11th Floor Refresh	2019	3,450,000	1,278,839	2,171,161	General Fund	Construction	Construction schedule to complete Winter 2020
263-CP19014	Purchase of Verity Hospital System	Purchase of Verity Hospital System	2019	300,000,000	237,997,364	62,002,636	General Fund/Bonds	Planning	Finance agency going to the Board in may to authorize sale of bonds to reimburse the purchase price and to provide $65M for Capital Improvements to the four campuses.

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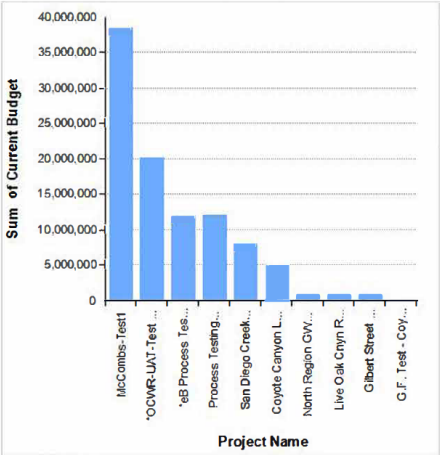
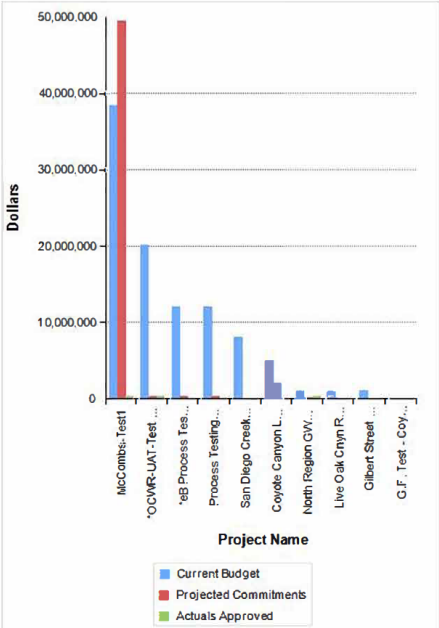


Top 15 Projects

Budget vs. Commitments vs. Actuals



Top 15 Projects

Overall Project Schedule

Project Name	Sum of % Complete
Live Oak Cnyn Rd & Trabuco Cnyn Rd Safety Improvements (Demo_OCPW_2018)	0
Process Testing - Vernon	0
San Diego Creek (F05) Sediment Removal (Demo_OCPW_2018)	50

Construction Schedule

Project Name	Sum of % Complete
Process Testing - Vernon	0
San Diego Creek (F05) Sediment Removal (Demo_OCPW_2018)	0

Overall Project Variance

Project Name	Sum of Finish Variance in Days
Live Oak Cnyn Rd & Trabuco Cnyn Rd Safety Improvements (Demo_OCPW_2018)	0.00
Process Testing - Vernon	0.00
San Diego Creek (F05) Sediment Removal (Demo_OCPW_2018)	0.00

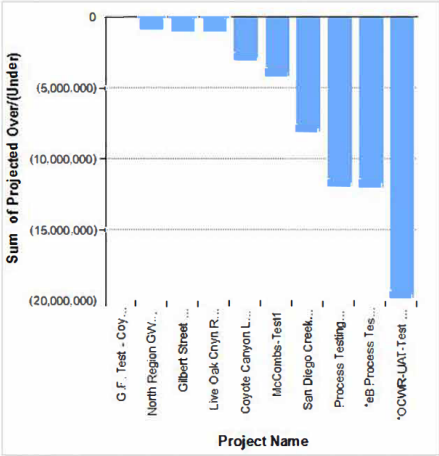
Forecast Over/(Under) Budget per Project

Project Name	Sum of Forecasted Over/(Under)
McCombs-Test1	

Construction Schedule Variance

Project Name	Sum of Finish Variance in Days
Process Testing - Vernon	0.00
San Diego Creek (F05) Sediment Removal (Demo_OCPW_2018)	0.00

Projected Over/(Under) Budget Per Project



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Budget Reports (8)

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Edit | Delete | Export | History	**Cash Flow (Program Summary, Grouped by Quarter)**
Edit | Delete | Export | History	**Cash Flow (Program Summary, Grouped by Year)**
Edit | Delete | Export | History	**Cash Flow (Project Summary, Grouped by Month)**
Edit | Delete | Export | History	**Cash Flow (Project Summary, Grouped by Quarter)**
Edit | Delete | Export | History	**Cash Flow (Project Summary, Grouped by Year)**
Edit | Delete | Export | History	**Cash Flow Detail by Month** - Selectable by project
Edit | Delete | Export | History	**Cash Flow Detail by Year**

Commitment Reports (21)

Edit | Delete | Export | History	**Change Order (Program Sum Grouped by Contract No.)**
Edit | Delete | Export | History	**Change Order (Program Sum Grouped by Reason Code)**
Edit | Delete | Export | History	**Change Order (Program Summary, Grouped by Status)**
Edit | Delete | Export | History	**Change Order (Project Sum Grouped by Contract No.)**
Edit | Delete | Export | History	**Change Order (Project Sum Grouped by Reason Code)**
Edit | Delete | Export | History	**Change Order (Project Summary, Grouped by Status)**
Edit | Delete | Export | History	**Change Order Detail**
Edit | Delete | Export | History	**Commitment (Program Summary, Grouped by Type)**
Edit | Delete | Export | History	**Commitment (Project Summary, Grouped by Category)**
Edit | Delete | Export | History	**Commitment (Project Summary, Grouped by Type)**
Edit | Delete | Export | History	**Commitment Detail**
Edit | Delete | Export | History	**Commitment Summary**
Edit | Delete | Export | History	**Contract (Program Summary, Grouped by Company)**
Edit | Delete | Export | History	**Contract (Program Summary, Grouped by Status)**
Edit | Delete | Export | History	**Contract (Project Summary, Grouped by Company)**
Edit | Delete | Export | History	**Contract (Project Summary, Grouped by Status)**
Edit | Delete | Export | History	**Purchase Order (Program Sum, Grouped by Company)**
Edit | Delete | Export | History	**Purchase Order (Program Summary Grouped by Status)**
Edit | Delete | Export | History	**Purchase Order (Project Sum, Grouped by Company)**
Edit | Delete | Export | History	**Purchase Order (Project Summary Grouped by Status)**
Edit | Delete | Export | History	**Purchase Order Cost Summary**

Project Management & Control (16)

Edit | Delete | Export | History	**Change Order (Project Sum Grouped by Contract No.)**
Edit | Delete | Export | History	**Change Order (Project Sum Grouped by Reason Code)**
Edit | Delete | Export | History	**Change Order Detail**
Edit | Delete | Export | History	**Commitment (Program Summary, Grouped by Type)**
Edit | Delete | Export | History	**Commitment (Project Summary, Grouped by Type)**
Edit | Delete | Export | History	**Commitment Detail**
Edit | Delete | Export | History	**Commitment Summary**
Edit | Delete | Export | History	**Contract (Program Summary, Grouped by Company)**
Edit | Delete | Export | History	**Contract (Program Summary, Grouped by Status)**
Edit | Delete | Export | History	**Contract (Project Summary, Grouped by Company)**
Edit | Delete | Export | History	**Contract (Project Summary, Grouped by Status)**
Edit | Delete | Export | History	**Purchase Order (Program Sum, Grouped by Company)**
Edit | Delete | Export | History	**Purchase Order (Program Summary Grouped by Status)**
Edit | Delete | Export | History	**Purchase Order (Project Sum, Grouped by Company)**
Edit | Delete | Export | History	**Purchase Order (Project Summary Grouped by Status)**
Edit | Delete | Export | History	**Purchase Order Cost Summary**

Companies and Contacts (4)

Project Knowledge Base (4)

Executive Program Summary Reports (12)

My Work Reports (12)

Schedule Reports (9)

Executive Dashboard Reports (11)

Edit | Delete | Export | History	**Dashboard - Budget vs. Est at Completion** - Project current budget vs estimated at completion
Edit | Delete | Export | History	**Dashboard - Buget vs. Commitments vs. Actuals** - Project budget vs commitments vs actual
Edit | Delete | Export | History	**Dashboard - Construction % Complete** - Construction % of completion
Edit | Delete | Export | History	**Dashboard - Construction Schedule Variance** - Construciton schedule variance
Edit | Delete | Export | History	**Dashboard - Forecasted Over/Under** - Forecasted over or under
Edit | Delete | Export | History	**Dashboard - Overall Project Schedule % Complete** - Overall project schedule % of completion
Edit | Delete | Export | History	**Dashboard - Overall Project Schedule Variance** - Overall project schedule variance
Edit | Delete | Export | History	**Dashboard - Projected Over/Under Budget** - Projected over or under budget
Edit | Delete | Export | History	**Dashboard - Total Projects By Type** - Project by type
Edit | Delete | Export | History	**Program Budget by Project Manager**
Edit | Delete | Export | History	**Project Totals Per Manager**

Admin Dashboard Reports (17)

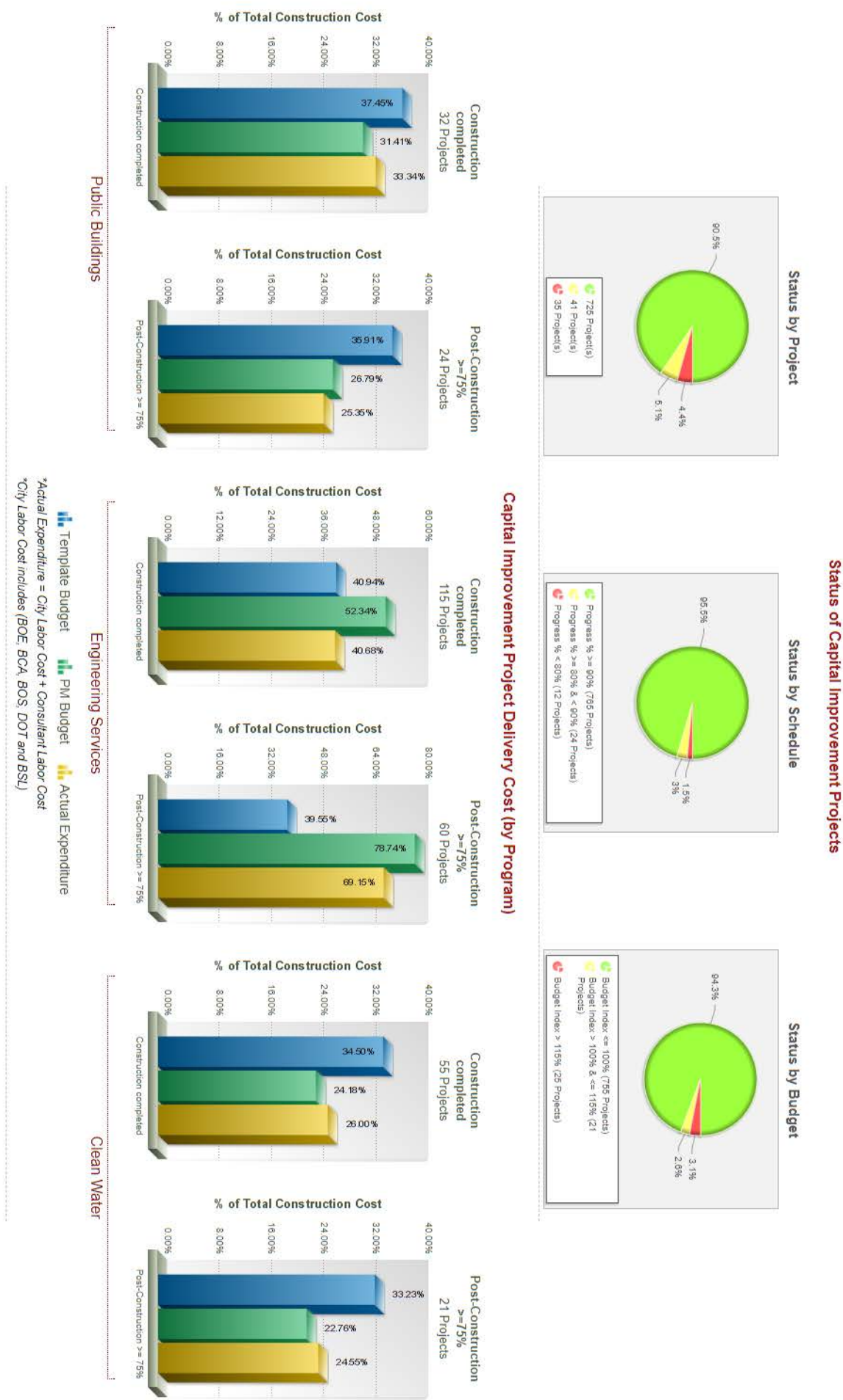
Document Management (3)

Submittal Module Reports (6)

Implementation Dashboard Reports (10)

OCWR - Process Logs (17)

Add Report


Status of Capital Improvement Projects
Status by Project
90.6%
4.4%
5.1%
725 Project(s)
41 Project(s)
35 Project(s)
Status by Schedule
95.5%
1.5%
3%
Progress % >= 90% (765 Projects)
Progress % >= 80% & < 90% (24 Projects)
Progress % < 80% (12 Projects)
Status by Budget
94.3%
3.1%
2.6%
Budget Index <= 100% (755 Projects)
Budget Index > 100% & <= 115% (21 Projects)
Budget Index > 115% (26 Projects)
Capital Improvement Project Delivery Cost (by Program)
Public Buildings
Construction completed 32 Projects
% of Total Construction Cost
37.45%
31.41%
33.34%
Post-Construction >=75% 24 Projects
35.91%
26.79%
25.35%
Engineering Services
Construction completed 115 Projects
40.94%
52.34%
40.68%
Post-Construction >=75% 60 Projects
39.55%
78.74%
69.15%
Clean Water
Construction completed 55 Projects
34.50%
24.18%
26.00%
Post-Construction >=75% 21 Projects
33.23%
22.76%
24.55%
Template Budget
PM Budget
Actual Expenditure
*Actual Expenditure = City Labor Cost + Consultant Labor Cost
*City Labor Cost includes (BOE, BCA, BOS, DOT and BSL)

Hello Cheryl and Alice:

Facilities and Fleet is dedicated to and will work to make the improvements in the areas you all recommend as FAF agrees with all findings with the possible exception of 5.8 which I will defer to the opinion of the Budget Director. That said, the audit draft I reviewed reached back to include FY 2000 projects from which to draw some of its conclusions. There are no staff or management present that go back that far. This includes the previous Deputy Director of Capital Programs who started in 2002 and retired in 2017. For my part, I have been in the Director, FAF position since July 2009 and many of those projects were well underway and or near completion. And for the record, the Department was not drawn into the Hospital Seismic Safety Program until 2012 after the HHS Facilities Director had retired and primarily until the new one was hired. Because of the portfolio of funded projects in the past few years, we have also added a Deputy Director who was onboarded in November 2018 to focus on hospital related capital projects, about the same time the audit was underway. Also, I have been acting as the Director, HHS Facilities since late December 2019. This has given me additional insight into the organization and thus informed some adjustments that are pointed out in the Draft Audit.

It's been my experience, that drawing conclusions from old information is misleading. For instance, the current Planning team was established late FY2013/2014 to handle and uptick in capital project funding and to help separate the planning from the design effort per Counsel's review of Assembly Bill 1090 that passed in the same year. The draft audit report states there is a lack of stakeholder involvement and minutes of meetings. Attached is a list of Major Projects planned by the Planning team listing stakeholders that I believe were provided during the audit process. Using older projects to evaluate stakeholder involvement when all of the related project managers, firms, and records are harder to come by seems to me to be an unfair representation of the current situation. That said, at the core, the recommendations is to continue to improve that part of the process. I could not agree more.

One example that was cited in the draft audit was the Winter Shelter Project as an example of a poorly planned project. The discussion could have at least been prefaced with the context that FAF was directed to deliver the alteration project in 6 to 8 months from the time it was funded. Of course, to meet that deadline there was no time to plan or get Planning and Development / Fire Marshal to open a building permit process. Yet we worked with the users and the permitting agency to deliver a project on time. The project is wrongly used as a poor example when it is actually a great example of FAF working with other County departments to deliver a complete and usable project on time and within reasonable costs to meet the needs of the community.

Another example that was called out as poorly planned without stakeholder involvement is the Downtown Clinic project. The draft audit fails to note the project was planned consistent with the Milpitas Health Center and again fails state the urgency placed on the department to deliver the project immediately. The draft audit fails to note that health care service delivery has dramatically changed since the building was planned, designed, and construction began. I am referring to the evolution of whole-person care and the inclusion of behavioral health services in the health clinic setting, and more. Also of note, the management of the healthcare system routinely relocates programs and services within the facilities they occupy. While there is some flexibility that can be built into the designs, the end user may turn a space that was designed for one use into another use. The current management and occupant may have no memory

of why a space was programmed and planned the way it was. The audit fails to conclude that it's not the planning that causes follow on projects, but instead, changes in the way and what services are delivered. A few examples where facility investments were required because of a change in use include installing Urgent Care at the Gilroy Health Clinic, adding dental services at several the Health Clinics, and Ambulatory Care is increasing services at Sunnyvale.

The audit did not fully grasp the organization or management of projects at the Hospital and thus, the relationships and management of the Fund 50 projects were not correctly characterized. As mentioned above, the Deputy Director started his role in November of 2018, almost about the same time as the audit, and thus the relationships were evolving at the time of the audit. Currently, the incumbent is assigned management of the project managers delivering all Fund 50 projects at the County's hospitals including funding control of those projects. That said, the incumbent does and must work collaboratively with the Hospital Administration and does not just function as a liaison. Since becoming the Acting Director, HHS Facilities in late December 2019, my observation is the Deputy Director is making significant positive contributions to the delivery of Hospital capital projects. That said, I agree with the audit in that we need to make some additional adjustments and improvements.

I appreciate the draft report identifies that staffing related to capital project delivery "were depleted by the Great Recession" and "struggled" to grow it back once funding started coming into thereafter. We are competing in an area where the construction boom has continued since the recession years makes difficult to recruit staff when there are more lucrative gigs out there.

I would like to thank the Management Auditor's team for their efforts with such a complicated assignment. The audit certainly helps emphasize where I and the Department need to focus our energy moving forward.

Regards, Jeff Draper
Director, Facilities and Fleet and Acting Director, HHS Facilities

Reported Projects by Planning

Major Projects Timeline and Status since 2014

Since 2014, the following is a list of projects developed by the Planning Team:

Year	Project Name	Stakeholders	Status upon Completion	Status
2014	Civic Center Master Plan and EIR – Law and Justice Center SMOP	Sheriff's Office District Attorney Probation Public Defender Alternate Defender/IDO Pretrial Reentry Community Partners CEO/FAF Courts	Project approved by BOS and EIR adopted in 2016. Currently BOS has provided Housing as a priority for this site and Housing Feasibility Studies are currently underway.	COMPLETED
2014	Correctional Facilities Needs Assessment	Sheriff's Office/DOC County Counsel Probation	Handed to Design Team to develop entire project	COMPLETED
2014	RAIC Service Model and Operational Plan+ Cost Estimates	DFCS / SSA Juvenile Justice Commission Caregivers Foster Parents SJPD Courts Youth Groups	Document used for determining operational changes.	COMPLETED
2015	Planning Office 7th floor (Needs Assessment and Program)+Cost Estimates.	Planning Office Staff Focus Groups Public Survey	Entire project was designed and built in 2016.	COMPLETED
2015	Berger Campus Space Needs Assessment + Cost Estimates for recommendations.	TSS ROV CEPA DEH UC Extension	Helped determine needs for TSS / ROV and CEPA that were later used to acquire Tasman Campus.	COMPLETED
2016	Multilingual and Wayfinding Signage Guidelines and Standards + Pilot Project Cost Estimates	All County Departments representatives	Initiated the Pilot project for construction and is nearing completion.	COMPLETED
2016	East Valley Master Plan+ Cost Estimates	Patients Providers Ambulatory Care Pediatric Care Pharmacy /Radiology / SPARK Clinic	Completed and determined for funding for CIP	COMPLETED

		BHSD Public Health		
2017	DTAC Space Program for 852 N 1st Street	DTAC Exec Staff Stakeholders	Handed to Design Team that designed and completed for occupancy.	COMPLETED
2017	ESA Space Needs Assessment + Cost Estimate	ESA Exec ESA Staff Stakeholders from all units withing		COMPLETED
2018	East Wing Space Needs Assessment and Recommendations.	All 70 W Hedding Department Heads Delegates	Recommendations for space needs helped acquire Tasman Campus and Silver Creek Campus	COMPLETED
2018	ROV Service Model and Operation Plan+ Cost Estimates	ROV – all units	ROV Space Needs were identified and recommendations for floors at Berger and CIP funding for Warehouse Improvements were approved by BOS	COMPLETED
2018	HHS – Service Model and Operational Plan	VMC Hospital Clinics Health System Management Specialties Public Health Behavioral Health EMS Custody Health Community Clinics	Report deliverables underway – due to the acquisitions and changes needs from stakeholders, the project schedule was protracted. Includes all Health System stakeholders.	IN PROCESS
2018	Elmwood Correctional Facility – Service Model and Operational Plan	Sheriff's Office Dept of Corrections Custody Health Support Services Reentry Services FAF CEO	Report deliverables underway – due to the acquisitions and changes needs from stakeholders, the project schedule was protracted. Includes several Law and Justice service stakeholders.	IN PROCESS
2018	Space Standards and Guidelines	All County Departments	Involved County wide Departments (exception Hospital functions) that is currently being used for all space planning projects.	COMPLETED
2019	Parkmoor Housing and HUB Service Model and Operational Plan + Cost Estimates	Hub Services – SSA SPARK Clinic Youth Groups Office of Supportive	In Dec 2019, BOS determined that site to include Housing as part of the project. Currently	COMPLETED

		Housing SSA Administration Partner Agencies (Bill Wilson Center)	identified as a Measure A funded project with HUB services for Foster Youth as CIP funded project.	
2019	Tasman Campus Program+ Cost Estimates	Finance Agency (DTAC/Conrtoller Treasurer/Clerk Recorder) Procurement TSS Assessor's Office Employee Wellness Credit Union CEO / LED FAF	Handed off to Design Team and Identified as project for CIP Funding	COMPLETED
2019	TB Refugee Clinic Program+ Cost Estimates	Ambulatory Clinic / TB Clinic/ Public Health / Pharmacy / Providers	Handed off to Design Team and Identified as project for CIP funding	COMPLETED
2019	Juvenile Hall – Administration Building – Conditions Assessment +Cost Estimates	Juvenile Hall Administrative Staff FAF	Completed Assessment to be used by Building Ops and identified as project in CIP.	COMPLETED
2019	Silver Creek Program + Cost Estimates	County Comm Fire District OEM / EOC EMS Planning and Development Roads and Airports Parks and Rec Valley Health Plan AOB Veteran Services Agency	With Cost Estimates, Administration directed evaluating other options to reduce costs. Currently in revisions.	IN PROCESS

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Management Audit Division Comments on Major Planning Team Projects

On June 5, the Capital Programs Division provided the Management Audit Division with a list of major planning projects and their statuses since FY 2013-14. The Management Audit Division subsequently requested certificates of occupancy for all completed projects on the list. We cross-referenced the six supplemental attachments provided on June 9, 2020 to the list of Planning projects submitted by the Department in response to the audit on June 5, 2020. These attachments and their corresponding projects on the Division's planning project list are summarized in Figure K.1 on page 208.

Figure K.1: *Permits and Corresponding Planning Projects*

Occupancy Documents Provided by the Capital Programs Division on 6/9/2020				List of Planning Projects Provided by the Capital Programs Division on 6/05/2020
Count	**Permit Title**	**Permit Detail**	**Project Name/Description**	**Cross-Reference to Planning Projects on List**
1	999 Hamlin	Temporary certificate of occupancy to allow OSH to begin operating the southern portion of the existing shelter facility at 999 Hamlin Court, Sunnyvale while installation of a new PG&E electrical service is completed	999 Hamlin Court-OSH Shelter	Could not determine
2	Fire Marshal Cleared for Occupancy Permits Sign-Off 3-14-16	Revision 15 to building permit 2013-51012 OSHPD 3 building 60,000 SF medical office building - PHASE I - Foundation and Structural only (new RFIs and ADIs)	Valley Health Center Downtown (SJ Downtown Health Center)	East Valley Master Plan - Completed and determined for funding for CIP
3	Building Final Permit Inspection Card	Development Service Permit- Permit & Inspection Card for Building/Electrical/Mechanical/Plumbing	150 W. Tasman-interior alteration of vacant building	East Wing Space Needs Assessment and Recommendations - Recommendations for space needs helped acquire Tasman Campus and Silver Creek Campus
4	Permit 65433-DTAC	Development Service Permit-Permit & Inspection Card for Electrical	852 N. First Street- Renovate to meet DTAC needs. Modify walls, replace windows, remodel store front, mechanical, electrical, fire sprinklers, fire alarm, elevator, landscape, waterproofing basement & elevator pit	DTAC Space Program for 852 N 1st Street- Handed to Design Team that designed and completed for occupancy
5	Building Final Permit Inspection Card	DUPLICATE OF #3		
6	Building Final Permit Inspection Card	DUPLICATE OF #3		

County of Santa Clara
Office of the County Executive

County Government Center,
70 West Hedding Street
Eleventh Floor – East Wing
San Jose, California 95110
(408) 299-5105

1 June 2020

Subject: Capital Programs Division Audit – Sections 3,5, and 7

Dear Cheryl Solov and Alice Hur:

Thank you for providing an opportunity to respond to Sections 3, 5 and 7 of the Management Auditor's Capital Programs Division Audit. Overall, the Management Auditor's recommendations are consistent with the Administrative Capital Committee's aspirations, but full implementation will likely take a few years and require additional staff. The Office of Budget and Analysis will work with the Facilities and Fleet Department to analyze the possibility of reducing funding for capital projects design and construction as an offset to the additional staff necessary to conduct the Management Auditor's recommended work expansion. Further, the Management Auditor recommends filling a vacant Senior Management Analyst position in the Office of Budget and Analysis and assigning this position to work on the Management Auditor's recommended work expansion described in this report. However, this vacant position is currently expected to be eliminated in the Fiscal Year 2020-21 budget.

The Management Auditor notes in this report that staffing and operations related to capital project planning, management, and oversight "were depleted by the Great Recession" and "struggled" to build up a functional capital program thereafter. The Office of Budget and Analysis concurs with this point, and we are further concerned that the downsizing and staffing reductions that will be required to respond to the deep recession we are now embarking may generate pressure to further reduce staffing and operations related to capital project planning, management, and oversight. It remains to be seen how the Board will prioritize this work in comparison to other critical work, such as health, public safety, and safety net services that also need funding despite a fiscal environment of declining revenues.

The Management Auditor's report references outdated data from past Capital Improvement Program publications and practices from 2018 or earlier. Many of the recommendations by the

Management Auditor have already been implemented in the last two years. Improvements to the program are made every year. A new Capital Improvement Program update will be published on or about June 15, 2020 with current information.

Below you will find the Management Auditor's recommendations for the Administrative Capital Committee and County Budget Director, as well as the County Budget Director response to each.

The Administrative Capital Committee should:

3.5 Work with Capital Programs Division to implement workpaper retention protocols described in Recommendation 3.4 in order to document the true baseline budget and scope of a project at its inception. (Priority 3)

Budget Director Response:

Agree.

The Administrative Capital Committee should:

5.5 Work with the Capital Programs Division to develop the project plans described in Recommendations 5.1 and 5.2. The ACC should integrate these project plans into the CIP by Fiscal Year 2021-22. (Priority 1)

Budget Director Response:

Agree, and the Administrative Capital Committee will make progress to the extent resources are available for the expanded work.

5.6 Ensure that the CIP contains only master projects rather than piecemeal projects containing different phases of development of the same asset. The ACC should work with the Capital Programs Division to ensure that the master numbering system in 5.3 corresponds with master projects as presented in the CIP. (Priority 1)

Budget Director Response:

Agree, and the Administrative Capital Committee will make progress to the extent resources are available for the expanded work.

5.7 Integrate the Capital Programs Division's updates from Recommendation 5.4 into the CIP, while retaining baseline metrics in the document. (Priority 1)

Budget Director Response:

Agree.

5.8 Create a separate capital budget section within the County's annual Recommended Budget. This section should include project plans for all projects being proposed for funding, as well as a summary and explanation of projects funded in the previous fiscal year that will not be receiving funds in the upcoming year. (Priority 2)

Budget Director Response:

Disagree. The annual Capital Improvement Program publication is published simultaneously with the Recommended Budget and serves as an adjunct to the Recommended Budget. One of the purposes of the Capital Improvement Program publication is to provide much more detail on the County's capital projects so that the information that is displayed in the Recommended Budget can remain at a more elevated level. As additional capital project information is developed for publication concurrent with the Recommended Budget, the best publication document for the additional detail is the Capital Improvement Program annual update.

The County Budget Director should:

7.1 Oversee all aspects of infrastructure asset management on a Countywide level. This oversight should include review of capital funding needs; analyzing debt capacity and developing capital financing strategies; and evaluating the status of ongoing projects and the nature of re-appropriated surpluses, along with recommending re-allocation of these funds, if necessary. The County Budget Director should also create a capital finance plan model for the County's Capital Improvement Program Plan (CIP) that includes debt service payments and revenue sources for the proposed CIP. The Budget Director should document and present the major assumptions of this model during annual budget hearings. At minimum, the capital finance plan model and associated documentation should be prioritized and completed by the outset of Fiscal Year 2021-22. At that time, the County Budget Director should report to the Board the degree to which other oversight components of our recommendations were implemented, the barriers to implementation, if any, and a projection for when these items will be fully implemented. (Priority 1)

Budget Director Response:

Agree, and the Office of Budget and Analysis will make progress to the extent resources are available for the expanded work.

7.2 If Recommendation 7.1 is approved, the County Budget Director should develop administrative policies and procedures to guide the processes described in Recommendation 7.1, as well as policies around the recommendation of new capital projects based on the outcome of these analyses. Administrative policies and procedures should be developed with input from

1 June 2020

stakeholders such as the Finance Agency's Debt Management group and Capital Programs Division staff. (Priority 1)

Budget Director Response:

Agree, and the Office of Budget and Analysis will make progress to the extent resources are available for the expanded work.

Best regards,

Gregor G. Iturria
County Budget Director

GI:sd

Hospital Administration
751 South Bascom Avenue
San Jose, CA 95128
Tel: 408-885-4010
Fax: 408-793-1817
scvmc.org

June 8, 2020

Cheryl Solov, Contract Management Audit Manager
Alice Hur, Contract Principal Analyst
Santa Clara County Board of Supervisors
Management Audit Division
70 W. Hedding Street,
San Jose, CA 95110

Subject: Capital Programs Division Audit – Section 8

Dear Cheryl and Alice,

Thank you for the opportunity to respond. It is important to note that SCVMC has always worked closely with FAF and the County Executive's Office in the allocation, funding, and prioritization of all SCVMC Capital Projects. The County Executive's Office and OBA, with input from FAF and SCVMC, provides all final recommendations to the Board of Supervisors on all Capital Programs. The Deputy Director, FAF Hospital Capital Projects, reports directly to the Director of FAF and is responsible for all SCVMC Capital projects.

It is also important to acknowledge that SCVMC is a Department of the County of Santa Clara, like any other department. While its revenues and expenditures are tracked in an enterprise fund, this is only from an accounting standpoint. SCVMC is not a separate legal entity. It cannot contract separate from the County, it cannot hold its own debt, and it cannot hire staff separate from the County. For this reason, all funding and appropriations are under the oversight and direction of the County Executive's Office and are approved by the Board of Supervisors. SCVMC is part and parcel of the County of Santa Clara and functions to provide health care as the public health care safety-net for all county residents, as per the Welfare and Institutions Code.

Further clarification regarding roles and responsibilities in the management and oversight of SCVMC Capital Projects, as per the recommendations, are welcome.

The Board of Supervisors should:
8.1 Adopt a policy that all General Fund-financed capital projects shall be solely managed by the Capital Programs Division of the Facilities and Fleet Department, including projects that are a part of the hospital system. (Priority 1)

Agree. SCVMC will continue to work closely with FAF and the County Executive's Office to ensure project scope, prioritization, deliverables, and timeline.

8.2 Adopt a policy disallowing transfers of Santa Clara Valley Medical Center's debts, construction-in-progress, or any other projects initiated by hospital capital personnel to the General Fund, or transfers of taxpayer funds to the hospital, without prior Board approval. (Priority 1)

Agree. SCVMC is a Department of the County of Santa Clara and any associated debt is that of the County. SCVMC will work closely with the County Executive's Office/OBA to be in compliance with adopted Board Policies.

Santa Clara Valley Medical Center (VMC) should:

8.3 Establish a policy that defines the distinction between a minor capital repair funded through VMC's Capital Projects Fund and a major capital project. This policy should clearly outline what types of projects may and may not be funded out of VMC's Capital projects Fund, including planning processes for projects that will eventually be financed through the General Fund. (Priority 1)

Agree.

8.4 For any major capital projects slated to be financed through VMC's Capital Projects Fund, present the Board with a project charter showing the proposed management and reporting structure of the project and a financial analysis demonstrating that VMC has the funds and debt capacity to undertake such a project, as well as verifiable sources of revenue to maintain the capital asset following project completion. (Priority 1)

Agree. SCVMC is a Department of the County of Santa Clara and any associated debt is that of the County. SCVMC will work closely with the County Executive's Office/OBA to be in compliance with adopted Board Policies.

Sincerely,

Paul E. Lorenz, CEO
Santa Clara Valley Medical Center

C: Jeffrey V. Smith, County Executive
Miguel Marquez, Chief Operating Officer
Greg Iturria, County Budget Director
Jeff Draper, Director, Facilities and Fleet