

Performance Audit of the City's Capital Improvement Project Approval Process

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Finding 1

The City has frequently approved CIP projects prematurely, which likely contributed to significant project cost overruns and much longer project timelines.

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The Office of the City Auditor would like to thank staff from the following departments and agencies for their assistance during this audit:

- Engineering & Capital Projects Department
- Department of Finance
- Parks & Recreation Department
- Transportation Department
- Stormwater Department
- Library Department
- Fire-Rescue Department
- San Diego Police Department
- Environmental Services Department
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Performance Audit of the City's Capital Improvement Project Approval Process

Why OCA Did This Study

Infrastructure, such as police and fire stations, libraries, parks, transportation networks, and water and sewer lines, is essential to communities' well-being. The estimated total value of the City's infrastructure is \$12.5 billion, and approximately \$4.58 billion will be dedicated to the City's infrastructure projects over the next five years.

One of the biggest hurdles to timely completing projects within estimated costs is conducting sufficient planning and creating a realistic funding plan, particularly because the City has significantly more asset needs than available funding. Therefore, we conducted a performance audit to determine whether the City adequately considers Capital Improvement Program (CIP) project planning and funding during the prioritization, review, and approval processes to help ensure projects are completed as quickly and cost-effectively as possible.

Exhibit 1: CIP Projects Can Include New Fire Stations, New Libraries, New Bridges or Water Pipe Replacements, and Many Other Assets



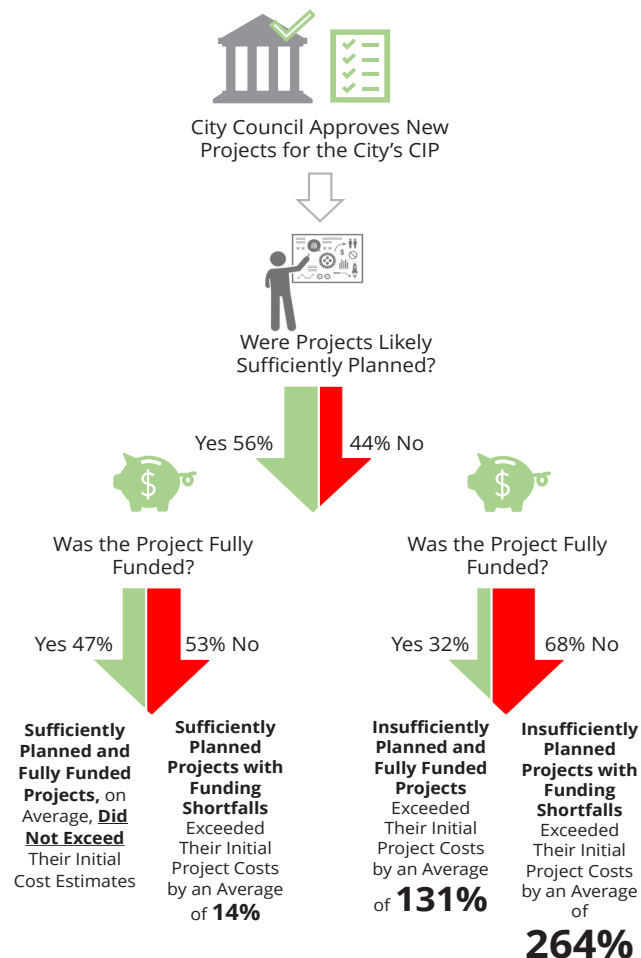
Source: Images obtained from E&CP.

What OCA Found

Finding 1: The City has frequently approved CIP projects prematurely, which likely contributed to significant project cost overruns and much longer project timelines.

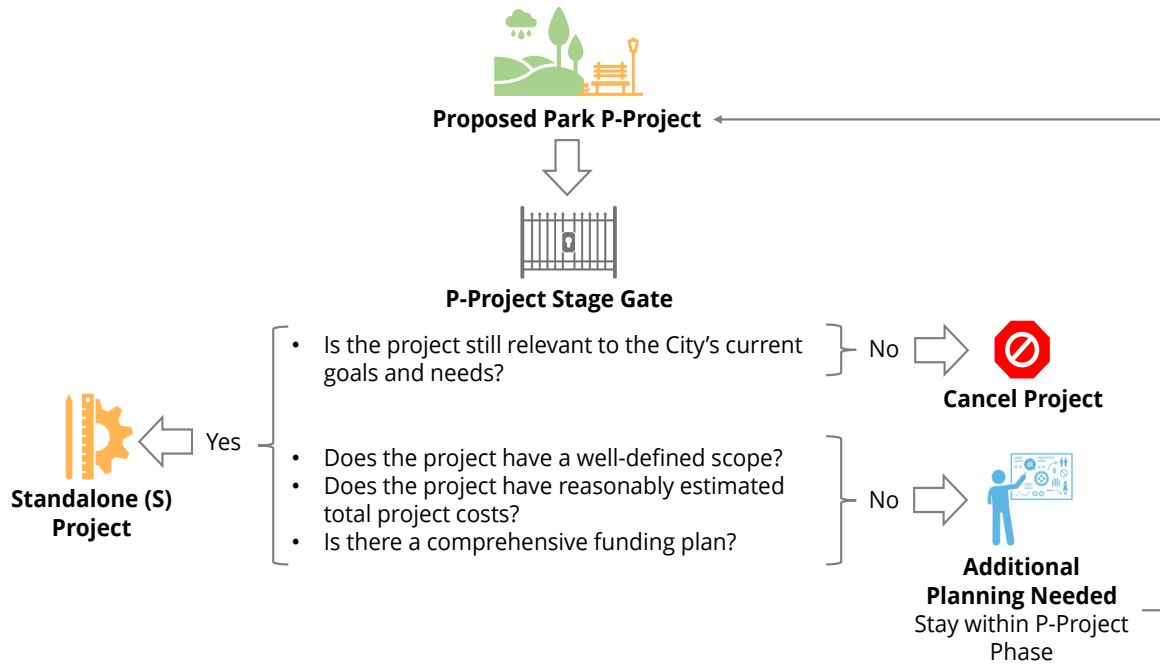
- A lack of proper vetting of new Standalone CIP projects (S-projects) has led to approval of CIP project proposals that likely did not have sufficiently defined scopes, reasonably accurate initial cost estimates, and realistic funding plans.
- **Almost half (44 percent) of the projects we reviewed likely had insufficiently planned proposals when first approved for the City's CIP.**
- Of the projects that were insufficiently planned, 68 percent experienced funding shortfalls at some point in their project lifecycle. These projects ended up **exceeding initial cost estimates by 264 percent** and **took 4 years longer to complete** than sufficiently planned, fully funded projects.
- The City's Capital Improvements Program Review and Advisory Committee (CIPRAC) recommended S-projects for the CIP even though not all key project information was included in the project proposal.

Exhibit 18: Completed S-Projects We Reviewed That Were Likely Insufficiently Planned and Experienced Funding Shortfalls Cost 264% More Than Initial Project Cost Estimates



Source: OCA generated based on analysis of project data in E&CP's project management system and Annual CIP Budgets.

Exhibit 21: The P-Project Phase Could Help Ensure Project Proposals Have Fully Developed Scopes, Reasonably Accurate Estimated Project Costs, and Realistic Funding Plans Prior to Moving Forward



Source: OCA generated based on E&CP documentation and interviews with E&CP management.

We found that project proposals can be insufficiently planned for the following reasons:

- According to the Engineering & Capital Projects Department (E&CP) and Asset Managing Departments, the City does not consistently provide enough time and resources to sufficiently plan projects prior to City Council approval.
- **The City does not require detailed scopes or realistic funding plans before approving all projects for the CIP;** additionally, Council Policy 000-02 has vague language that does not require realistic and defined project cost estimates when the Council approves partially funded new CIP projects.

Sufficiently planned project proposals with well-defined project scopes, reasonably accurate initial project cost estimates, and realistic funding plans would help the Mayor and the City Council allocate limited CIP funding more strategically and effectively. Adequate planning will also help E&CP to establish standardized project delivery timelines.

Notably, E&CP’s recently adopted informal Preliminary Engineering—or P-project—phase seeks to ensure project readiness prior to the creation of a new S-project as well as to promote the efficiency of project completion. **The P-project phase also helps set realistic stakeholder expectations for project feasibility, costs, and timelines.**

What OCA Recommends

We made three recommendations and E&CP and the Department of Finance (DoF) agreed to all three. Recommendations include:

- Create a Council Policy requirement for all new projects to start as P-projects unless E&CP and DoF can verify that the new project is “project-ready.” Specifically, the new policy should establish stage gates within the P-project phase that will only allow a project to progress if it has a well-defined scope, reasonably accurate total project cost estimates, and a realistic funding plan.
- E&CP should work to establish standardized project delivery timelines for projects that have completed the P-project phase and reassess these timelines on a regular basis.
- CIPRAC should review all S-projects approved prior to the rollout of the P-project initiative, to assess whether projects are still feasible and whether they still align with the City’s goals, needs, expectations, and funding plan/strategy.

For more information, contact Andy Hanau, City Auditor, at (619) 533-3165 or cityauditor@sandiego.gov.

Table of Contents

Background	1
Finding 1 The City has frequently approved CIP projects prematurely, which likely contributed to significant project cost overruns and much longer project timelines.	15
Recommendations	40
Appendix A Definition of Audit Recommendation Priorities	42
Appendix B Audit Objectives, Scope, and Methodology	43
Management Response	46



Background

The City of San Diego's infrastructure affects its residents in many ways.

Infrastructure directly contributes to communities' well-being, and infrastructure quality influences the livability of a city's neighborhoods. Infrastructure connects residents to opportunities for employment, healthcare, and education via an extensive transportation network and provides essential water and sanitation services. Ongoing investments into a city's infrastructure enhance the quality of life for its residents and visitors through various assets.

The City of San Diego (City) owns and manages a wide variety of infrastructure assets, including parks, libraries, fire stations, sidewalks, and roadways. Many City departments, such as Parks & Recreation, Library, Fire-Rescue, and Transportation, are responsible for operating and maintaining these assets. As infrastructure ages and community needs evolve, the City must prioritize efficiently rehabilitating existing assets and building new infrastructure to meet the needs of residents.

The estimated total value of the City's infrastructure is \$12.5 billion. Over the next five years, approximately \$4.58 billion will be dedicated to the City's infrastructure projects based on anticipated future revenues. Recognizing the vital importance of its infrastructure, over the last several years, the City has strived to improve its management of infrastructure projects to more efficiently deliver projects.

The City's Capital Improvements Program is responsible for constructing and replacing infrastructure.

The City's Capital Improvements Program (CIP) encompasses the design, construction, and rehabilitation of capital infrastructure assets, also known as CIP projects. As **Exhibit 1** shows, CIP projects provide long-term improvements, such as constructing new (or expanding existing) libraries, bridges, or fire stations, or replacing aging water pipes.

Exhibit 1

CIP Projects Can Include New Fire Stations, New Libraries, New Bridges or Water Pipe Replacements, and Many Other Assets



Source: Images obtained from the City of San Diego's Engineering & Capital Projects Department.

CIP projects differ from asset maintenance projects and repairs. CIP projects are generally funded through the City's CIP Budget, which cannot be used to support personnel costs or facility operating costs. Conversely, maintenance projects, which are supported by the City's operating budget, involve upkeep or repairs to existing infrastructure and are not part of the City's CIP or the CIP Budget. The differences between CIP projects and maintenance projects are outlined in **Exhibit 2**.

Exhibit 2

CIP Projects Involve Constructing New (or Expanding Existing) Assets, Whereas Maintenance Projects Provide Upkeep and Repairs to Existing Assets



Capital Project	Maintenance & Repair
-----------------	----------------------

Tangible, long-term improvements, and new infrastructure

For example:

- Constructing a new or expanding an existing library
- Replacing aging water pipes
- Installing a new roof

Funding:

- Funded by the CIP Budget
- Supported by the City’s General Fund as well as many financing sources outside of the City’s General Fund, including grants and debt financing
- Several funding sources are restricted and can only be used to support specific types of assets

Ongoing upkeep and repairs to existing infrastructure

For example:

- Patching a roof
- Painting a building
- Repairing sidewalks
- Repairing streetlights

Funding:

- Not part of the CIP Budget
- Generally funded by the City’s General Fund (i.e., operating budget) and other sources
- Many funding sources used for capital projects cannot be used for maintenance

Source: OCA generated based on the Independent Budget Analyst’s Citizen’s Guide to Infrastructure.

According to the City’s FY2023 Annual CIP Budget, CIP projects fall into six different categories based on project characteristics, as shown in **Exhibit 3**. We focused our review on Standalone projects (S-projects) and Preliminary Engineering projects (P-projects). As discussed later in this section, these S-projects and P-projects make up over half of the total number of published General Fund CIP projects and account for over half of the City’s General Fund CIP Budget.¹

¹ Throughout this report, we use “published projects” to refer to the universe of CIP projects, reported in detail, in the City’s Annual Budget rather than the total number of all active CIP projects. The City’s FY2023 Annual CIP Budget includes 261 published CIP projects and also states there are 1,288 active CIP projects—most of which are Sublet (B) projects within Annual Allocation (A) projects. According to the Department of Finance, A-projects (55 A-projects in FY2023) could include hundreds of B-projects, which account for the discrepancy between the number of published and active CIP projects. Furthermore, E&CP stated that the Annual CIP Budget does not list individual sublet projects since Annual Appropriation Ordinances, as well as adopted Council Policy 000-02, set the level of authority at the Annual Allocation project level. Therefore, the Annual CIP Budget report only includes published projects, which include Annual (A), Standalone (S), Preliminary Engineering (P), and others, but not Sublet (B) projects.

Exhibit 3

City of San Diego CIP Projects Fall into Six Categories, and This Audit Focuses on Standalone Projects (S-Projects) and Preliminary Engineering Projects (P-Projects)

<p>Annual Allocation (A)</p> <p>Ongoing replacements and improvements requiring funding on an annual basis (e.g., stormwater green infrastructure, traffic signals, street resurfacing projects, etc.). Individual projects funded by an annual allocation are typically smaller projects known as sublet (B) projects.</p>	<p>Large (L)</p> <p>Combination of multiple assets into a single project to achieve efficiencies (e.g., large pier replacement projects, improvements to fleet operations facilities and landfill facilities, etc.).</p>	<p>Standalone (S)</p> <p>Typically limited to a single asset and may be of any size and duration (e.g., construction of parks, libraries, fire stations, water pipelines, etc.).</p>
<p>Reimbursement to Developer (RD)</p> <p>Allocate funding to reimburse developers for projects privately constructed (e.g., public parks or street widening projects built and managed by private developers, etc.).</p>	<p>Information Technology (T)</p> <p>Information systems projects (e.g., implementation and rollout of software used by City staff, etc.).</p>	<p>Preliminary Engineering (P)*</p> <p>Still in the planning phase of developing scope, schedule, and project cost, and will either be converted to other project types or abandoned.</p>

* According to E&CP, the department initiated the Preliminary Engineering (P-project) category in FY2018 to address the issue of the City approving new CIP projects with unclear project scopes and cost estimates.

Source: The City of San Diego's Fiscal Year 2023 Adopted Budget.

The initiation and approval of CIP projects is a multifaceted process, which includes multiple stakeholders and levels of review.

The City's Asset Managing Departments (AMDs)—such as Transportation, Stormwater, Library, etc.—identify CIP projects each year that will enable them to meet established service levels, help preserve public safety, comply with legal requirements or mandates, and support the City's strategic goals. Beyond these considerations, AMDs also solicit input from the community (typically through Community Planning Groups), the Mayor's Office, and the City Council when identifying new CIP projects. AMDs are responsible for developing project proposals for new CIP projects, which should include the project scope, estimated total project costs, identified funding sources, estimated project duration, and other information.

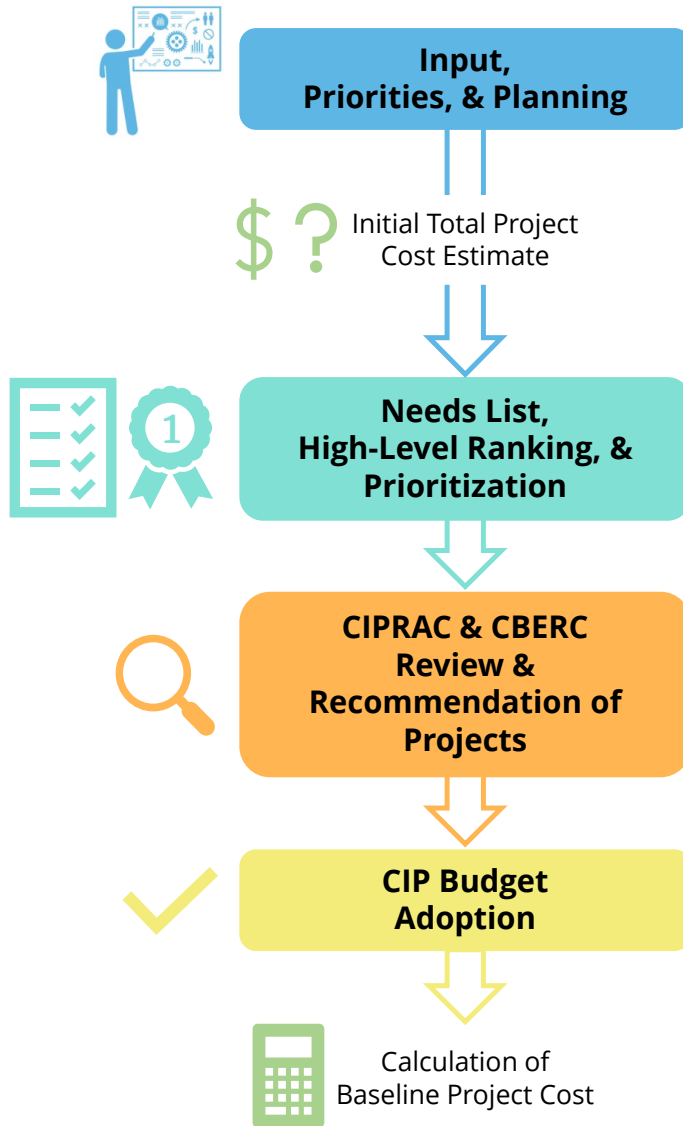
After AMDs have identified and developed new CIP project proposals, which include preliminary total project cost estimates, the City's Capital Improvements Program Review and Advisory Committee (CIPRAC), which is co-chaired by the Engineering & Capital Projects Department (E&CP) and the Department of Finance (DoF), reviews the AMDs' project proposals and makes project recommendations to the City's Capital Budget Executive Review Committee (CBERC).² CBERC then makes project recommendations to the Mayor and the City Council during the City's budget development process.³ Once CIP projects have been approved by the Mayor and the City Council, E&CP assumes responsibility for most CIP projects and finalizes scope development, baseline project cost estimates, and project schedule. **Exhibit 4** illustrates how projects are initiated and approved at the City.

² CIPRAC membership includes Directors and Deputy Directors of all AMDs, such as Transportation, Stormwater, Parks & Recreation, Fire-Rescue, Library, and others, as well as management-level representation from support/compliance departments such as Department of Finance, Planning, and Sustainability and Mobility.

³ The City revised these two advisory groups in FY2023; CBERC was previously known as the Capital Improvements Program Review and Advisory Committee (CIPRAC), while the current CIPRAC was previously known as the Project Control Committee (PCC).

Exhibit 4

City of San Diego’s Process for Initiating, Reviewing, and Approving CIP Projects



Source: OCA generated based on information provided by the Engineering & Capital Projects Department and the Independent Budget Analyst’s Citizens Guide to Infrastructure.

Council Policy 800-14 provides guidance for CIPRAC to follow when reviewing and recommending new projects for the City's CIP.

CIPRAC follows Council Policy 800-14 when reviewing and recommending projects to the Mayor and City Council.⁴ This policy intends to establish a prioritization scoring process for new CIP projects to help ensure that the City approves cost-effective projects that improve public health and safety, equity, and sustainability.

The City recently re-examined Council Policy 800-14 and updated the scoring weights for each prioritization factor per asset category with a focus on equal and equitable outcomes. However, in both the previous and updated versions of the policy, Funding Availability and Project Readiness have relatively low scoring weights of only 5 out of 100 points for most asset categories.

Since the City recently updated this policy, any discernable effects on the selection and approval of new CIP projects due to updates in the policy would likely not be apparent until at least fiscal year 2024 (the first fiscal year the updated policy will be used to prioritize projects). Therefore, we did not assess the effectiveness of Council Policy 800-14's recent changes as part of this audit's scope.

The Engineering & Capital Projects Department manages most of the City's capital projects.

The City centralizes most of its CIP project management in the Engineering & Capital Projects Department (E&CP). As shown in **Exhibit 5**, E&CP is responsible for managing roughly 80 percent of the City's CIP projects, which account for 82 percent of the City's CIP Budget.

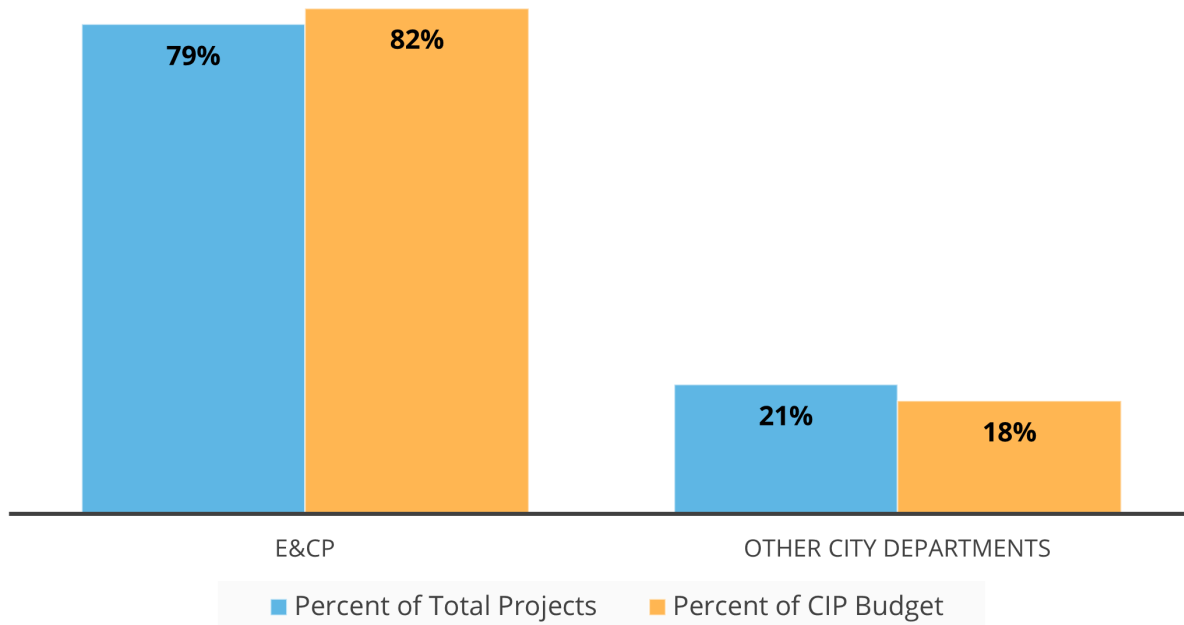
According to the City's FY2023 Annual CIP Budget, E&CP strives to provide quality engineering, program and construction management, and inspection services that enhance the safety and environment of the City. Additionally, the department supports a broad range of projects for various asset types, including libraries; fire, lifeguard, and police stations; parks and recreation centers; outdoor lighting, streetlights, and traffic signals; street and sidewalk improvements, bikeways, and other transportation projects; and various other City assets. In an effort to improve CIP delivery, E&CP's leadership has

⁴ City Council Policy 800-14: Prioritizing Capital Improvement Program Projects https://docs.sandiego.gov/councilpolicies/cpd_800-14.pdf.

embraced a change management approach by pursuing several streamlining measures. Specifically, E&CP is currently engaging with a consultant to assess current operations, updating Council Policy 000-31 Capital Improvement Program Transparency, and working to create a new Council Policy on customer service within the Capital Improvement Program.

Exhibit 5

E&CP Manages Approximately 80 Percent of the City’s CIP Projects, Which Account for 82 Percent of the City’s CIP Budget



Note: The total number of projects E&CP manages, and the total percent of the CIP budget those projects comprise, includes projects managed by the Strategic Capital Projects Department. According to the Strategic Capital Projects Department’s FY2024 proposed budget, the department was created in FY2023, and while the primary duties of E&CP will remain the same, the Strategic Capital Projects Department will focus on more specialized, large, and complicated projects, such as the Pure Water program, dams and reservoir projects, and others.

Source: OCA generated based on data provided by the Engineering & Capital Projects Department.

E&CP helps to review and recommend new CIP projects for City Council approval.

In addition to project management, E&CP's role in the City's CIP includes reviewing and recommending new CIP projects for City Council approval. As CIPRAC's co-chair, along with the Department of Finance, E&CP takes a leading role in vetting new CIP projects to help ensure the City is committing its limited CIP resources as effectively and efficiently as possible. During CIPRAC's monthly meetings, E&CP and CIPRAC members discuss, question, and vote to recommend new CIP projects for City Council approval.

According to CIPRAC's bylaws, its role is to review and recommend the initiation of all new CIP projects for funding in the CIP Budget in the current and subsequent fiscal years. CIPRAC reviews project submissions for all new CIP projects to ensure certain elements are included, such as identification of potential funding sources by AMDs, and to ensure projects are funded through the completion of at least one phase of the project (e.g., Planning phase or Design phase). For a project to be approved, it must receive a majority of affirmative votes from AMDs and affirmative votes by both E&CP and the Department of Finance.

Project funding is one of the biggest hurdles for the City's CIP.

One of the biggest hurdles to timely completing projects within estimated costs is finding sufficient funding.

According to E&CP, one of the biggest hurdles to timely completing projects within estimated costs is finding sufficient funding. Once projects are approved by the City Council, AMD staff work with other City entities, such as the Department of Finance, the Grants Division, and the Planning Department, to identify funding for projects. However, the City has significantly more asset needs than available funding.

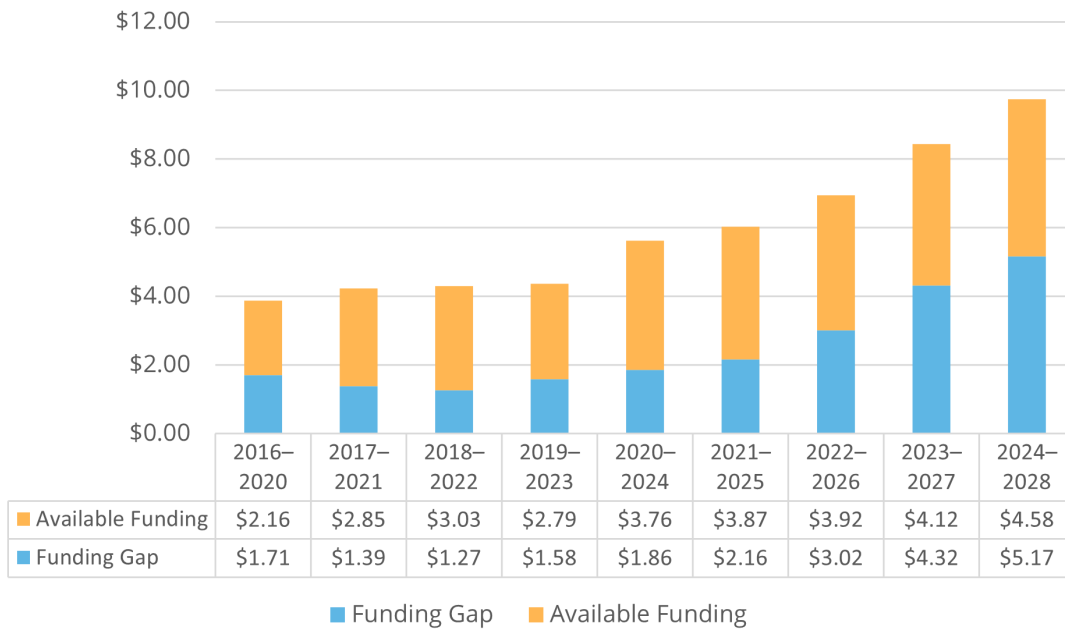
For example, over the next 5 years (FY2024–FY2028), there is an estimated \$5.17 billion CIP funding gap. The City's 5-Year CIP Outlook for FY2024–FY2028 lists an estimated \$9.75 billion in capital needs (this includes active projects as well as needs for future projects) over the next 5 years.⁵ For the same 5-year period, the overall projected

⁵ The City has published an annual 5-Year CIP Outlook since 2015 to support long-term capital planning. The 5-Year CIP Outlook aims to drive long-term infrastructure planning by presenting a broad overview of the City's capital infrastructure needs and funding over the next five fiscal years.

revenues for CIP are \$4.58 billion.^{6,7} According to the Independent Budget Analyst’s review of the 5-Year CIP Outlook, the significant gap is largely due to competing priorities for limited resources and a lack of new or dedicated funding sources for capital assets. As shown in **Exhibit 6**, the funding gap has steadily increased since the first CIP Outlook.

Exhibit 6

The Funding Gap for Capital Needs Has Drastically Increased Over Time



Source: OCA generated based on the Independent Budget Analyst Review of the FY2024–FY2028 5-Year Capital Infrastructure Planning Outlook.

The CIP funding gap has dramatically increased by 202% from \$1.71 billion to \$5.17 billion.

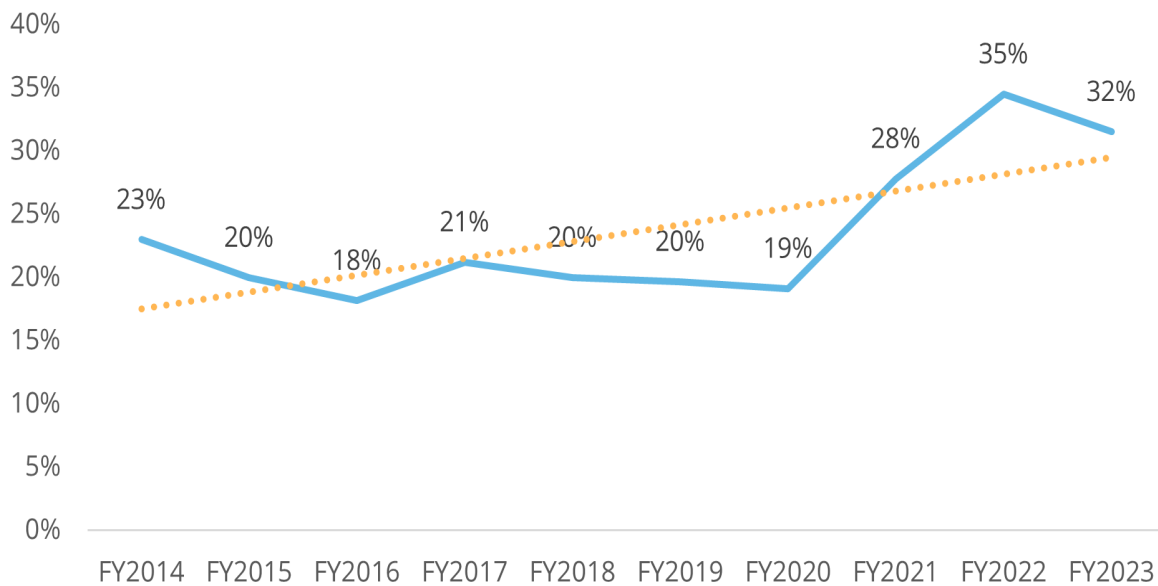
Compared to the first Outlook (FY2016–FY2020), total capital needs have escalated from \$3.87 billion to \$9.75 billion. Notably, CIP funding has increased over the same period by 112 percent from \$2.16 billion to \$4.58 billion. However, the funding gap has dramatically increased over the same period by 202 percent from \$1.71 billion to \$5.17 billion.⁸

6 Since enterprise funds account for services funded directly by fees/charges, General Fund assets make up the entirety of the \$5.17 billion funding gap.
 7 Revenue sources for the multitude of funds that support the City’s CIP include gas and electric franchise fees, development impact fees, gas tax, licenses and permits, fines, investment earnings, sewer and water rates, local sales tax, etc.
 8 Notably, since the first CIP Outlook in 2015, the Outlook has expanded to include more asset types and has evolved as AMDs have learned more about the state of the City’s assets.

In addition, many sources of CIP funding are restricted, meaning the funding can only be used for certain types of assets or in certain geographic locations. For example, the Mission Bay Park Improvement Fund or San Diego Regional Parks Improvement Fund can only be used for improvements within those identified parks. Such funding restrictions can make it more difficult for General Fund CIP projects, especially larger CIP projects (e.g., Standalone projects), to identify full funding for all project phases (e.g., Design, Construction, etc.).⁹ For instance, as shown in **Exhibit 7** below, the percent of Standalone projects (S-projects) that experienced funding shortfalls (i.e., have not been able to identify all funding for total project costs) has increased since FY2014.

Exhibit 7

The Percent of Standalone Projects That Experienced Funding Shortfalls Has Trended Up Over Time



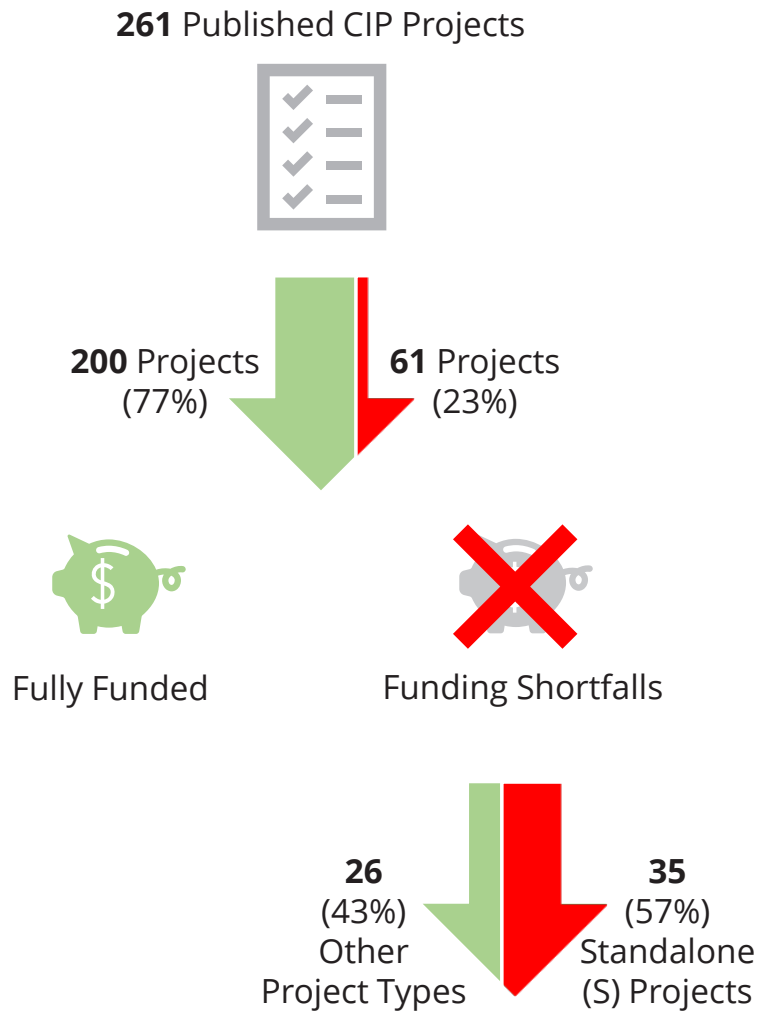
Source: OCA generated based on CIP Budget data provided by the Department of Finance.

⁹ Throughout this report, we distinguish between “fully funded” CIP projects which, according to the City’s Annual CIP Budget data, identified sufficient funding sources to cover total project costs, and projects that experienced “funding shortfalls” which, in at least one fiscal year, were not able to identify sufficient funding sources to cover total project costs.

Of the 261 published CIP projects in the FY2023 CIP Budget, 61 projects (23 percent) experience funding shortfalls. As shown in **Exhibit 8**, S-projects make up 57 percent of projects with funding shortfalls in FY2023.

Exhibit 8

Most FY2023 CIP Projects That Experience Funding Shortfalls are S-Projects



Source: OCA generated based on FY2023 Adopted Capital Improvement Program Budget.

The City's CIP Budget is supported by multiple funding sources.

The City's CIP Budget, which is separate from the City's operating budget, relies on a multitude of funding sources, many of which have specific restrictions on how funds can be spent. A CIP project's asset type largely determines whether a project uses sources from enterprise funds, the General Fund, the Infrastructure Fund, debt financing, or other restrictive funding sources (e.g., Mission Bay Park Improvement Funds, etc.). According to the Independent Budget Analyst's Citizen's Guide to Infrastructure, an enterprise-funded asset is self-supporting with a dedicated funding source generated from fees or rates charged to customers using the asset. For example, water and wastewater revenues can only be used to support water and wastewater assets. On the other hand, General Fund assets—such as libraries or parks—do not have a dedicated funding source and must compete for the City's limited General Fund resources.

The City's FY2023 CIP Budget includes funding for 261 published CIP projects.

Annually, the City Council approves and adopts the City's Annual CIP Budget, which summarizes the Capital Improvement Program at a high level, explains changes from the previous fiscal year CIP Budget, and provides project-to-date information for active CIP projects. The City's FY2023 Adopted CIP Budget is \$834.1 million and is funded by a variety of sources, including Water and Sewer Enterprise Funds, Transnet, Gas Tax, General Fund, Infrastructure Fund, and park improvement funds. According to the City's FY2023 Adopted CIP Budget, the City Council previously approved \$5.03 billion towards projects that are continuing from previous fiscal years. This brings the City's entire CIP budget to approximately \$5.9 billion in FY2023, of which approximately \$2 billion is for projects supported by the General Fund. Furthermore, the FY2023 Adopted CIP Budget includes 261 published CIP projects, of which 30 are new, 180 are continuing, 8 are underfunded, and 43 are in warranty.¹⁰

¹⁰ Projects with an "underfunded" status are on hold due to a lack of funding. Projects in "warranty" status are technically completed and the asset has been put into service, but the project has not yet been closed.

Our Audit Scope focused on General Fund Standalone projects.

General Funded CIP projects are at higher risk of encountering funding challenges than enterprise-funded CIP projects.

The scope of our audit focused only on General Fund Standalone projects (S-projects). Since General Fund CIP projects do not have dedicated funding sources and therefore must compete for limited General Fund resources, we determined such projects are at higher risk of encountering funding challenges than enterprise-funded CIP projects. For instance, as mentioned before, S-projects make up 57 percent of projects with funding shortfalls in FY2023. As shown in **Exhibit 9** below, S-projects account for half of the City’s General Fund CIP Budget (50 percent) as well as a majority of the total number of General Fund published CIP projects (61 percent).

Exhibit 9

Standalone Projects Make Up the Majority of the General Fund CIP Budget and the Total Number of General Fund CIP Projects

PROJECT TYPE	NUMBER OF GENERAL FUND PUBLISHED CIP PROJECTS IN FY2023	PERCENT OF TOTAL GENERAL FUND PUBLISHED CIP PROJECTS IN FY2023	TOTAL GENERAL FUND CIP BUDGET	PERCENT OF PROJECT TYPE TO TOTAL GENERAL FUND PUBLISHED CIP PROJECTS
Standalone	111	61%	\$1,013,544,456	50%
Annual Projects	27	15%	\$840,234,776	42%
Reimbursement to Developer	12	7%	\$77,174,185	4%
Large Projects	10	5%	\$74,319,475	4%
Preliminary Projects	21	12%	\$11,047,571	1%
Information Technology	1	1%	\$4,118,758	0%
Grand Total	182	100%	\$2,020,439,221	100%

Note: The total of \$2 billion includes previously approved CIP funding that has been carried forward from previous fiscal years.

Source: OCA generated based on CIP Budget data provided by the Department of Finance.

Finding 1

The City has frequently approved CIP projects prematurely, which likely contributed to significant project cost overruns and much longer project timelines.

Finding Summary

Lack of proper vetting of new S-projects led to approval of insufficiently planned project proposals.

We found that a lack of proper vetting of new Standalone Capital Improvements Program (CIP) projects (S-projects) has led to approval of CIP project proposals that likely did not have sufficiently defined scopes, reasonably accurate initial cost estimates, and realistic funding plans.

Specifically, projects that were insufficiently planned when first approved for the City's CIP cost, on average, 233 percent more than their initial estimates and took, on average, 4 years longer to complete than projects that appeared to have more sufficiently planned proposals.¹¹ In addition, insufficiently planned projects were more likely to experience funding shortfalls during their lifespan, which correlates to even more significant cost overruns, costing an average of 264 percent more than initially estimated.

Both public- and private-sector best practices highlight the importance of developing well-defined project scopes, accurate cost estimates, and realistic funding plans as key for project success.

We also found the City does not consistently provide enough time and resources to sufficiently plan projects prior to City Council approval, which can result in cost overruns and longer project timelines.

¹¹ According to E&CP, when baseline project costs come in significantly higher than the initial cost estimate, it is likely because the project was not sufficiently planned and scoped when the initial cost estimate was developed and the project was placed into the CIP. Therefore, we determined that baseline project costs that were more than 50 percent more than a project's initial cost estimates indicated that the project was likely "insufficiently planned" when it was first approved for the CIP. Conversely, we considered projects with baseline project costs 50 percent or less than initial project cost estimates to likely have been "sufficiently planned". Additionally, the terms "insufficiently planned" and "sufficiently planned" are meant to refer only to project planning for new projects that occurred prior to City Council approval for the City's CIP.

Insufficient planning of projects can result in cost overruns and longer project timelines.

It is important to have strong controls in place for vetting proposed projects so that the City can focus its limited resources on projects with a greater likelihood of being completed on budget and on schedule. A 2013 study of CIP projects managed by publicly traded companies found that insufficient planning of project costs and schedule estimates, as well as a failure to clearly define project scope and set reasonable expectations, frequently resulted in cost overruns and project delays.¹² As such, the study suggests that developing a well-defined scope could inform reasonably accurate project cost estimates at the beginning of a project. While the study focused on private sector construction projects, the issues identified in the study can also apply to government CIP projects. Furthermore, according to the Government Accountability Office, good budgeting requires that the full costs of a project be considered when making decisions to provide resources. This highlights the importance of developing a well-defined project scope with accurate cost estimates, which in turn can be used to develop realistic project funding plans.

Our analysis included 173 completed CIP projects that were on the City's CIP over an 8-year period.

We analyzed 173 completed General Fund S-projects that were on the City's CIP between July 1, 2014 and October 1, 2022, and found the following:¹³

- The Capital Improvements Program Review and Advisory Committee (CIPRAC) has recommended new projects for approval to the CIP based on incomplete project proposal information. Similarly, the Mayor and the City Council may have also added CIP projects based on insufficient information. Approving insufficiently planned project proposals can contribute to funding shortfalls, as well as cost overruns and longer project timelines.
 - Almost half (44 percent) of the projects we reviewed likely had insufficiently planned proposals when first approved for the City's CIP.¹⁴

¹² "Correcting the course of capital projects: Plan ahead to avoid time and cost overruns down the road," PricewaterhouseCoopers LLP, April 2013, <https://www.pwc.com/gx/en/capital-projects-infrastructure/pdf/pwc-correcting-the-course-of-capital-projects-v3-pdf.pdf>.

¹³ There were 177 completed, General Fund S-projects in our scope. We found that 3 of the 177 projects in our scope (2 percent) were missing from E&CP's project management system, Primavera. Of the 174 completed S-projects in our scope that were in Primavera, 1 project (0.6 percent) did not have baseline cost data in Primavera. According to E&CP, these projects were not entered into Primavera likely due to oversight, since the department did not have a good way of checking and ensuring all projects were entered into Primavera at the time the projects were added to the CIP (start year for projects were 1991, 2001, and 2008). We consider the missing projects and missing data in Primavera to be insignificant to our analysis and thus the data to be sufficient for the purposes of our report.

¹⁴ We did not review the project scopes included in project proposals.

The City does not have a policy requiring well-defined project scopes, reasonably accurate initial cost estimates, and realistic funding plans prior to project approval.

- Projects that were insufficiently planned cost significantly more than initial project cost estimates and took longer to complete than sufficiently planned projects of the same asset type.
- Of the projects that were insufficiently planned, 68 percent experienced funding shortfalls at some point in their project lifecycle. This likely indicates that once projects were more fully scoped, funding could not be identified to cover the resulting cost increases. These projects ended up costing significantly more to complete than their initial project cost estimates and took longer to complete than fully funded projects.
- In addition, if project costs increase once a project is more fully scoped, that project requires the City to divert funding from other CIP projects—likely resulting in delays and eventual cost overruns for those projects as well.
- According to the Engineering & Capital Projects Department (E&CP), the current process does not always provide Asset Managing Departments (AMDs) with enough resources to sufficiently plan project proposals before they are approved for the City’s CIP. Sufficient planning involves developing well-defined project scopes, reasonably accurate initial project cost estimates, and realistic funding plans prior to project approval. However, the City does not have a policy that requires AMDs to include these elements in their project proposals.
 - Sufficiently planned project proposals with well-defined project scopes, reasonably accurate initial project cost estimates, and realistic funding plans would help the Mayor and the City Council allocate limited CIP funding more strategically and effectively.
 - E&CP’s recently implemented Preliminary Engineering—or P-project—phase seeks to ensure project readiness prior to the creation of a new S-project. This new project phase has been successful in ensuring most new projects that are not reviewed by CIPRAC prior to approval begin as P-projects rather than prematurely beginning as S-projects. This allows decisionmakers, including the Mayor and City Council, to continue to place high-priority projects into the CIP, while avoiding pitfalls that many projects experience when they are placed into the CIP without being sufficiently planned.

We recommend the Preliminary Engineering phase be formalized through a Council Policy to ensure that all S-projects approved for the CIP are adequately vetted and to ensure that decisionmakers are prioritizing resources based on the most accurate and reliable project scopes, timelines, and cost estimates.

The following sections describe these issues in more detail.

Almost half of the completed S-projects we reviewed were likely insufficiently planned when they were approved by the City Council.

We found that 44% of the completed S-projects we reviewed had significantly underestimated initial project cost estimates when the City Council approved these projects for the City's CIP.

Many completed S-projects' initial project costs, when approved for the CIP, were significantly underestimated when compared to baseline project costs that, according to E&CP, were established once the projects were fully scoped. Specifically, we found that 44 percent of all 173 completed S-projects that were on the City's CIP between July 1, 2014 and October 1, 2022 significantly underestimated initial project cost estimates (as compared to their baseline project costs) when the City Council approved these projects for the City's CIP.¹⁵ This suggests that these project proposals were insufficiently planned and, according to E&CP, likely had partially developed scopes at the time of approval for the CIP.¹⁶ This can create unrealistic project cost and timeline expectations for the Mayor, the City Council, and the public. Conversely, according to E&CP, projects that had initial project cost estimates closer to their baseline project costs likely had more developed scopes and thus were more sufficiently planned when approved for the CIP.

While we did not review the project scopes included in project proposals, in this report, we label projects as "insufficiently planned" when baseline project costs were more than 50 percent higher than a project's initial cost estimates. We label projects as "sufficiently planned" when the baseline project costs were 50 percent or lower than initial project cost estimates.

¹⁵ The 173 completed S-projects we reviewed were approved for the City's CIP between FY1992 and FY2019. Approximately 90 percent of these projects were approved between FY1992 and FY2014. We also ran a separate analysis on more recently approved S-projects, most of which are active projects (81 percent), and determined most of these projects' initial cost projections were also significantly underestimated.

¹⁶ In consultation with E&CP, we determined that baseline project costs that were more than 50 percent more than a project's initial cost estimates indicated that the project was likely insufficiently planned when it was first approved for the CIP.

Before a CIP project is created, the initial project cost estimate in the Annual CIP Budget is an important touchstone because the City Council uses this estimate when deciding whether to approve a CIP project. It is also the first approved total cost estimate shared with the public, which is a major stakeholder for CIP projects.

In contrast, according to E&CP, the baseline project cost is the official total cost estimate calculated by E&CP during the planning stage of the project, after the project has been approved by the City Council for the CIP. Once E&CP receives a new CIP project, project managers put together a baseline project cost, which is used as a reference for future project expenses (e.g., design costs, construction costs, etc.) and is compared to final projects costs (i.e., actual project costs) to determine whether a project was completed on budget.

The estimated costs of many CIP projects significantly increased after approval, indicating the projects were likely not sufficiently planned when originally approved.

We found that, for projects in our scope, initial project cost estimates were often significantly lower than corresponding baseline project costs. As **Exhibit 10** shows, projects that were insufficiently planned had baseline project costs, on average, 202 percent more than initial project cost estimates, whereas sufficiently planned projects had baseline project costs, on average, only 3 percent more than initial project cost estimates.

Exhibit 10

Baseline Project Costs of Completed S-Projects Within Our Scope were Significantly Higher for Projects that were Likely Insufficiently Planned

Project Proposal	Number of Completed S-Projects	Percent of Total Completed S-Projects	Average Percent of Baseline Project Cost Over Initial Project Costs
Sufficiently Planned	97	56%	3%
Insufficiently Planned	76	44%	202%

Source: OCA generated based on analysis of project data in E&CP’s project management system and Annual CIP Budgets.

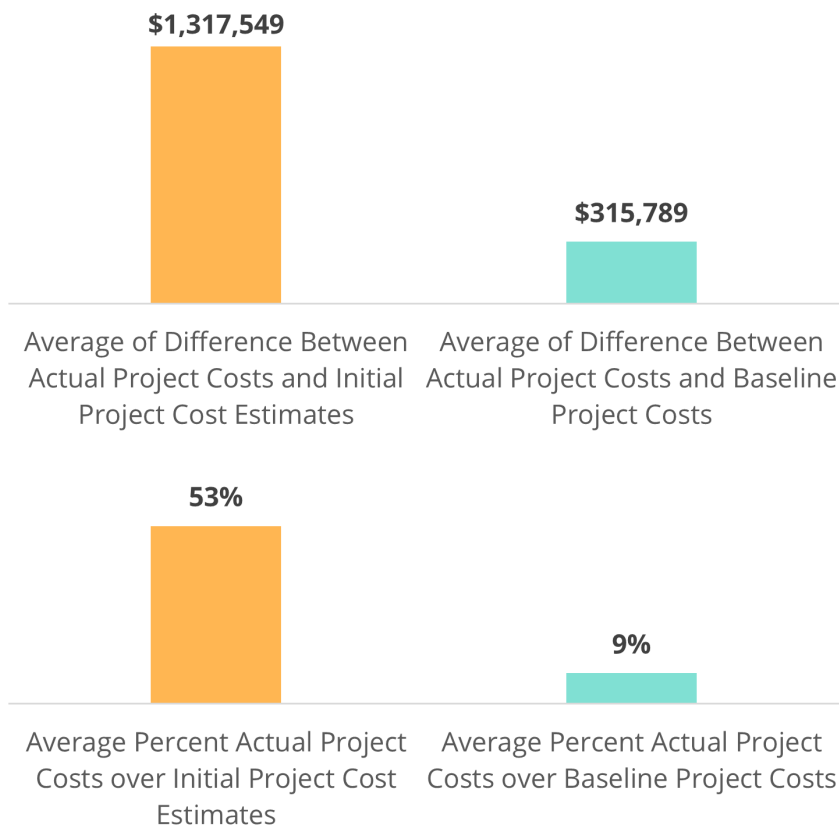
E&CP develops baseline project costs that are relatively accurate for projects that are likely sufficiently planned.

Once project scopes are well-defined, E&CP effectively determines reasonably accurate cost estimates.

We found that baseline project costs were generally much closer to actual project costs compared to initial project cost estimates. As **Exhibit 11** shows, the average difference between actual project costs and baseline project costs for completed S-projects during our scope period was approximately \$316,000, or 9 percent, whereas the average between actual projects costs and initial project cost estimates for these projects was roughly \$1.3 million, or 53 percent. This is likely due to E&CP establishing baseline project costs after project managers have spent additional time and resources to further develop project scopes, and indicates that detailed project scopes enable relatively accurate cost estimates as well as help prepare for more realistic funding plans.

Exhibit 11

The Average Difference Between Actual Project Costs and Baseline Project Costs Was Significantly Lower Than the Difference Between Actual Project Costs and Initial Project Cost Estimates, for Projects in Our Scope



Source: OCA generated based on analysis of project data in E&CP's project management system and Annual CIP Budgets.

In general, having a project that was likely insufficiently planned correlated with notable cost overruns and longer project construction timeframes for completed S-projects of the same asset type.

Of all 173 completed S-projects in our scope, approximately 44 percent were insufficiently planned, which was correlated with notable project cost overruns. As **Exhibit 12** shows, we found that the actual costs of insufficiently planned projects were, on average, approximately \$2.5 million, or 233 percent, more than their initial project cost estimates. In contrast, sufficiently planned projects cost, on average, approximately \$418,000, or 12 percent, more than their initial project cost estimates.

Exhibit 12

Projects That Were Likely Insufficiently Planned Ultimately Cost Significantly More Than Their Initial Project Cost Estimates

Project Proposal	Number of Completed S-Projects	Percent of Total Completed S-Projects	Average Percent of Actual Project Costs Over Initial Project Cost Estimates	Average of Actual Costs Over Initial Project Cost Estimates
Sufficiently Planned	97	56%	12%	\$418,362
Insufficiently Planned	76	44%	233%	\$2,465,196

Source: OCA generated based on analysis of project data in E&CP's project management system and Annual CIP Budgets.

Additionally, as **Exhibit 13** shows, when separated by asset type, actual costs for completed S-projects that were insufficiently planned ranged from approximately \$900,000 to \$8.3 million, on average, over initial cost estimates compared to sufficiently planned projects for most asset types.¹⁷

¹⁷ We analyzed asset types with at least three completed CIP projects that were on the City's CIP during our scope period.

Exhibit 13

Most Insufficiently Planned Projects of the Same Asset Type Went Over Initial Project Cost Estimates, On Average, \$900,000 to \$8.3 Million More Than Sufficiently Planned Projects During the Scope Period

Asset Type	Average Difference Between Actual Project Costs and Initial Project Cost Estimates for Sufficiently Planned Projects	Average Difference Between Actual Project Costs and Initial Project Cost Estimates for Insufficiently Planned Projects	Average Difference Between Actual Project Costs and Initial Project Cost Estimates Between Insufficiently Planned and Sufficiently Planned Projects
Bldg - Pub Safety - Fire Fac / Struct	-\$3,043,299	\$5,291,561	\$8,334,861
Parks - Community	-\$675,036	\$5,047,512	\$5,722,549
Trans - Roadway	-\$396,871	\$4,378,714	\$4,775,586
Trans - Bicycle Facilities (All Class.)	-\$285,441	\$2,109,597	\$2,395,037
Parks - Neighborhood	\$63,738	\$2,362,088	\$2,298,350
Parks - Miscellaneous Parks	\$9,335	\$2,038,141	\$2,028,806
Trans - Roadway - Enhance/Scape/Medians	\$51,549	\$1,079,750	\$1,028,201
Trans - Ped Fac - Sidewalks	\$268,534	\$1,164,204	\$895,669
Drainage - Storm Drain Pipes	\$1,104,290	\$695,769	-\$408,520

Note: We acknowledge the Drainage – Storm Pipe Drains asset type’s results indicate lower actual costs than initial project cost estimates for insufficiently planned projects than sufficiently planned projects. However, our methodology was not intended to explain all variables that could impact actual project costs, such as a change in scope during a later phase of the project. Instead, the table is intended to highlight the broad trend across asset types.

Source: OCA generated based on analysis of project data in E&CP’s project management system and Annual CIP Budgets.

In addition to cost overruns, insufficient planning also leads to longer project timelines.

As the above results show, insufficiently planned S-projects frequently required more funding to complete than initially reported to the City Council and the public—in an environment of already limited CIP resources. This then leads to unrealistic project timelines as well. Specifically, when S-projects require substantially more funding than their initial project cost estimates, they may not be able to progress any further until such funding is identified and appropriated, or available funding will have to be transferred and appropriated from other active projects, potentially delaying those projects as well.

As **Exhibit 14** shows, along with cost overruns, completed S-projects of the same asset type that were insufficiently planned took, on average, 4 years longer to complete construction than projects that were sufficiently planned.

Exhibit 14

Likely Insufficiently Planned Projects Took, On Average, 4 Years Longer to Complete Construction Than Sufficiently Planned Projects of the Same Asset Type

Project Proposal	Number of Completed S-Projects	Percent of Total Completed S-Projects	Average Number of Years from Project Initiation to End of Construction
Sufficiently Planned	97	56%	5
Insufficiently Planned	76	44%	9

Source: OCA generated based on analysis of project data in E&CP’s project management system and Annual CIP Budgets.

As shown in **Exhibit 15**, when separated by asset type, we found that completed S-projects that were insufficiently planned, on average, took up to 10 years longer—from the first year a project was approved for the CIP to the year it completed construction—than sufficiently planned projects for most asset types.¹⁸

¹⁸ We analyzed asset types with at least three completed CIP projects that were on the City’s CIP during our scope period.

Exhibit 15

For Most Asset Types, Likely Insufficiently Planned Projects of the Same Asset Type Took Up to 10 Years Longer to Complete Than Sufficiently Planned Projects

Asset Type	Average of Years from CIP Approval to Construction End for Sufficiently Planned Projects	Average of Years from CIP Approval to Construction End for Insufficiently Planned Projects	Difference of Years from CIP Approval to Construction End Between Insufficiently Planned and Sufficiently Planned Projects
Bldg - Pub Safety - Fire Fac / Struct	5.8	15.6	9.9
Trans - Roadway - Enhance/Scape/Medians	4.4	9.7	5.3
Trans - Bicycle Facilities (All Class.)	4.6	8.6	4.0
Parks - Neighborhood	4.6	8.3	3.7
Trans - Roadway	9.8	13.1	3.4
Drainage - Storm Drain Pipes	3.0	5.5	2.5
Trans - Ped Fac - Sidewalks	5.6	6.8	1.2
Parks - Miscellaneous Parks	5.6	4.5	-1.1

Note: We acknowledge the Parks – Miscellaneous Parks asset type’s results indicate quicker completion for insufficiently planned projects than sufficiently planned projects. However, our methodology was not intended to explain all variables that could impact project completion timelines, such as a change in scope during a later phase of the project. Instead, the table is intended to highlight the broad trend across asset types.

Note: We calculated the number of fiscal years between the first fiscal year a CIP project was added to the CIP and the fiscal year in which construction was completed, according to the City’s Annual CIP Budget report.

Source: OCA generated based on analysis of project data in E&CP’s project management system and Annual CIP Budgets.

For example, we compared two S-projects within the same asset type, one that was insufficiently planned when first approved for the CIP and one that was sufficiently planned, to demonstrate how this issue can affect a project’s actual costs and timeline. As displayed in **Exhibit 16**, the Tierrasanta Community Park Sports Field Lighting project initially was estimated to cost \$300,000, but ended up costing approximately \$1.1 million to complete, a difference of more than \$750,000, or 253 percent more than the initial project cost estimate. In contrast, the Rancho Bernardo Community Park Sports Field Lighting project was initially estimated to cost \$700,000 and ultimately cost approximately \$710,000 to complete; only a roughly \$10,000, or 1 percent, difference. Furthermore, also displayed in **Exhibit 16**, the Tierrasanta Community Park Sports Field Lighting project, which was likely insufficiently planned, was completed 6 years after it was approved for the CIP. Conversely, the Rancho Bernardo Community Park Sports Field Lighting project, which was likely sufficiently planned, was completed only 3 years after it was approved for the CIP.

Exhibit 16

The Tierrasanta Community Park Sports Field Lighting Project, Which Was Likely Insufficiently Planned, Cost Significantly More Than the Initial Project Cost Estimate and Took Longer to Complete Than Another Likely Sufficiently Planned Project of the Same Asset Type



Source: OCA generated based on analysis of project data in E&CP's project management system and Annual CIP Budgets.

Many completed S-projects in our scope that were likely insufficiently planned experienced funding shortfalls, impacting existing funding plans.

We found that insufficiently planned completed S-projects were prone to experience funding shortfalls at some point during the life of the project.¹⁹ As shown in **Exhibit 17**, we found that almost 70 percent of projects that were insufficiently planned also experienced funding shortfalls at some point during their project lifespan. This is likely because the costs of these projects increased from the initial estimates—and thus required additional, unplanned funding at the time of their approval. Therefore, funding plans for these projects likely had to be reassessed to encompass additional funding.

Exhibit 17

Most Completed S-Projects in Our Scope That Were Likely Insufficiently Planned Experienced Funding Shortfalls

Project Funding Status	Percent of Insufficiently Planned Projects	Number of Insufficiently Planned Projects
Fully Funded	32%	24
Funding Shortfalls	68%	52

Source: OCA generated based on analysis of project data in E&CP's project management system and Annual CIP Budgets.

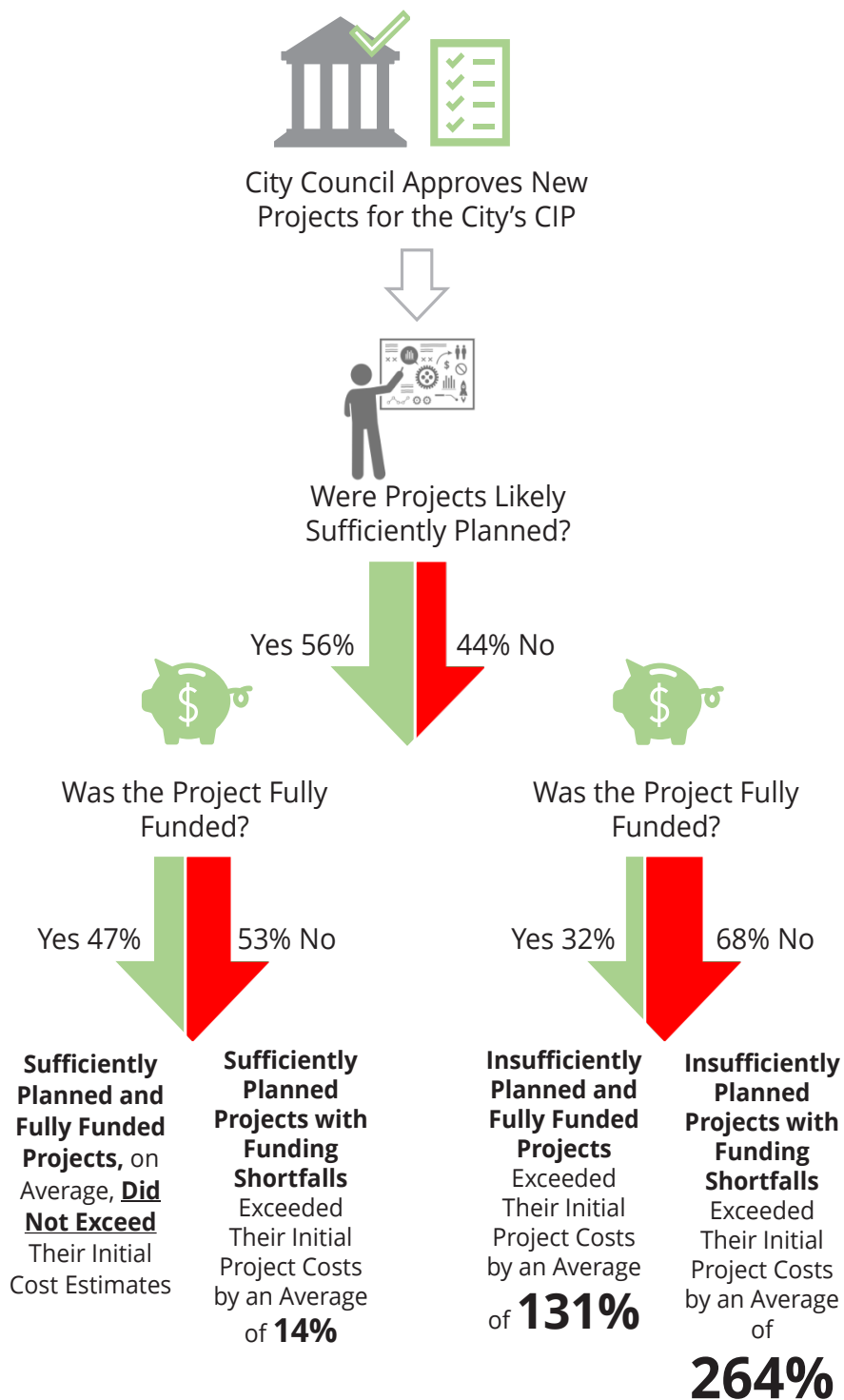
Insufficiently planned projects with funding shortfalls cost almost 264% more than their initial project cost estimates.

Additionally, as shown in **Exhibit 18**, projects that were insufficiently planned and had experienced funding shortfalls at some point in their project lifespan ultimately cost almost three times (264 percent) more than their initial project cost estimates. Conversely, sufficiently planned, fully funded projects cost, on average, roughly the same as their initial project cost estimates.

¹⁹ This report uses the terminology of experiencing “funding shortfalls” if a project has unidentified funding. A project is labeled as having unidentified funding when the City cannot identify all sources of funding needed to complete the project; this can occur at almost any stage of the project. A project may be labeled as having unidentified funding multiple times during its project life.

Exhibit 18

Completed S-Projects We Reviewed That Were Likely Insufficiently Planned and Experienced Funding Shortfalls Cost 264 Percent More Than Initial Project Cost Estimates



Source: OCA generated based on analysis of project data in E&CP's project management system and Annual CIP Budgets.

Projects that were insufficiently planned took 4 years longer, on average, to complete construction than sufficiently planned projects.

Also, whereas projects that were insufficiently planned took 4 years longer, on average, to complete construction than sufficiently planned projects, we found that this difference in construction completion timeframes increased to 6 years for projects that were insufficiently planned and had funding shortfalls.

Numerous factors can cause a CIP project to go over initial project cost estimates or experience delays in construction completion, such as staff capacity limits or unexpected site conditions. However, the results above suggest that insufficient planning increases the risk that a project's actual costs will be significantly more than initially estimated, and that the project will experience longer timeframes. As the City has limited funding for CIP projects, projects compete for the available funding. Therefore, these large increases in project costs translate to less available funding for other projects, potentially causing delays for those projects as well. For example, as shown in **Exhibit 18**, 53 percent of sufficiently planned projects also experienced funding shortfalls. This could have resulted from several factors, including the possibility that funding may have been diverted to address other insufficiently planned projects' increased funding needs.

Realistic funding plans are an essential element of project planning.

According to the Government Finance Officers Association, a realistic funding plan considers funding amounts from all available funding sources, considers debt financing options, ensures the reliability of identified funding sources, and evaluates the affordability of the funding plan. Also, the U.S. Office of Management and Budget states that, when capital projects are funded in increments, without certainty if/when funding will be available, the result can be poor planning, higher acquisition costs, cancellation of major investments, loss of sunk costs, or inadequate funding to maintain and operate the assets. This underscores the importance of having a reasonably accurate total project cost estimate, a realistic funding plan, and a well-defined scope when a project is approved for the City's CIP.

It is important to note that insufficient planning, including lack of a well-defined scope and a realistic funding plan, is not the only factor that can contribute to project cost overruns and/or longer project timelines. Staffing capacity limits, unexpected rises in inflation, unexpected site conditions, and revised construction regulations can also contribute to cost overruns and longer timelines.

The City does not always provide Asset Managing Departments with enough time and resources to sufficiently plan projects and does not require detailed scopes and realistic funding plans prior to CIP approval.

AMDs do not always have enough resources to sufficiently plan projects.

It is important to note that we found no indication that project costs were intentionally underestimated to increase the likelihood projects would be added to the City's CIP. Rather, according to E&CP as well as Asset Managing Departments (AMDs), AMDs do not always have enough resources to sufficiently plan projects before they are approved for the City's CIP. The City also does not have a policy that requires AMDs to include a well-defined scope, reasonably accurate total project cost estimates, or a realistic funding plan in their project proposals. However, once projects are approved, AMDs receive CIP funding and resources for determining project scopes and determining baseline project costs.

As mentioned in the Background, over the next 5 years, there is an estimated \$5.17 billion CIP funding gap; thus, there is clearly not enough available funding to support all active projects. Therefore, each year, there are active projects with unmet funding needs and no clear funding plans. Sufficient project planning with reasonably accurate initial project cost estimates would help the Mayor and the City Council make critical funding decisions, which is especially vital when CIP funding is so limited.

According to the U.S. Government Accountability Office, good budgeting requires that the full costs of a project be considered when making decisions to provide resources. However, we found that the Mayor and the City Council make decisions on the appropriation of CIP funding for S-projects based on project costs that are often underestimated and insufficiently planned.

We found that project proposals are likely insufficiently planned for the following reasons:

- According to E&CP and AMDs, departments often do not have the resources in their operating budgets to develop a well-defined scope that informs reasonably accurate project cost estimates at the beginning of a project before it is submitted for approval in the annual CIP, which in turn negatively impacts the project's funding plan. Thus, some projects require CIP funding to further develop project scope, cost estimates, and funding plans after the project has already been approved.
- The City does not require detailed scopes or realistic funding plans before approving all projects for the CIP.

- Council Policy 000-02 contains vague language that does not require realistic and defined project estimates for the partial funding of new CIP projects. Council Policy 000-02 states, “CIP projects shall only be established with partial funding if there is a reasonable expectation that the remaining funding will be identified to complete the project within a reasonable timeframe for the type of project.”

E&CP’s recent Preliminary Engineering, or P-project, phase seeks to ensure project readiness prior to the creation of a new S-project.

The P-project phase intends to provide AMDs with additional time and resources for project planning.

According to E&CP, the department, in collaboration with the Department of Finance, initiated the Preliminary Engineering project category (P-project) in 2018 for projects still in the initial phase of developing a scope, schedule, and cost estimate. The P-project phase intends to provide AMDs a designated phase with time and CIP funding to create a well-developed scope, establish reasonably accurate project cost estimates, and develop a realistic funding plan for a project. According to E&CP, once this is achieved, E&CP can use the authority under the Appropriation Ordinance—or request approval from the City Council—to convert the P-project to an S-project or other type of project.

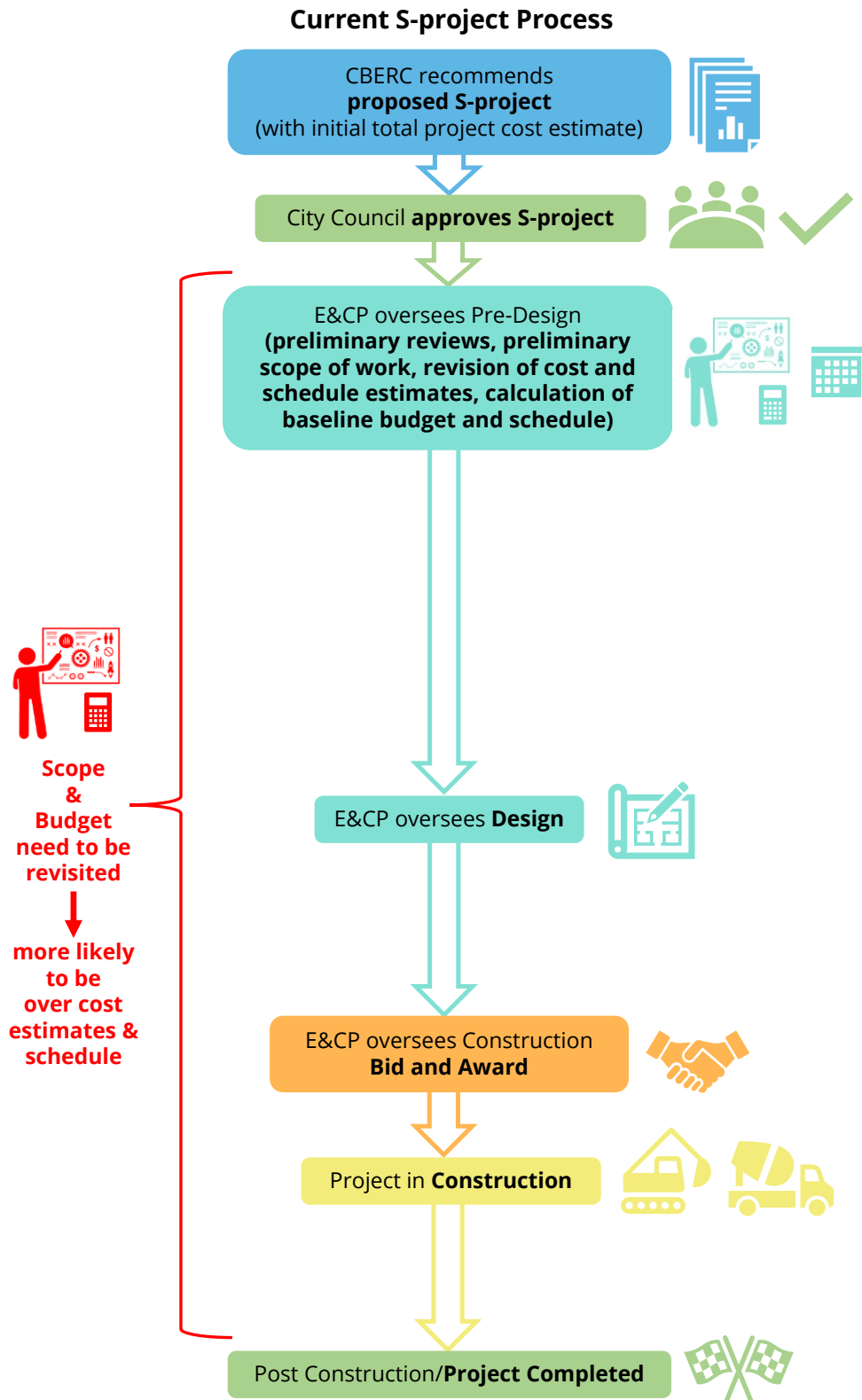
The P-project phase still allows the Mayor and the City Council to add high-priority projects into the CIP. However, the P-project distinction aims to clarify to stakeholders, including City Councilmembers and the public, that a P-project is still in the feasibility stage, in which certain project elements, including scope, are subject to change. This would allow the City to commit to the completion of a specific project scope when P-projects are converted to S-projects. Thus, the P-project phase can also help set more realistic expectations for stakeholders and contribute to improved transparency.

Since 2018, E&CP has taken the P-project approach for 40 projects, and 7 P-projects have successfully converted into S-projects. Of the remaining 33 P-projects, 1 was converted to an L-project, 22 are still active P-projects, and 10 were cancelled, which indicates that P-projects may be useful to avoid committing more substantial funding to project concepts that are less likely to succeed.

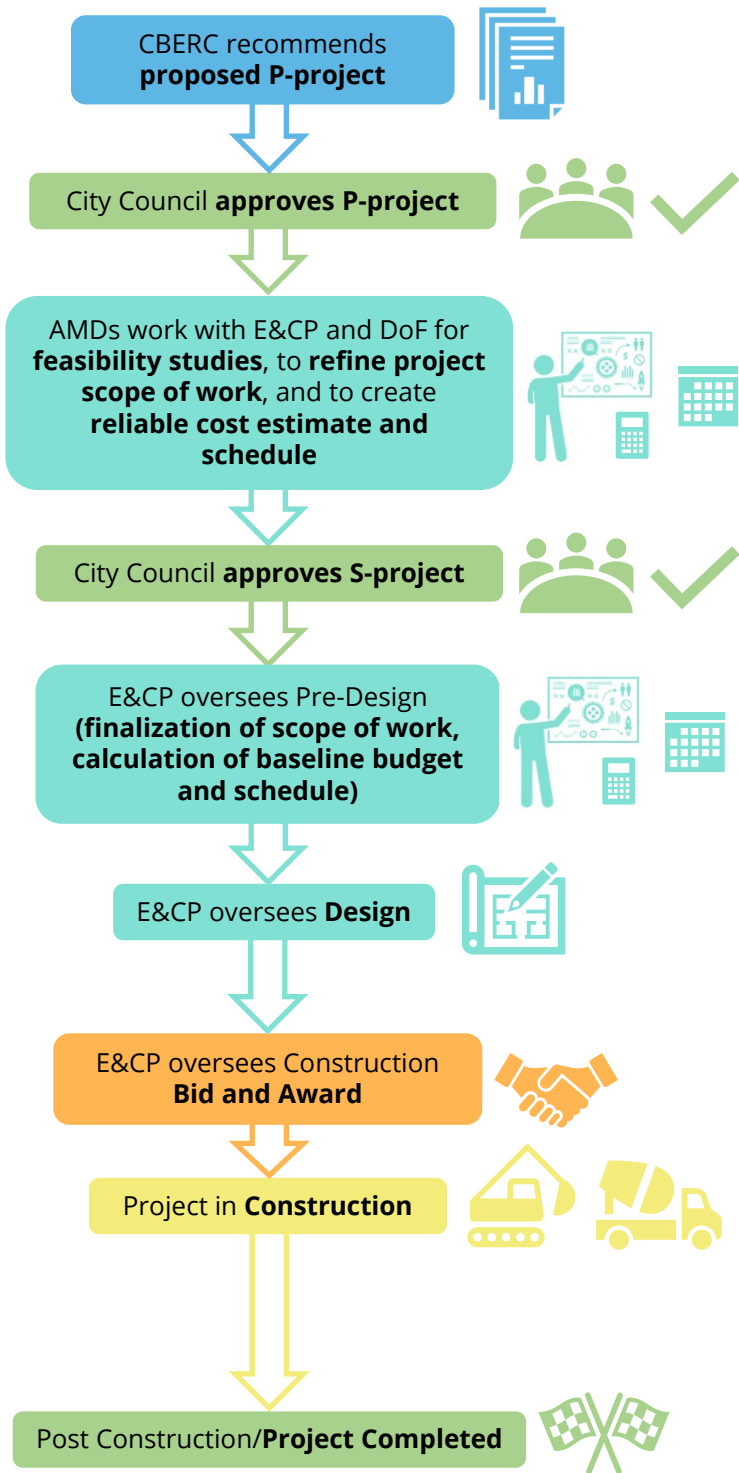
As shown in **Exhibit 19**, with a formalized P-project phase, City decisionmakers can prioritize allocating resources to S-projects only when projects have well-defined scopes, reasonably accurate project costs, and realistic funding plans, thereby likely making subsequent project phases (e.g., Design, Construction, etc.) more efficient.

Exhibit 19

Formalizing the P-Project Phase Can Provide City Decisionmakers More Complete Project Information Before They Approve S-Projects



Proposed P-project Process



Source: OCA-generated based on E&CP documentation and interviews with E&CP management.

According to the Project Management Institute and the International Project Management Association, for project review and selection, there should be a realistic and defined scope, schedule, and budget—along with general project constraints, such as the need for land acquisition or potential historic reviews.²⁰ The U.S. Office of Management and Budget also supports the need for more refined cost estimates, as it states estimates should attempt to include all project costs, should mention assumptions (e.g., available data is insufficient, program is not yet fully scoped, etc.), and should be based on comparisons with an existing similar system/project.

We therefore recommend the City formalize E&CP's P-project phase by either revising Council Policy 000-02 or creating a new council policy as part of the standard process for proposed CIP projects. The P-project phase should be used for proposed projects that CIPRAC determines do not have fully developed scopes, project cost estimates, or realistic funding plans. The City should also clearly define the criteria for how a P-project converts to an S-project or other type of CIP project. The P-project phase would provide AMDs with time and funding from the CIP Budget so they can work with E&CP to establish well-defined scopes as well as reasonably accurate project cost estimates and realistic funding plans.

Once a project has gone through the P-project phase and completed all required elements, CIPRAC could recommend to E&CP that the project be converted to an S-project (or other type of project). AMDs could request additional funding from City Council to move the project into the Design phase and beyond. As the Government Finance Officers Association states, financing plans should be a part of each CIP project that the City decides to undertake.

²⁰ An example of a current S-project that has been delayed for many years due to land acquisition complications is the San Carlos Library project (S00800). This project was approved in FY1998 and, according to E&CP, has not been able to advance to the Construction phase because the land for the new library has not yet been acquired.

Formalizing the P-Project phase provides E&CP the opportunity to establish standardized delivery timelines.

Standardized timelines can provide clearer expectations to CIP project stakeholders.

In addition, and as reflected in **Exhibit 15** on page 24, the time to complete a project within the same asset type can vary greatly when projects have been insufficiently planned. However, according to E&CP, because sufficient planning will be conducted during the P-project phase—which should help ensure projects are more successful after converting to S-projects—S-project delivery timelines for each asset type should become more standardized, which can provide stakeholders with a clearer and more reliable expectation of when projects will be completed. Therefore, we recommend that E&CP work to establish standardized project delivery timelines for projects that have completed the P-project phase and reassess these timelines on a regular basis.

CIPRAC has made project recommendations without key project information.

CIPRAC has recommended proposed S-projects even though some key project information was missing.

While sufficient planning is key to project success, we found that CIPRAC has recommended proposed S-projects even though not all key project information was included in the project proposal. As explained in the Background, CIPRAC reviews AMDs' project proposals and makes project recommendations to the City's Capital Budget Executive Review Committee (CBERC), which then makes project recommendations to the Mayor and City Council. In our review of 45 recent CIPRAC project submission forms for proposed S-projects from FY2014 through FY2023, we found that forms were frequently missing key project elements, such as the total project cost estimate, all planned funding sources, the project's priority score, and the planned project completion year.²¹ However, despite missing key information, all 45 projects were recommended to the City Council for approval.

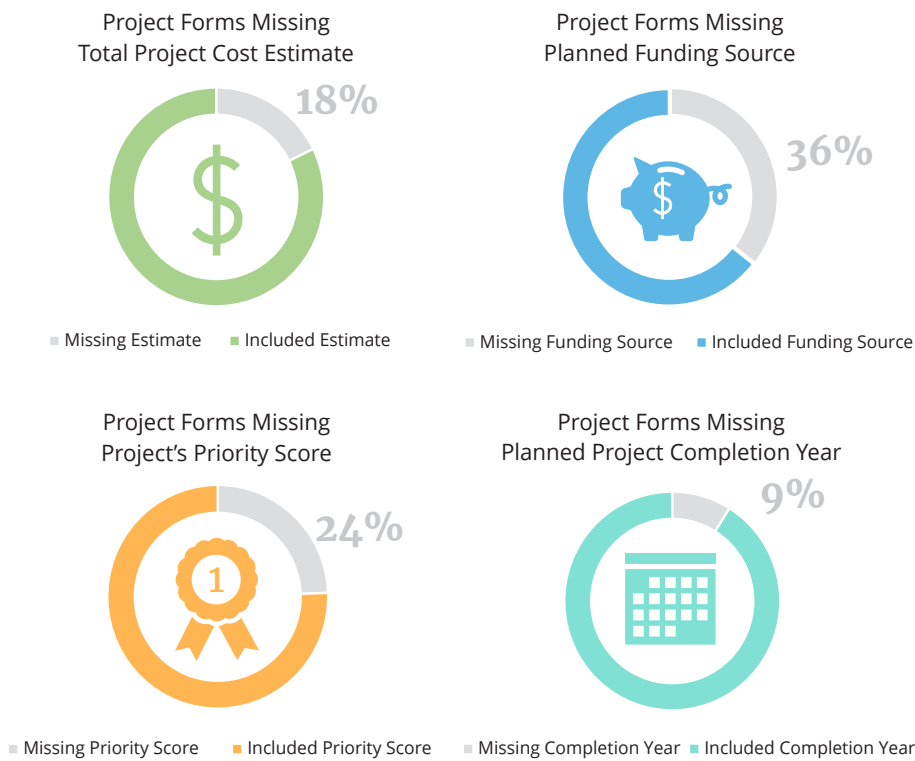
These elements help CIPRAC assess the "readiness" of the project against other projects of the same asset type. These elements also help CIPRAC determine which projects it should recommend to CBERC, the Mayor, and the City Council for CIP funding, which is especially critical given that CIP funding is very limited and only a certain number of projects can receive funding each year. All 45 proposed S-projects made it to the City's CIP; therefore, rather than vetting out project proposals that were missing key information, CIPRAC

²¹ See note under Exhibit 20 for methodology of this analysis.

made recommendations for CIP project funding to the Mayor and City Council based, at times, on incomplete information. As explained before, approving insufficiently planned projects can contribute to funding shortfalls as well as cost overruns and longer project timelines. **Exhibit 20** shows how frequently key elements were missing from the CIPRAC project submission forms for the 45 proposed S-projects that we reviewed.

Exhibit 20

CIPRAC S-Project Submission Forms—Used by CIPRAC to Make Project Recommendations to the Mayor and the City Council—Frequently Excluded Key Elements



Note: We requested project submissions forms from AMDs for all new S-projects and P-projects projects during the July 1, 2014 to October 1, 2022 period. The departments and E&CP were able to provide us with 55 submission forms (of which 45 were for S-projects) out of a total of 82 new S-projects and P-projects added to the CIP during our scope period. There is no requirement for AMDs or E&CP to retain new CIP project submission forms and thus we did not expect departments to provide us with all 82 project submission forms. As such, the results from this analysis are not intended to extrapolate to a larger population but rather provide an analysis of the projects reviewed.

Source: OCA generated based on analysis of project submission forms provided by AMDs and E&CP.

Notably, in more recent years, we found that most of these key elements were consistently included in project submission forms for new S-projects. Furthermore, as of a few months ago, the City restructured its CIP advisory boards with the intention of strengthening CIPRAC and CBERC's project evaluation and vetting practices. The previous bylaws tasked CIPRAC with ensuring proposed projects included potential funding sources but did not require funding plans. The new bylaws direct CIPRAC to ensure projects include potential funding sources and that a funding plan is identified for all subsequent phases.

As stated previously, according to E&CP and AMDs, the departments often do not have the resources to develop the total project cost estimate, planned funding sources, or the planned year the project will be completed before a project is proposed for the CIP. E&CP also noted that grant-funding eligibility typically requires projects to have a project ID number prior to applying for a grant, which can encourage AMDs to submit new CIP projects for approval without well-defined scopes and reasonably accurate project costs estimates. If the City formally implements the current informal P-project phase as part of the CIP process, the AMDs and E&CP will have a specific phase within the CIP process that provides time and CIP funding to research and develop these key project elements as well as apply for grant-funding, if available. Importantly, this may help limit the amount of funds committed to projects prematurely and instead invest those funds in those that are truly project-ready.

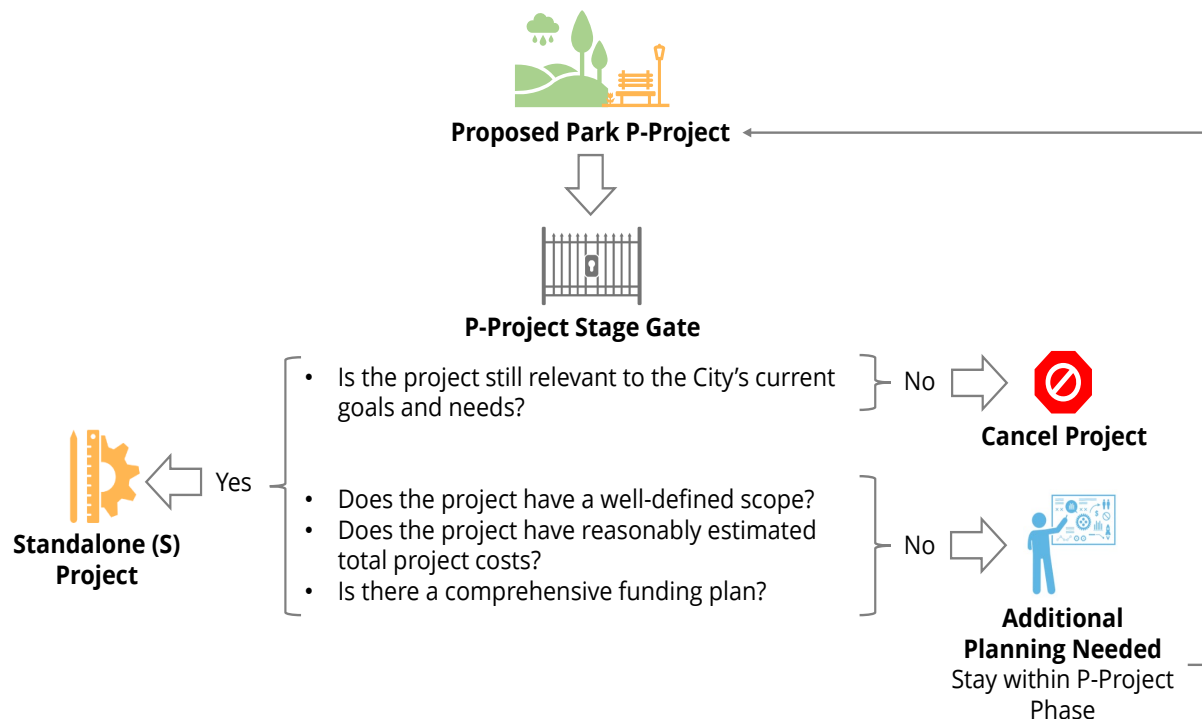
To prevent insufficiently planned projects from moving forward, CIPRAC can function as a stage gate.

CIPRAC can help ensure new CIP projects are sufficiently planned.

It is also essential for CIPRAC to serve as a stage gate by stopping projects from moving forward if a project proposal does not have all key information or does not meet the overarching goals and needs of the City, as shown in **Exhibit 21**. According to E&CP and the Department of Finance, CIPRAC recommends approval for most proposed projects, and few project proposals are turned around for further planning. As such, formalizing the P-Project phase will help ensure that CIPRAC identifies projects that are not yet sufficiently planned when first proposed for CIP approval and places them in the P-project phase to provide them additional time and resources to further develop key project elements (e.g., scope, estimated project costs, etc.).

Exhibit 21

The P-Project Phase Could Help Ensure Project Proposals Have Fully Developed Scopes, Reasonably Accurate Estimated Project Costs, and Realistic Funding Plans Prior to Moving Forward



Source: OCA generated based on E&CP documentation and interviews with E&CP management.

In an effort to support the vetting of CIP projects, we recommend that the formalized P-project policy establish a specific stage gate at the end of the P-project phase. The stage gate could ensure CIPRAC would not allow a P-project to move forward without certain key elements—or if the project does not support the City’s current goals, needs, expectations, or is not affordable within budget limits.

A review of previously approved active S-projects would help ensure they still align with the City’s current goals, needs, expectations, and available budget.

CIPRAC should identify previously approved S-projects that should be P-projects.

While the formalization of the P-project phase will endeavor to ensure all future S-projects are sufficiently planned before moving into subsequent project phases (e.g., Design, Construction, etc.), S-projects that were approved prior to this new policy may have been approved without sufficient project planning. Furthermore, as the U.S. Government Accountability Office states, organizations should evaluate their CIP investments based on whether the investment

supports the organization's goals, as well as evaluate if current investments are meeting the organization's expectations.

Therefore, we recommend that CIPRAC review previously approved S-projects, especially those inactive projects approved prior to the department's P-project initiative rollout in 2018, to assess the feasibility of these projects as well as whether they still align with the City's goals, needs, expectations, and available budget. For those that do not—and because there could be substantial public interest in these projects—CIPRAC should seek approval from the City Council to reclassify these projects as P-projects or request their cancellation.

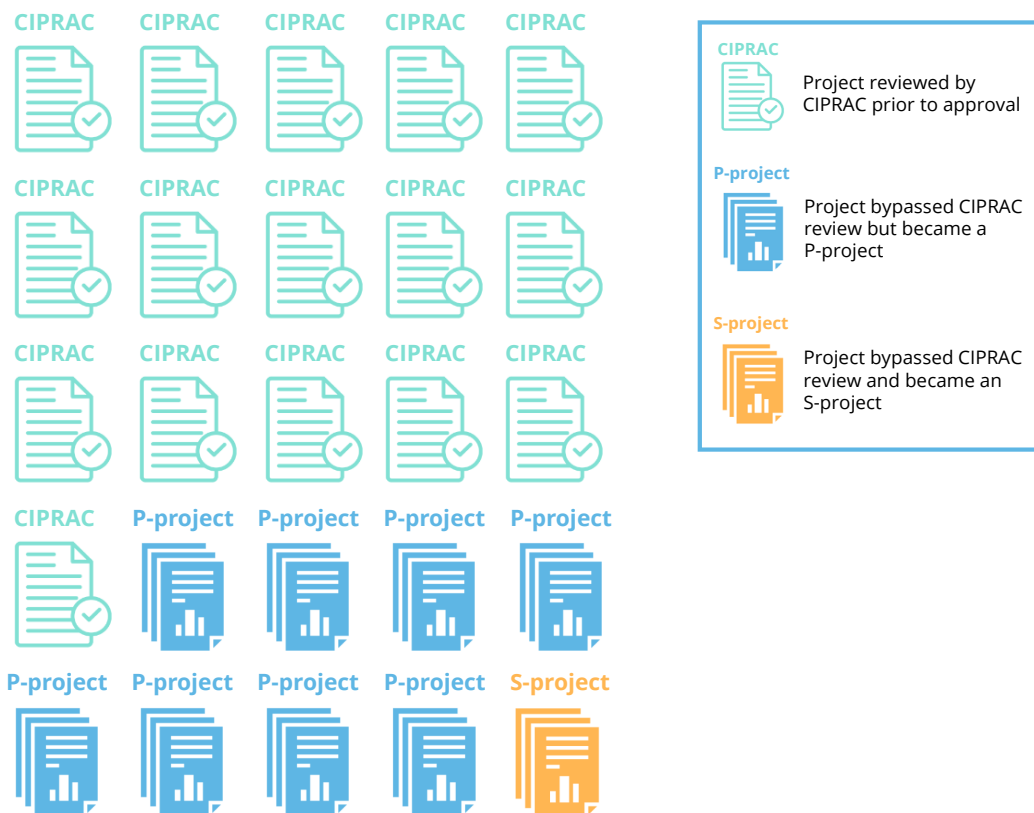
For the FY2022 and FY2023 CIP Budget cycles, 8 of the 9 General Fund projects that bypassed the City's standard CIPRAC review process appropriately became P-projects.

Almost all recent projects added to the CIP without CIPRAC review began as P-projects.

In the past two CIP budget cycles, the majority of projects went through the standard proposed project review process, and of those projects that bypassed the review process, only one project did not begin as a P-project. As explained in the Background, the City has a specific process for the review of all proposed CIP projects. However, for the FY2022 and FY2023 CIP Budget cycles, 9 out of 25 (36 percent) General Fund S- and P-projects were not reviewed by CIPRAC prior to the City Council's approval of the CIP Budget. Instead, City leadership, including elected officials, added these projects directly to the CIP during the budget review process. While these projects had not yet been vetted for project "readiness," **Exhibit 22** shows that, 8 of the 9 new General Fund projects that did not go through the standard CIPRAC review and recommendation process before City Council approval became P-projects while only 1 became an S-project. This demonstrates how the majority of projects that were not vetted for project "readiness" were appropriately identified for the P-project phase, which will provide time and CIP resources to sufficiently plan the projects.

Exhibit 22

For the FY2022 and FY2023 CIP Budget Cycles, 16 Projects Went through CIPRAC, and 8 of the 9 Projects That Bypassed CIPRAC’s Review Process Appropriately Became P-Projects



Source: OCA generated based on review of Annual CIP Budgets and documentation provided by E&CP.

Our recommendation to formalize the P-project phase in a new or existing Council Policy and require most S-projects to start as P-projects would ensure the projects that bypassed the City’s standard prioritization and review process are still sufficiently planned. Recognizing that the City Council has the authority to approve proposed projects, regardless of project status, this P-project phase will help ensure that the City only moves projects to the Pre-Engineering and Design stages that are project-ready with clearly defined scopes and realistic funding plans.

Recommendations

To ensure that newly approved CIP standalone (S) projects include adequate project scopes, reasonably accurate cost estimates, and realistic funding strategies, we recommend that:

Recommendation 1.1

The Engineering & Capital Projects Department (E&CP) and the Department of Finance (DoF), as co-chairs of CIPRAC, should formalize the Preliminary Engineering (P) project phase to provide sufficient time and funding to scope a newly approved CIP project and create an accurate cost estimate and achievable funding strategy. The two departments should lead the effort to either revise an existing and relevant Council Policy, such as Council Policy 000-02, or draft and seek approval of a new Council Policy to require all new projects to start as P-projects unless E&CP and DoF can verify that the new project is “project-ready” (i.e., has addressed the elements listed in a, i, ii, iii, and iv below.). The two departments should also ensure supporting process narratives are updated to conform with the new or revised Council Policy.

- a. The new P-project policy should establish stage gates within the P-project phase that will not allow a project to progress past the P-project phase without certain key elements that, based on E&CP and DoF’s assessment, would ensure a project is “project ready.” E&CP and DoF, as applicable, should define and require the following elements:
 - i. A well-defined project scope;
 - ii. Reasonably accurate total project cost estimates;
 - iii. A realistic funding plan/strategy; and
 - iv. Sufficient preparation for land acquisition and permitting, if applicable. (Priority 2)

Management Response: Agree [See full response beginning on page 46.]

Target Implementation Date: June 30, 2024

Recommendation 1.2

The Engineering & Capital Projects Department and the Department of Finance, as co-chairs of CIPRAC, should work to establish standardized project delivery timelines for projects that have completed the P-project phase and reassess these timelines on a regular basis. (Priority 2)

Management Response: Agree. [See full response beginning on page 47.]

Target Implementation Date: June 30, 2024

Recommendation 1.3

CIPRAC should review all S-projects approved prior to the rollout of the P-project initiative in 2018, with special focus on inactive projects, to assess whether projects are still feasible and whether they still align with the City's goals, needs, expectations, funding plan/strategy, and the requirements of the newly adopted Council Policy 800-14. Once CIPRAC has identified S-projects that do not meet these elements, the committee should develop and present a proposal to the City Council for the Engineering & Capital Projects Department to either re-categorize such projects as P-projects or request cancellation of such projects. (Priority 2)

Management Response: Agree. [See full response beginning on page 47.]

Target Implementation Date: June 30, 2024

Appendix A

Definition of Audit Recommendation Priorities

The Office of the City Auditor maintains a priority classification scheme for audit recommendations based on the importance of each recommendation to the City, as described in the table below. While the City Auditor is responsible for providing a priority classification for recommendations, it is the City Administration’s responsibility to establish a target date to implement each recommendation, taking into consideration its priority. The City Auditor requests that target dates be included in the Administration’s official response to the audit findings and recommendations.

PRIORITY CLASS*	DESCRIPTION
1	<p>Fraud or serious violations are being committed.</p> <p>Significant fiscal and/or equivalent non-fiscal losses are occurring. Costly and/or detrimental operational inefficiencies are taking place. A significant internal control weakness has been identified.</p>
2	<p>The potential for incurring significant fiscal and/or equivalent nonfiscal losses exists. The potential for costly and/or detrimental operational inefficiencies exists.</p> <p>The potential for strengthening or improving internal controls exists.</p>
3	<p>Operation or administrative process will be improved.</p>

* The City Auditor is responsible for assigning audit recommendation priority class numbers. A recommendation that clearly fits the description for more than one priority class shall be assigned the higher priority.

Appendix B

Audit Objectives, Scope, and Methodology

Objective

In accordance with the Office of the City Auditor's Fiscal Year (FY)2022 Audit Work Plan, we conducted a performance audit of the City's Capital Improvements Program (CIP). Our objective was to determine whether the City adequately considers CIP project funding during the prioritization, review, and approval processes to help ensure projects are completed as quickly and cost-effectively as possible.

Scope

The audit scope included completed standalone CIP projects (S-projects) supported by the General Fund and included in the City's CIP between July 1, 2013 and October 1, 2022.

Methodology

The following points explain the methodology we used to address our objective:

- Analyzed information from the City's budget reports, budget data provided by the Department of Finance, and baseline project cost data from the Engineering & Capital Projects Department's (E&CP) project management system, Primavera, to determine costs and durations for projects in our scope and to assess whether they were likely sufficiently planned when approved by the City Council.²²
- Reviewed the City's documented process for new CIP project initiation, review, and approval.
- Researched best practices for the management of capital projects in both the private and public sectors.
- Analyzed project submission forms for new S-projects and Preliminary Engineering projects

²² There were 177 completed, General Fund S-projects in our scope. We found that 3 of the 177 projects in our scope (2 percent) were missing from E&CP's project management system, Primavera. Of the 174 completed S-projects in our scope that were in Primavera, 1 project (0.6 percent) did not have baseline cost data in Primavera. According to E&CP, these projects were not entered into Primavera likely due to oversight, since the department did not have a good way of checking and ensuring all projects were entered into Primavera at the time the projects were added to the CIP (start year for projects were 1991, 2001, and 2008). We consider the missing projects and missing data in Primavera to be insignificant to our analysis and thus the data to be sufficient for the purposes of our report.

(P-projects) approved for the CIP between July 1, 2013 and October 1, 2022 to determine whether projects were sufficiently planned (e.g., included reasonably accurate initial project cost estimates, well-defined scopes, estimated project completion dates, etc.).²³

- Analyzed the FY2018–FY2023 CIP Annual Budget reports to determine when the City first included P-projects within the CIP Annual Budget and the number of P-projects that have been created, cancelled, or converted into S- or L-projects.
- Analyzed new S- and P-projects added to the CIP between FY2022 and FY2023 to determine how many were approved by the City Council without going through the process of CIPRAC review and recommendation for approval.
- Interviewed E&CP management and staff, as well as Asset Managing Department staff, to determine whether processes for planning new CIP projects align with best practices.

Data Reliability

We assessed the reliability of baseline project cost data for the 174 completed S-project in our scope by: (1) comparing E&CP-provided baseline project cost data with Primavera project records to ensure data accuracy; and (2) interviewing E&CP staff knowledgeable about the data and the Primavera system. We found that only 1 project (0.6 percent of all completed S-projects) in our scope did not have baseline project cost data in Primavera. We determined the number of completed S-projects in our scope with missing data was not significant and thus concluded the data were sufficiently reliable for the purposes of this report.

Internal Controls Statement

We limited our review of internal controls to specific controls relevant to our audit objective, described above. We tested the following controls:

- Review and approval process for new CIP project submissions.
- Completeness and accuracy of new CIP project submission forms.
- Categorization of new CIP projects that were not reviewed/approved by CIPRAC prior to City Council approval of those projects.

²³ We requested project submission forms for all new S- and P-projects during the FY2014–FY2023 period from Asset Managing Departments. The departments and E&CP were able to provide us with 55 submission forms (67 percent) out of a total of 82 new S- and P-projects added to the CIP during our scope period. There is no requirement for Asset Managing Departments or E&CP to retain new CIP project submission forms and thus we did not expect departments to provide us with all 82 project submission forms. As such, the results from this analysis are not intended to extrapolate to a larger population but rather provide a description of the projects reviewed.

Compliance Statement

We conducted this performance audit in accordance with generally accepted government auditing standards. 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.



THE CITY OF SAN DIEGO

M E M O R A N D U M

DATE: June 1, 2023

TO: Andy Hanau, City Auditor, Office of the City Auditor

FROM: Rania Amen, Director, Engineering & Capital Projects Department
Rolando Charvel, Director, Department of Finance

SUBJECT: Management Response to the Office of the City Auditor's Performance Audit of the City's Capital Improvement Projects Approval Process

This memorandum serves as the management response to the Performance Audit of the City's Capital Improvement Projects Approval Process (Performance Audit.) At the time this response was written, the draft Performance Audit provided to management contains one finding and three recommendations directed to the Engineering & Capital Projects Department (E&CP), The Department of Finance (DoF), and the Capital Improvements Program Review and Advisory Committee (CIPRAC) – which is cochaired by DoF and E&CP.

Both departments' staff and management appreciate the Performance Audit prepared by the Office of the City Auditor and thank the staff involved in preparing the audit. Management agrees with the recommendations within the Performance Audit and this management response highlights those recommendations and planned timelines for implementation.

Recommendation 1: The Engineering & Capital Projects Department (E&CP) and the Department of Finance (DoF), as co-chairs of CIPRAC, should formalize the Preliminary Engineering (P) project phase to provide sufficient time and funding to scope a newly approved CIP project and create an accurate cost estimate and achievable funding strategy. The two departments should lead the effort to either revise an existing and relevant Council Policy, such as Council Policy 000-02, or draft and seek approval of a new Council Policy to require all new projects to start as P-projects unless E&CP and DoF can verify that the new project is "project ready" (i.e., has addressed the elements listed in A. i, ii, iii, and iv below.). The two departments should also ensure supporting process narratives, such as PN-0213, are updated to conform with the new or revised Council Policy.

- A. The new P-project policy should establish stage gates within the P-project phase that will not allow a project to progress past the P-project phase without certain key elements that, based on E&CP and DoF's assessment, would ensure a project is "project ready." E&CP and DoF, as applicable, should define and require the following elements:

Page 2
Andy Hanau, City Auditor, Office of the City Auditor
June 1, 2023

- i. A well-defined project scope;
- ii. Reasonably accurate total project cost estimates;
- iii. A realistic funding plan/strategy; and
- iv. Sufficient preparation for land acquisition and permitting, if applicable.

Management Response: Agree. E&CP & DoF recognize the importance of a formalized Preliminary Engineering project phase for less routine and less repetitive projects. Criteria will be established to determine the creation of P projects based on project type, size, complexity, funding strategy and required public input. DoF & E&CP will lead the effort with CIPRAC to update or create Council Policies and Process Narratives as recommended and appropriate to incorporate a formalized P project phase in the project development process.

Target Implementation Date: June 30, 2024

Recommendation 2: The Engineering & Capital Projects Department (E&CP) and the Department of Finance (DoF), as co-chairs of CIPRAC, should work to establish standardized project delivery timelines for projects that have completed the P-project phase and reassess these timelines on a regular basis.

Management Response: Agree. With more clearly defined project scopes, desired project outcomes, and viable funding strategy for ultimate project completion as a milestone of a formalized P project, establishing more standardized project completion timelines is possible. E&CP will lead the effort to enhance project delivery guidelines and Standard Operating Procedures to include standardized project delivery timelines for each Asset Type and Asset Managing Department.

Target Implementation Date: June 30, 2024

Recommendation 3: CIPRAC should review all S-projects approved prior to the rollout of the P-project initiative in 2018, with a special focus on inactive projects, to assess whether projects are still feasible and whether they still align with the City's goals, needs, expectations, funding plan/strategy, and the requirements of the newly adopted Council Policy 800-14. Once CIPRAC has identified S-projects that do not meet these elements, the committee should develop and present a proposal to the City Council for E&CP to either re-categorize such projects as P-projects or request cancellation of such projects.

Management Response: Agree. E&CP with DoF will lead the effort to review all S-projects created prior to the rollout of the P-project initiative in 2018, with a special focus on inactive projects. The review will assess whether projects are still feasible, and align with the City's goals, needs, expectations, funding plan/strategy, and the requirements of the newly adopted Council Policy 800-14. Based on the review findings, appropriate action(s) such as converting some projects to a P-project, will then be taken. Subsequently, staff will bring forward the applicable request for Council action.

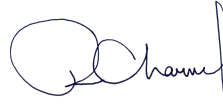
Target Implementation Date: June 30, 2024

Page 3
Andy Hanau, City Auditor, Office of the City Auditor
June 1, 2023

Thank you,



Rania Amen
Engineering & Capital Projects Director



Rolando Charvel
Department of Finance Director

cc:

Paola Avila, Chief of Staff, Office of the Mayor
Eric Dargan, Chief Operating Officer
Charles Modica, Independent Budget Analyst
Matthew Vespi, Chief Financial Officer
Alia Khouri, Deputy Chief Operating Officer
Christiana Gauger, Chief Compliance Officer
Jessica Lawrence, Director of Policy, Office of the Mayor
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CIPRAC Members



sandiego.gov/auditor