



THE CITY OF SAN DIEGO

OFFICE OF THE INDEPENDENT BUDGET ANALYST REPORT

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Effective Capital Planning, Financing, and Capital Improvement Program (CIP) Delivery

OVERVIEW

On February 6, 2024, our Office provided a financial training for the City Council featuring a panel of representatives from other cities with significant experience in effective capital planning, financing, and Capital Improvements Program (CIP) delivery.¹ Specifically, the panel included a representative from San Francisco, CA, to discuss effective planning and financing strategies; a representative from the City of Sacramento, CA, to expand on financing strategies and lessons learned from a recent successful revenue measure; and a representative from San Antonio, TX, to discuss effective management and delivery of the CIP.²

This is a companion report to that training which includes information learned during the training and supplemental research on effective practices from other large U.S. cities that may benefit the City of San Diego.³ This report is intended to provide information on and spur discussion around the capital infrastructure-related challenges facing the City of San Diego, including a five-year capital funding gap of \$4.8 billion as reflected in [FY 2025-29 Capital Infrastructure Planning Outlook \(CIP Outlook\)](#). The report will be heard as an information item at the April 25, 2024, Active Transportation and Infrastructure (ATI) Committee meeting.

Discussion of effective capital planning, financing strategies, and CIP delivery is especially timely as the City is currently assessing proposals for a (1) general sales tax increase and (2) stormwater parcel tax, which could potentially be placed on the November 2024 ballot.

¹ The financial training program for the City Council, intended to aid in carrying out oversight responsibilities, calls for two trainings a year covering topics in two of four predetermined financial subject areas: Debt Issuance and Administration; Financial Disclosure Responsibilities; Financial Statement Overview; and Current and Multi-Year Budget Planning. The last time Council received a training on infrastructure was July 16, 2012, which was entitled “[Key Elements of Successful Voter Approved Infrastructure Financing Programs](#).”

² The archived webcast for the February 6, 2024, training is available on the [City’s website](#).

³ We reviewed various peer cities and narrowed our focus for this report to those represented in the training and Austin, TX, Denver, CO, and Phoenix, AZ, based on their relative size and/or perceived effectiveness of their capital programs.

Our Office thanks staff from other cities that met with us and provided information for this report, as well as staff from Engineering & Capital Projects (E&CP) and the Department of Finance (DOF) for engaging in discussions with our Office.

FISCAL/POLICY DISCUSSION

Effective capital planning and financing strategies enable cities to procure significant and reliable streams of infrastructure funding. Effective CIP delivery is also a critical component for a successful capital program and supports successful capital planning and ensures projects are delivered on schedule in a transparent and cost-effective manner. Critically, effective capital programs help to increase public confidence and enhance support for future funding initiatives. This section of our report discusses each of the three elements of the financial training: Effective Capital Planning, Effective Financing Strategies, and Effective CIP Delivery.

Effective Capital Planning

Effective planning provides an accurate and realistic view of capital projects and funding needs and establishes a foundation upon which a financing strategy can be developed. A multi-year capital plan also provides transparency for the public regarding the costs of both building new capital infrastructure as well as the costs to maintain existing infrastructure.

The Government Finance Officers Association (GFOA) recommends that governments prepare and adopt comprehensive, fiscally sustainable, and multi-year capital plans to ensure effective management of capital assets.

San Francisco’s 10-Year Capital Plan was highlighted during the financial training as it is intended to be a realistic roadmap, balancing limited resources with the most pressing infrastructure needs. Key differences between San Francisco’s approach to capital planning and San Diego’s include: (1) San Francisco’s plan includes a financing plan tied to its reoccurring GO Bond program, whereas San Diego’s capital plan continues to reflect significant capital needs that will go unfunded; and (2) San Francisco’s plan incorporates significant ongoing funding specifically for infrastructure without a dedicated funding source, which allows for more certainty as well as the ability to better plan at the project level and for a longer duration (e.g., a 10-year outlook versus the City’s five years).

The City of San Diego’s five-year capital plan – called the CIP Outlook, is updated annually and provides an overview of forecasted needs and revenues. The CIP Outlook has improved its accuracy and usefulness over time and staff intends to continue improving the plan.⁴ Although progress has been made—San Diego’s current CIP Outlook has moved towards being a more realistic plan of what could be executed over the next five years if funding were available, the Outlook reports a significant funding gap. Aside from lease revenue bond issuances, the CIP Outlook does not provide a financing strategy or planned new revenues. Moving toward a longer-term plan that incorporates a financing strategy that can be realistically executed is a key next step in beginning to address the City’s \$4.8 billion capital funding gap. Our review of other cities identified several practices that we believe could enhance the CIP Outlook and move it toward

⁴ The most recent CIP Outlook changed the approach to what is included in the plan – the five years of needs presented in the Outlook are intended to be a realistic view of what could be executed within that period, and longer-term needs are reported in the “FY 2030 and Beyond” category.

also being a financing plan that can be realistically executed. These practices are discussed in the following sections.

Capital Plans Should Be Based on Accurate Information and Aligned with Long-Range Asset-Based Infrastructure Plans

An effective practice utilized by peer cities is basing a capital plan's projects and needs on accurate, up to date information (including San Francisco, Austin, and San Antonio). Accurate information is critical for making decisions about needed repairs, maintenance, or improvements, and for estimating related costs. Updated asset information is generally provided in condition- or needs-assessments and/or long-range asset management or master plans. Capital plans ideally serve as a plan for both financing and executing priority projects from these long-range plans.⁵

The City of San Diego has made positive strides in collecting accurate information on its assets through recent condition assessments and the development of asset management plans (e.g., the recently issued [Pavement Management Plan](#)). However, departments without legal mandates and/or dedicated funding often lack the resources needed to update condition assessments which limits the City's understanding of risks and its ability to create an optimal maintenance and capital renewal plan. When staff can regularly log repairs and maintenance in asset management systems as it is conducted, this provides some level of updated information on asset condition, so delays to updating condition assessments are less of a concern. Outdated information in condition assessments becomes a larger concern when staff lack resources for regular system updates. This has been the case with the Department of General Services (DGS) – Facilities Services, which conducts maintenance and repairs on City facilities.⁶

While on-site technical condition assessments by a third-party consultant is a recommended practice, given costs (Facilities Services estimates \$3.9 million is needed to update condition assessments), peer cities we reviewed, such as San Francisco and Austin, also conducted needs assessments using in-house staff and/or modeling tools. Given the City of San Diego's budget constraints, potentially less expensive options may be worth considering, such as the Facilities Renewal Resource Model (FRRM) which is used by San Francisco to collect information on the state of repair for major facilities and infrastructure. The model uses building information (gross square feet, construction date, facility subsystem type, etc.) and an approach based on subsystem life cycles and replacement costs to estimate the backlog of deferred maintenance and future capital reinvestment needs.

As Part of the Capital Planning Process, Sufficient Funding to Maintain Assets Should be Planned for Future Operating Budgets

A full capital asset life cycle includes costs to operate, maintain, and renew or replace capital assets, and should inform a schedule for capital asset replacement or major renewal. Given the longevity of capital infrastructure assets, long-term operations and maintenance costs over the life of an asset often will be higher than the cost to initially build the asset.⁷ These maintenance costs will impact future operating budgets, and if maintenance is not planned and budgeted for, the

⁵ The [GFOA best practices for Master plans and Capital Improvement Planning](#) note that governments should make capital project investment decisions that are aligned with long-range master plans.

⁶ The City has chronically underfunded Facilities Services and the facilities condition assessment, last conducted in 2014-2015, is out of date.

⁷ U.S. General Services Administration, [Facilities Standards for the Public Service Buildings](#), March 2003.

resulting deferral of maintenance can move up the timeline for capital renewal and lead to more expensive, emergency projects when assets fail. Proactive ongoing maintenance is critical to ensure efficient use of public funds.

The cities we reviewed had several ways of planning for maintenance and renewal costs. San Francisco and Denver include renewal programs that preserve the useful life of infrastructure assets as part of their capital plans.⁸ Notably, infrastructure maintenance in those cities is considered as part of their operations budget; but those activities are nevertheless also included in capital plans to provide a full picture of asset related needs that will be born from said plan.

The City of San Diego generally includes projected operational needs in its operating budget when new facilities come online (e.g., the fire apparatus and crew for a new fire station), but ongoing maintenance costs for new infrastructure assets are often not included in the operating budget. Even some assets whose maintenance needs for which the City has a good understanding do not always receive sufficient maintenance funding. It's important to consider what will be needed to maintain new or rehabilitated assets during the capital planning process so that sufficient funding can be incorporated into future operating plans and budgets.

The Capital Plan Should Be a Long-Term Execution and Financing Plan

Several cities we reviewed that had successive GO Bond measures have a long-term plan of more than five years that incorporates a realistic financing strategy, including San Francisco, Austin, and San Antonio. This longer horizon provides sufficient time to lay out projected known revenues as well as plan how to procure new revenue to fill funding gaps. For example, San Francisco includes eight planned GO Bond issuances over the ten years of the capital plan totaling \$2.2 billion. Additionally, San Francisco, Austin and San Antonio include GO Bond measures on a rotating basis by type of projects, such as neighborhood parks or affordable housing, to provide a predictable, reliable funding stream for efficient CIP delivery. When a financing strategy is included in the in the capital plan, the discussions of what types of financing, when they will be pursued, what project types are the focus, etc., occur during the capital planning process. As a result, during the ballot measure process, City leadership have an understanding of the needs and plans for funds and therefore are generally united in support. Officials from those cities underscored that effective capital planning and united leadership help them to make a sound case to the voters and is key to the success of ballot measures.

In our discussion with DOF on incorporating a financing strategy into the CIP Outlook, officials noted part of achieving this type of financing plan is having confidence that new revenue can be efficiently and effectively expended by the City. This is discussed in more detail in the *Effective CIP Delivery* section.

Effective Financing Strategies

In discussions with peer cities, our Office found that effective financing strategies share several characteristics, generally including having several regularly scheduled debt issuances planned in

⁸ Renewal programs represent an investment that preserves or extends the useful life of facilities or infrastructure, for example, repair and replacement of major building systems including the roof, exterior walls and windows, and heating and cooling systems; street resurfacing; and the repair and replacement of infrastructure in the public right-of-way. Maintenance in Denver and San Francisco is under the [Pay-As-You-Go Program](#), which taps into the General Fund, and are annual allocations, unlike renewal and enhancement projects.

advance, dedicated funding for certain asset types, and revenue streams that are generally secure or can be reasonably assumed. There are various financing mechanisms that share these traits. San Francisco, San Antonio, and Austin receive significant capital funding through their General Obligation (GO) bond programs, which have reoccurring bond measures on the ballot every few years, thereby providing a reliable stream of funding. The City of Sacramento uses other financing strategies, including a successful sales tax measure and the use of Enhanced Infrastructure Financing Districts (EIFDs) to fund infrastructure maintenance and capital projects. All these measures come with different benefits and challenges and are further discussed below. Note there are financing mechanisms not discussed in this report, that provide infrastructure funding. For example, some cities also make use of ongoing revenues that are tied to certain types of assets, such as stormwater infrastructure or utility infrastructure and service, to support both the financing and maintenance of infrastructure.

The City of San Diego has consistently lacked an ongoing, flexible stream of revenue for its infrastructure, and that has led to the ever-growing five-year capital infrastructure funding shortfall of \$4.8 billion. Notably, the City is currently considering placing a general sales tax measure and a stormwater parcel tax measure on the November 2024 ballot.⁹ If successful, these measures could provide critical funding for the CIP.

General Obligation Bonds

For the majority of large US cities we reviewed, GO Bond programs provide a significant and reliable stream of funding for infrastructure programs, as shown in the table below. These measures often target specific asset types, such as transportation, drainage, parks and recreation, libraries, public safety, and affordable housing.

| Cities Using GO Bonds | Voter Requirements | Voter approved propositions from 2014-2024 | Total approved issuances (\$ in billions) |
|------------------------------|---------------------------|---|--|
| Austin, TX | Simple majority | Voters passed 10 out of 11 propositions | \$2.46 |
| Denver, CO | Simple majority | Voters passed 11 out of 12 propositions | \$1.20 |
| Phoenix, AZ | Simple majority | Voters passed 4 out of 4 propositions | \$0.50 |
| San Antonio, TX | Simple majority | Voters passed 12 out of 12 propositions | \$2.05 |
| San Francisco, CA | Two-thirds majority | Voters passed 9 out of 10 propositions | \$3.77 |

GO Bonds have historically provided local agencies with particularly low borrowing costs, as they are backed by the full faith and credit of the issuing municipality, including the cities’ pledge to raise property tax rates to the level necessary to make debt financing payments. Because GO Bonds

⁹ Additional information on the proposed parcel tax and Stormwater needs and potential funding sources is included in [IBA Report 21-04 Analysis of the Stormwater Division Funding Strategy Report](#).

generally result in additional property taxes, California law requires that those tax increases achieve two-thirds voter approval which can be a difficult threshold to achieve.¹⁰ The last time the City of San Diego utilized GO Bonds was in 1994, for Open Space Park Facilities.

To finance General Fund capital projects, San Diego primarily relies on Lease Revenue Bonds which have provided \$391 million from 2014-2024 and a commercial paper short term financing program.¹¹ While General Fund financing provides a flexible, unrestricted funding source to support capital projects such as street resurfacing, new and improved parks, fire stations, and libraries, growth in debt service payments for that financing limits the City's ability to address other ongoing public service needs given that it relies on existing General Fund revenue for repayment. GO Bonds provide an alternative to lease revenue bonds and commercial paper and would not impact the City's existing General Fund expenditure constraints, as the debt service on GO Bonds would be paid by an additional levy of property taxes.

Several of the cities we reviewed, such as San Francisco, San Antonio, and Austin, have mature GO Bond Programs, and have had regular GO Bond ballot measures over many years. As part of an initial bond measure, the cities increased their property tax rates to obtain the revenue for debt service payments needed to fund capital infrastructure projects, and some have further committed that future GO Bond measures should not require any additional tax increases. For example, San Francisco raised the property tax rate in 2006 to 0.12% above the current state property tax rate; even with the approval of new GO Bonds after 2006, San Francisco has not further increased property taxes. Instead, upon paying off the debt of old GO Bonds, it has sought approval for subsequent GO Bond measures that use the previously established property tax rate.¹²

GO Bond capacity is largely driven by changes in assessed value and associated property tax revenues within a city, both of which may fluctuate over time. However, without additional tax increases, cities have to work within their financial capacities, which limits the number and timing of capital projects. If San Diego were to pursue a GO Bond Program, it would need to increase its current property tax rate for at least the initial bond measure.

Important elements of a successful GO Bond measure include:

- Engaging the public to identify priority projects and developing a list for which cities can be accountable to deliver, which provides transparency and enhances voter support.¹³

¹⁰ Voter thresholds to pass GO Bonds vary by state. For California, municipal GO Bonds require two-thirds majority to pass (school district-issued GO Bonds require 55%).

¹¹ Lease revenue bonds are backed by General Fund revenue and require the City to pledge City-owned property to serve as leased asset to secure financing. Commercial Paper notes are a short-term borrowing tool that is used to meet the cash flow needs of capital projects before they are refunded by lease revenue bonds.

¹² Even in cities where the City Council has the authority to increase property tax rates (e.g., Phoenix, AZ), the cities generally prefer to stay within the current financial capacity, so that tax rate increases are not required.

¹³ Phoenix, AZ officials noted that their oversight committees held over 30 public meetings and key City staff (including department directors) were on hand to address project-related questions. Ultimately, the officials felt this approach was a significant factor in making the case to voters with all four of their GO Bond propositions being approved where majority support is required in Arizona.

- Having a public oversight committee to ensure funds are being spent as promised and public access to status of projects (i.e., through online dashboards or written reports).¹⁴
- Initiating development of GO Bond measures 18-30 months prior to an election to procure consulting services, develop a potential project list, establish oversight committees, engage the community, and develop support among city leaders.
- Allocate seed money during the initiative’s preparation phase to conduct planning and predesign for capital projects planned to be included in the measure.¹⁵

Sales Tax Measure

The City of San Diego is currently assessing a proposed 1% sales tax increase, which would require approval from a simple majority of voters, for inclusion on the November 2024 ballot. A general sales tax increase, in which revenues can be expended at the discretion of the City on any program or service, would provide a flexible funding source that could mitigate future budget deficits *and* be used for both capital infrastructure and infrastructure maintenance.¹⁶

A 1% increase to sales tax would double the amount of sales tax revenue the City receives and generate roughly \$374 million per year based on the FY 2024 Mid-Year Budget Monitoring projections. This could both address projected operating deficits and provide additional capacity to issue capital bonds for needed infrastructure projects which could begin to meaningfully address the City’s infrastructure backlog.

While the majority of large cities we reviewed use GO Bond Programs to fund capital infrastructure projects, the City of Sacramento had a general sales tax increase approved by voters in November 2018, which authorized the extension and expansion of the City’s Measure U Transaction and Use Tax from a half-cent to a full cent effective April 1, 2019, and can be used for any general government purpose.^{17,18}

City of Sacramento officials noted the simple majority to approve a general sales tax increase is an easier threshold to achieve. Since a general tax increase cannot be tied to specific projects due to California law, Sacramento created a Measure U Community Advisory Committee to review, report, and make non-binding recommendations on revenue and expenditures of Measure U revenues.¹⁹ San Diego should consider the use of a public advisory or oversight committee as part of its own potential sales tax initiative.

¹⁴ The City of San Antonio maintains a [project dashboard website](#) with extensive information on GO Bond project status, spend down, etc.

¹⁵ San Francisco and San Antonio allocate \$1-3 million for new projects intended to be part of the bond measure to assess feasibility, complete requisite environmental review, and provide a more accurate cost estimate. Officials noted that having this information prior to the election enhances their ability to deliver projects within the allowable time period and keeps from having to switch out projects that are part of the bond measure. This funding is reimbursable when the bond measure is approved.

¹⁶ A special sales tax that is restricted for use on a specific purpose requires approval from two-thirds of voters.

¹⁷ Voter approval (56.6%) of the Measure U in November 2018 went into effect on April 1, 2019.

¹⁸ Sacramento’s Measure U was initially intended to support both operating and capital needs, but has been used to support general city services as that City dealt with the effects of the COVID-19 pandemic. While the idea of issuing lease revenue bonds using Measure U revenue to pay debt service was considered by the Sacramento City Council, it was not implemented as the city currently needs all the revenue to meet its operating budget needs.

¹⁹ The authority to decide how Measure U money is spent resides with the Sacramento City Council.

Enhanced Infrastructure Finance Districts (EIFDs)

Another financing strategy discussed in the training was use of Enhanced Infrastructure Financing Districts (EIFD) for certain areas of a city. An EIFD is a type of tax increment financing tool that allows local governments to divert a portion of incremental growth in property tax from a specifically defined area to finance public infrastructure and community development projects. An EIFD is governed by a Public Financing Authority (PFA) made up of elected officials and community representatives. The PFA develops and oversees the implementation of the investment plan of the EIFD, called the Infrastructure Finance Plan (IFP).

The City of San Diego currently has one EIFD. The Otay Mesa EIFD was formed in 2017 to provide dedicated, supplemental revenues to address priorities and projects identified in the Otay Mesa Public Facilities Financing Plan. The projected cumulative property tax increment revenues for the Otay Mesa EIFD is \$970 million over 45 years – the maximum allowed duration of an EIFD. In FY 2023, property tax increment revenue was \$4.4 million. The City is currently considering the exploration of two additional EIFDs in the San Diego River Park and the Midway District.

Several cities we reviewed, including Sacramento, use EIFDs, which have both benefits and challenges. One major advantage is that EIFDs allow cities to accelerate the timing of infrastructure projects and stimulate subsequent private market development that might not otherwise occur or occur. EIFDs are also less complicated to implement compared to other tax incremental financing tools,²⁰ and a bond issuance by an EIFD once it is created does not require voter approval,²¹ but, it is subject to a majority protest at adoption.²² EIFDs also offer more flexibility in that they may finance a broad spectrum of projects that provide community-wide benefits such as transit facilities, sewage treatment and water reclamation plans, affordable housing, childcare facilities, libraries, and parks. Notably, EIFD revenues *cannot* be used for routine maintenance, repairs, ongoing operating costs or provision of services.

Importantly, EIFDs come with significant tradeoffs, including the diversion of future property tax revenue that would have otherwise gone to the General Fund for other City uses. For this reason, EIFDs are best used only when: (a) the area has significant growth potential that would not be developed otherwise; (b) the growth is dominated by land uses requiring limited City services; and (c) redevelopment debts are paid off. Additionally, EIFDs are generally more effective when multiple taxing agencies agree to participate. EIFDs also require potentially significant administrative and implementation costs, such as staff time and outside consultants to support financial and legal analysis. Additionally, borrowing costs for bonds supported by EIFD revenues can often be higher than GO Bonds and the City's lease revenue bonds.

²⁰ Examples of other types of tax incremental financing tools include Infrastructure Financing Districts and Infrastructure and Revitalization Financing Districts, both requiring two-thirds voter approval to establish.

²¹ Assembly Bill 116 (2019) allows for EIFDs to issue bonds without a public vote; however, additional public engagement requirements apply.

²² Under State requirements, the EIFD proceeding shall be terminated if a majority protest exists. A majority protest is when protests have been filed representing over half of the combined number of landowners and residents in the area who are at least 18 years old. If between 25% and 50% of landowners and residents protest, an election shall be held.

The representative from Sacramento noted that it would be beneficial to set policies and guidelines that establish the criteria to review EIFD requests, conditions where EIFDs may be appropriate or inappropriate, and criteria regarding the magnitude of revenues that can be included in EIFDs.

Effective CIP Delivery

The City's ability to efficiently deliver capital projects is critical, and would only be more essential should additional funding for infrastructure become available. If the City were to fully meet the needs identified in the most recent CIP Outlook, it would have to spend an additional about \$1 billion per year on General Fund infrastructure. In FY 2023, the City spent \$751 million through the use of General Fund debt financing and other funding resources. Approaches to increasing the City's capacity to deliver more CIP projects should be informed by peer cities with successful capital programs. Cities we reviewed that successfully leveraged additional revenues for capital projects all highlighted the importance of delivering projects within planned timeframes and in a transparent manner.

Our review of other cities found that numerous elements are essential to effective capital project delivery, such as clearly defined project scopes, thorough project planning (including funding plans), reliable budget estimates, rigorous risk and cost management, efficient procurement, project controls, and performance tracking. The following sections of this report expand on key elements of successful CIP project delivery.

Planning and Preliminary Design Support Informed Investment Decision-making

Effective project planning and preliminary design provide information with which cities can understand risks and make informed decisions. The City of San Antonio identified planning and preliminary design as a key factor contributing to the success of its GO Bond Program. This process often includes conducting feasibility studies, defining the scope of the project, refining resources needed, and determining how long the project will take. Effective planning and preliminary design should reveal risks and geotechnical, environmental, and permitting requirements, ultimately helping to determine if a project is feasible. To ensure CIP projects are sufficiently planned, E&CP is currently implementing recommendations from a [2023 CIP audit](#) by requiring insufficiently scoped individual, or standalone, projects to be reclassified as "P" projects (standing for preliminary engineering) until they can be fully scoped and a funding plan is developed. The Department is also working on implementing a stage gate governance framework for all projects which was identified in a [2023 WSP Operational Assessment of E&CP](#).

We found it is also important to engage both CIP and operating branches within Asset Managing Departments (AMDs) during project development and design. The CIP branch of AMDs should weigh in on project specifications and potential impact on adjacent or planned future assets, and the operational branch should weigh in on future operating and maintenance costs. This will help ensure budgetary implications of design are holistically considered. Based on our review of other cities, several cities, such as San Antonio and Austin, consult staff who will operate and maintain the new facility during the planning and design discussions. This helps to ensure the ease and efficiency of operations, and that efficient and cost-effective maintenance and repair can be conducted during the facility's useful life.

Streamlined Procurement, Design, and Construction Methods Enhance CIP Delivery

Based on our review of other cities, streamlined approaches to procurement for consultant services and construction contractors help streamline project execution, which is critical for timely delivery of capital projects. One procurement approach San Antonio used was mass selection of design consultants to help ensure bond program projects are delivered on-time and within budget: following voter approval of its 2022-2027 \$1.2 billion GO Bond Program, San Antonio released three Requests for Qualifications (RFQs) to seek professional design services for 127 projects. The RFQs resulted in one City Council action that awarded 140 design contracts for civil engineering, landscape architecture, and architecture, with a combined value of \$86 million.

Mass selection can allow for a quicker start on capital projects, and can create opportunities for local consultants, including local small, minority and women-owned businesses. The City of San Diego currently uses both individual project-based and as-needed Architectural and Engineering (A&E) contracts. As-needed A&E contracts allow the City to procure needed services for multiple projects under one contract and issue task orders as specific project needs arise.

Effective capital project delivery also relies on choosing the most effective project delivery method for various types of projects. The appropriate method depends on many factors, such as project budget, schedule, technical complexity, risk profile, and the City's level of expertise. The City of San Diego primarily uses Design-Bid-Build, but also uses, to a lesser extent, other approaches such as Design-Build and Construction Manager at Risk (CMAR); the City also uses Job Order Contracting (JOC) and Multiple Award Construction Contracts (MACC) for some projects. As discussed below, each project delivery method comes with advantages and drawbacks, and no single method is appropriate for all projects.

Commonly Used Methods in San Diego

Design-Bid-Build is one of the most well-established methods in the construction project industry and is the preferred vehicle for the City because of the experience and expertise the City possesses. As construction is bid separately from design, this method can lower construction costs by promoting competition among bidders and providing the City with more control during each phase of a project. However, this process can be lengthy, and there is limited opportunity for construction contractors to collaborate with A&E consultants when a scope of work is being developed, which could help refine project scope, avoid future conflicts, and reduce overall project costs. Lack of involvement of the contractor in the design process can be especially risky given the volatility of construction labor, equipment, and materials costs in the current environment.

The City also uses JOCs and MACCs for certain construction projects. JOCs are typically used for projects that mostly require single trades, such as mechanical, electrical, or pipeline work.²³ They also provide the City with immediate access to contractors during emergencies. While JOCs can be efficient for repetitive repair and maintenance projects, they are not designed for large complex projects that involve multiple trades and complicated scopes of work. MACCs²⁴ are typically procured for specific asset types, such as water, wastewater, or storm water related work. This

²³ A major benefit of JOC is savings on time and resources by benefiting from accelerated construction schedules, predictable construction costs, and reduced administrative expenses. It also provides the City with immediate access to contractors during emergencies.

²⁴ MACCs are multiple contract awards resulting from a single solicitation. As construction need arises, each shortlist contractor bid again for the specific work.

method reduces the procurement lead time and facilitates continuous competition to keep pressure on contractor pricing. However, multiple awards increase contract management complexity for the City and could take more time to award.

Alternative Methods to Enhance the Effectiveness of CIP Project Delivery

Design-Build

Design-Build is one of the most common alternatives to Design-Bid-Build. Under Design-Build, the city enters into a contract with a single entity to provide both design and construction services. The city first prepares schematic design level “bridge documents,” sufficient to facilitate the community and environmental review processes. The city then invites design-builders to develop proposals and evaluates bids on a best-value basis, taking into consideration performance specifications, qualifications, and design quality in addition to price. The selected design-builder is responsible for design, permitting, and construction at the contract’s fixed price. One application of Design-Build procurement is via a progressive process, commonly referred to as Progressive Design-Build.²⁵ Under Progressive Design-Build, the design-builder is selected primarily on qualifications and the final cost of the project is not established at the time of the selection. The city then works with the design-builder on a budget-level design development and negotiates the price for the final contract.

Design-Build addresses some of the shortcomings of the Design-Bid-Build method. As design and construction services are provided by the same entity, designs are often more constructible and require fewer design alterations and change orders. The City of San Antonio highlighted the importance of promoting early involvement of construction contractors during the design phase to help increase construction performance. Design-Build also allows construction to begin during the design phase to accelerate project delivery. Activities can often occur in parallel, while under Design-Bid-Build phases are generally sequential.

Design-Build is not without limitations, however, and may not be suitable for all projects. New construction projects with relatively defined project requirements and site conditions can particularly benefit from the flexibility and innovation in project design and the phased construction approach, but design-build may not be suitable for complex infrastructure projects with major unknowns in scope, site conditions, or environmental issues. Also, the Design-Build may not result in the most competitive price as it does not include an additional low bid process for construction. The success of a Design-Build process relies heavily on the City’s ability and experience to carry out projects and the presence of competent firms interested in competing for work under the Design-Build approach. According to E&CP officials, the City used to implement certain projects with Design-Build methods, but because of a lack of experience managing this type of project, the City largely reverted back to predominantly using the Design-Bid-Build method. However, E&CP officials noted they are considering the use the Progressive Design Build method more in the near future.

Construction Manager at Risk

Another alternative project delivery method is CMAR, which entails a commitment by a Construction Manager (CM) to deliver a project within a Guaranteed Maximum Price (GMP). The CM acts as a consultant in the development and design phases and offers advice on value

²⁵ According to E&CP staff, the Department is working with the City Attorney’s Office to ensure the Progressive Design Build method complies with the City Charter requirements.

engineering, cost analysis, and schedule development. The CM also acts as the equivalent of a general contractor during construction. Under CMAR, the CM acts in the City's interest and is incentivized to manage and control construction costs, as contractually any costs exceeding the GMP that do not result from change orders are the financial liability of the CM.

As with other delivery methods, incomplete or inaccurate construction drawings can result in scope changes that require change orders and that can drive up the GMP. Although CMAR is rarely used in the City, the City does have some experience with this delivery method, as it was used for the construction of the Central Library. CMAR can allow the City to have a construction contractor's feedback on the constructability of a facility and options for construction and controlling costs throughout the project. CMAR can be ideal for large complex projects where the City may want an expert's help to manage a project.

Public-Private Partnership

Public-Private Partnership (P3) involves the partnership between the public sector and the private sector for the design, construction, financing, and often long-term operations and maintenance of infrastructure assets over a specified period. A benefit of the P3 method is that some risks that are typically retained by the public owner under traditional delivery methods are transferred to the private sector partner. The public owner typically benefits from a contractually specified level of performance of an asset over the term of the P3 agreement. P3s also provide some financial benefits since projects could be delivered with limited City contributions to provide funding from the private partner. This is especially helpful to consider in the current environment of budgetary constraints and without impacting the City's borrowing capacity. P3 also provides lifecycle benefits when operation and maintenance obligations are included as responsibilities of the private partner, who is incentivized to take into account the lifecycle costs from the outset when designing and constructing the asset.

We note that although P3 is widely authorized in California and there is growing recognition of the advantages of P3, the complexities of the P3 model, coupled with cautiousness about sharing day-to-day control of public assets with private partners, and skepticism over the value of P3, limit its application. Importantly, for a P3 agreement to be efficient, the project needs to have adequate scale, technical complexity, and opportunities for risk transfers. Although the types of CIP projects that meet these criteria may be limited, some jurisdictions have successfully used P3 for large complex projects such as the Long Beach Civic Center and Carlsbad Desalination Plant. While the City has not used a P3 model for any major CIP projects, E&CP Officials noted interest in exploring this option.

Project Management Expertise and Project Performance Review Increases Project Delivery Effectiveness

Another key element that drives effective project delivery is the staff dedicated to supporting CIP projects. Our review of peer cities found that the successful execution of a capital project generally requires both a Project Engineer to handle technical aspects and adhere to established standards and specifications, and a Project Manager to oversee project budgets and schedules, coordinate with stakeholders, and communicate key project information.²⁶ Although there is a close

²⁶ This was also identified in the WSP Report.

partnership between the Project Engineer and Project Manager, the two roles require different skill sets and contribute to different aspects of a capital project.

Notably, the City of San Diego does not have a classification for Project Manager, and E&CP's Project Engineers carry out the responsibilities of both roles. While good Project Engineers are well versed in managing technical details and multitasking, balancing technical aspect of a project with other project demands can present difficulties. E&CP staff indicated they will evaluate the role classification of a Project Manager as a separate position.

Several cities we reviewed also have regular reviews of project scopes and costs throughout a project's lifetime, and further have reviews after a project has been completed. E&CP recently implemented a monthly "Project Performance Review" process for project teams to review project metrics, projections, and any challenges. This should improve accountability and help address any outstanding issues to help ensure projects are delivered on time and within budget. Further post-project reviews to evaluate the extent to which planned benefits have been delivered and to identify lessons learned could help inform future projects. San Francisco, for instance, established a Lessons Learned process and tracks all projects that have lessons learned. The City of Sacramento uses one-on-one meetings with design and construction staff for selected projects to promote candid discussion. Feedback from client departments is also invited.

CONCLUSION

The City faces significant fiscal challenges, with a structural deficit in the operating budget, chronically underfunded maintenance for several assets (e.g., stormwater and facilities), and a significant five-year \$4.8 billion capital funding gap which continues to grow. Existing revenue sources have limitations and are not sufficient to address the City's infrastructure needs. Ultimately, new revenue sources are needed to both maintain and build necessary City infrastructure.

Effective capital planning and financing practices have enabled several other large US cities to procure significant and reliable streams of infrastructure funding, often through voter approved ballot measures. Having an accurate, executable capital plan is a foundation for beginning to address the City's infrastructure needs, but that plan must include a financing strategy that identifies the resources and revenues needed to implement it. The City's ability to efficiently deliver capital projects and spend down funds is important in any case, but will be essential if new revenue for capital infrastructure becomes available.

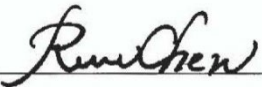
Based on our review of other cities, we identified the following key takeaways:

- Effective long-term capital plans should be executable and incorporate a financing strategy. Budgets and plans should also support the maintenance of existing capital assets and new capital assets as they come online.
- The key to an effective financing strategy is significant ongoing funding for infrastructure. This allows for better long-term planning and project delivery. Successful elements of financing strategies and new revenue measures include:
 - The use of public oversight committees to increase transparency, accountability, and public support.


- Sufficient lead time and planning, including potential consultant services, for specific capital projects that are called for in any special revenue measure.
- Successful CIP delivery includes conducting sufficient planning and predesign for projects and using the most effective delivery method for the various project types. Notable CIP delivery practices used by other cities include:
 - Streamlining procurement to include multiple design contracts in one package, in addition to using on-call design consultant contracts to help deliver projects more efficiently.
 - Establishing regular, formal post-project reviews can help cities recognize lessons learned, improve future planning, and make future project delivery more efficient and cost-effective.




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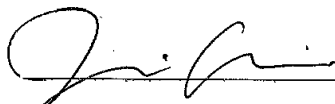
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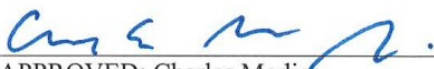
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