

Climate Action Plan Implementation Cost Analysis

A Preliminary Estimate of City of Solana Beach Staffing Costs

March 2018

Prepared for the City of Solana Beach



Prepared by the Energy Policy Initiatives Center



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About EPIC

The Energy Policy Initiatives Center (EPIC) is a nonprofit academic and research center of the USD School of Law that studies energy policy issues affecting the San Diego region and California. EPIC integrates research and analysis, law school study, and public education, and serves as a source of legal and policy expertise and information in the development of sustainable solutions that meet our future energy needs.

For more information, please visit the EPIC website at www.sandiego.edu/epic.

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EXECUTIVE SUMMARY

This report summarizes the findings of the City of Solana Beach (Solana Beach) Climate Action Plan (CAP) Implementation Cost Analysis conducted by the Energy Policy Initiatives Center (EPIC) at the University of San Diego. The analysis estimates staffing costs for the activities that would need to be conducted to achieve the GHG emission reduction targets included in the CAP. The goals of this analysis are to:

- estimate total staffing costs to Solana Beach to implement GHG reduction measures included in CAP over the first five fiscal years; and
- estimate the staffing impact to implement CAP measures.

While the analysis for this report evaluated costs for the first five fiscal years, CAP measures could have associated costs beyond the time frame presented here. Staffing cost estimates in this report represent those anticipated to be incurred by Solana Beach to implement CAP measures, including costs to develop and execute programs, and conduct education and outreach activities. Costs associated with CAP coordination and reporting, including costs to assess the performance of CAP measures annually, complete regular GHG inventory updates, coordinate implementation and performance-tracking activities among departments, and prepare CAP updates are also included here. How effectively CAP measures can reduce both GHGs and the costs borne by Solana Beach residents and businesses are *not* considered in this report.

Staffing cost results represent total costs and do not distinguish between those associated with existing programs and those developed specifically for the CAP. Staffing impacts are shown in full-time equivalent (FTE).

Key Findings

The following key findings summarize the results of the analysis conducted for this report.

Total Staffing Costs Would be about \$900,000 over the First Five Fiscal Years

Estimated staffing costs to implement CAP measures over the first five fiscal years would be about \$900,000, \$272,000 in FY 2017-18 and between \$145,000 and \$160,000 annually over the remaining four fiscal years (Table 1).

Table 1 Staffing Cost to Implement the CAP

	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	Total
Annual Cost	\$272,000	\$147,000	\$162,000	\$160,000	\$160,000	\$901,000
% of CAP Total	30%	16%	18%	18%	18%	100%

Existing Staffing Capacity Is Sufficient to Implement CAP Measures

Estimated annual staffing needs to implement CAP activities would be 1.3 FTE in FY 2017-18, about 0.8 FTE for FY 2018-19, 0.9 FTE in through FY 2020-21, and 0.8 FTE in the final fiscal year of the analysis period (Table 2). Higher staffing needs in the early years of CAP implementation is common and represents the startup nature of many of the associated programs, which could be new lines of work.

This pattern is also affected by the work in the first fiscal year by the City Manager’s Office to implement a Community Choice Aggregation (CCA) Program (Measure E-1). The highest staffing impacts would occur in the City Manager’s Office in FY 2017-18. The Assistant City Manager would require 0.4 FTE, the City Manager 0.3 FTE, and the Management Assistant 0.3 FTE. The contribution of these three positions drops in the remaining four fiscal years.

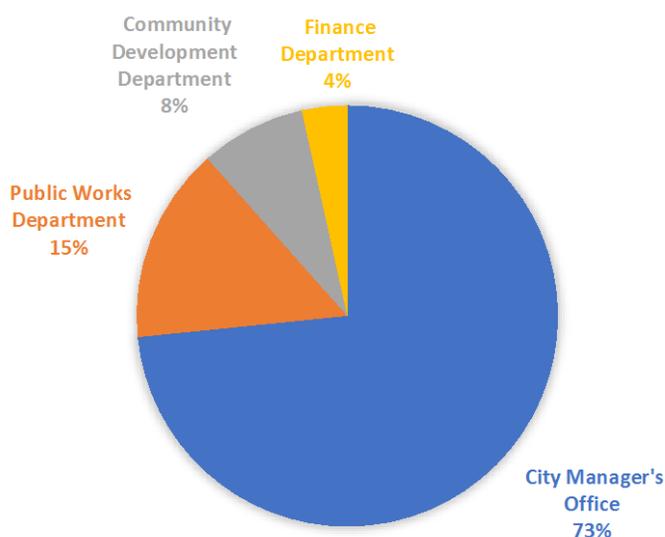
Table 2 Annual Staffing Impact (FTE) to Implement CAP Measures

	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
Annual Staffing Need	1.3	0.8	0.9	0.9	0.8

Most Costs are Associated with the City Manager’s Office

The City Manager’s Office would represent 73% of total staffing costs to implement CAP measures over the first five fiscal years, followed by Public Works with 15%. These two Departments would account for nearly 90% of all staffing costs (Figure 1).

Figure 1 Total Personnel Expenses by Department (Years 1-5)



Similar to the staffing impact, three positions in the City Manager’s Office would represent about 72% of total personnel costs associated with CAP implementation. The Assistant City Manager would have the highest estimated total staffing costs over the first five fiscal years of CAP implementation with about \$339,000 (38% of total costs). The City Manager would have the second highest staffing cost with about \$175,000 (19% of total staffing costs), followed by the Management Assistant with \$129,000 (14%).

Implementing a CCA Program Would Account for Nearly Half of Total Staffing Costs

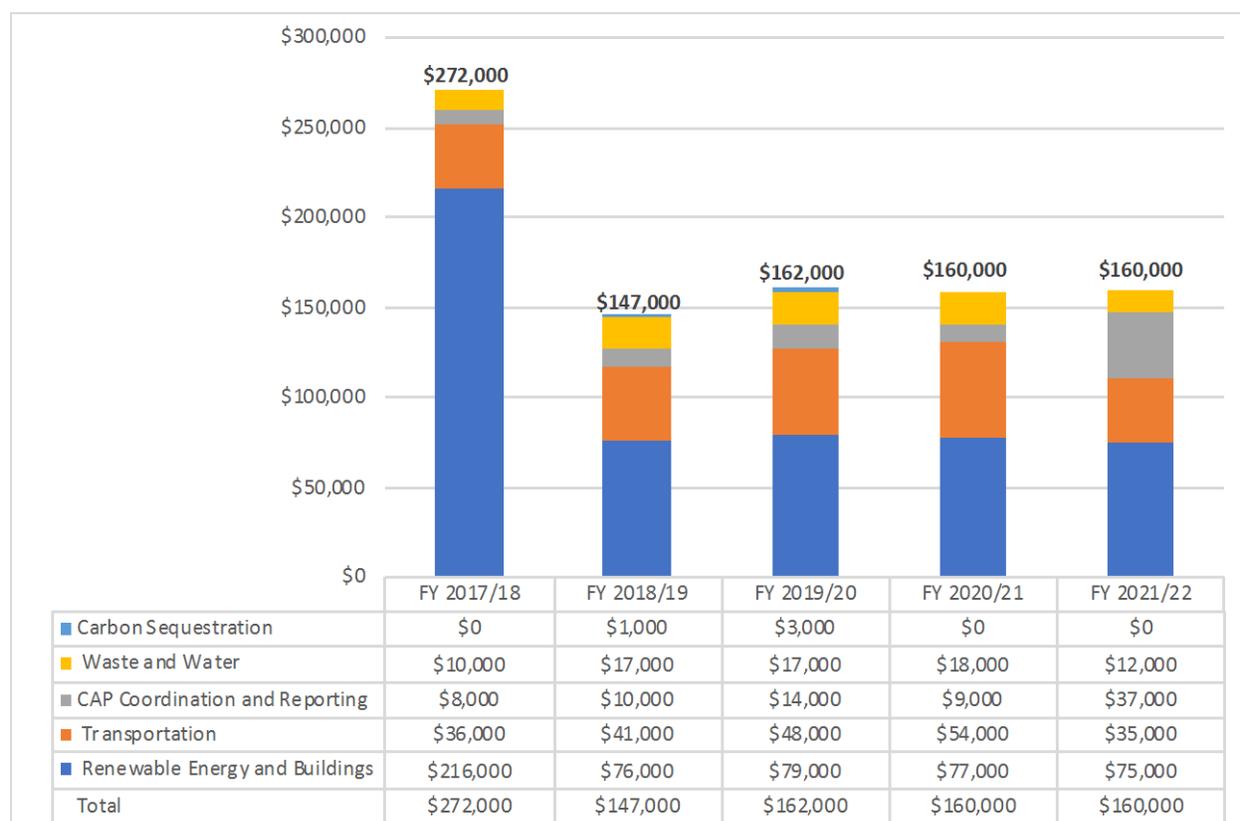
Measure E-1 (Implement a CCA Program) would have the highest total staffing cost during the five-year period with about \$371,000, or 41%, of total staffing costs. The cost in FY 2017-18 would be about \$200,000 and then drop to between \$40,000 and \$45,000 annually for the remaining four fiscal years. Measure T-1 (Electric and Alternative Fuel Vehicle) would have the second highest costs with \$54,000

(6% of total costs). Measure E-8 (Commercial Energy Efficiency Retrofits) would have the next highest total staffing costs with approximately \$4,900, about 5% of total.

The Renewable Energy and Buildings Strategy Would Have the Highest Staffing Costs

The Renewable Energy and Buildings strategy would have the highest associated staffing costs with a total of nearly \$523,000, about 60% of the total staffing costs (Figure 2). The staffing costs for this strategy are due mainly to Measure E-1 (Implement a CCA program), which would represent about 70% of the total staffing costs for the Renewable Energy and Buildings strategy. Figure 2 also includes CAP coordination and reporting costs, such as conducting regular inventories and monitoring measures. These activities are not formally included in the CAP as a strategy, but are an important cost to be considered.

Figure 2 Total CAP Implementation Costs by Strategy



Next Steps and Recommendations

Understanding the estimated annual staffing costs and impacts is necessary to determine the cost of implementing the draft CAP, especially since staffing costs are likely a significant cost incurred by Solana Beach. However, several additional steps could complement this analysis to provide a more comprehensive cost estimate.

- Estimate Other CAP Implementation Costs** – Solana Beach will incur additional costs to implement the CAP beyond staffing costs. Other costs could include consultants, materials and supplies, and capital expenditures. Estimating these costs would provide a more comprehensive view of CAP implementation costs.

- **Determine Incremental CAP Implementation Costs** – This analysis estimates total staffing costs and does not distinguish between existing activities and programs that would have been implemented regardless of CAP adoption and new activities that would be implemented only as a result of CAP adoption. Determining which cost are new as a result of the CAP could help Solana Beach understand the incremental costs associated with the CAP.
- **Consider Estimating the Cost Impacts to Solana Beach Residents and Businesses** – This analysis focuses on Solana Beach staffing costs and does not consider the potential financial impacts to homes and businesses located in the city. Conducting a benefit-cost analysis provides information on how cost-effectively each CAP measure can reduce GHG emissions and provides estimates on the financial impacts to those who participate in the programs or policies. However, CAP measure will be presented to the City Council for approval.

1 INTRODUCTION

This report summarizes the findings of the City of Solana Beach (Solana Beach) Climate Action Plan (CAP) Implementation Cost Analysis conducted by the Energy Policy Initiatives Center (EPIC) at the University of San Diego. The analysis estimates staffing costs for the activities that would need to be conducted to achieve the GHG emission reduction targets included in the CAP. The goals of this analysis are to:

- estimate total staffing costs to Solana Beach to implement GHG reduction measures included in CAP over the first five fiscal years; and
- estimate the staffing impact to implement CAP measures.

While the analysis for this report evaluated costs for the first five fiscal years, CAP measures could have associated costs beyond the time frame presented here. Staffing cost estimates in this report represent those anticipated to be incurred by Solana Beach to implement CAP measures, including costs to develop and execute programs, and conduct education and outreach activities. Costs associated with CAP coordination and reporting, including costs to assess the performance of CAP measures annually, complete regular GHG inventory updates, coordinate implementation and performance-tracking activities among departments, and prepare CAP updates are also included here. How effectively CAP measures can reduce both GHGs and the costs borne by Solana Beach residents and businesses are **not** considered in this report.

Staffing cost results represent total costs and do not distinguish between those associated with existing programs and those developed specifically for the CAP. Staffing impacts are shown in full-time equivalent (FTE).

1.1 Organization of Report

Section 2 of the report provides an overview of the CAP implementation cost analysis. The results for the estimated staffing costs required to implement CAP measures are presented in Section 3. The staffing impacts, presented in FTE, are summarized in Section 4. A discussion of the limitations of this analysis is included in Section 5 and a brief conclusion and summary of possible next steps is provided in Section 6.

2 CAP IMPLEMENTATION COST ANALYSIS OVERVIEW

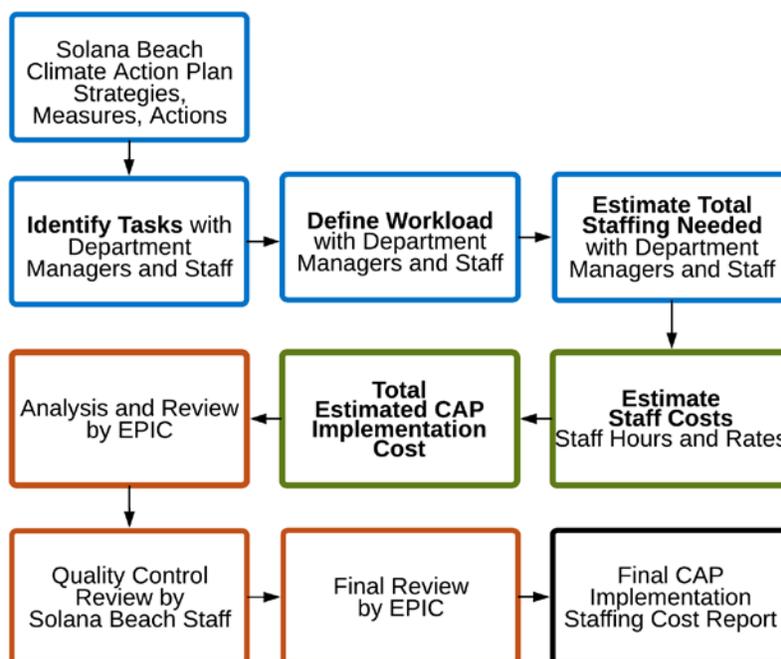
This report estimates staffing costs anticipated during the first five fiscal years of CAP implementation. The staffing costs presented are estimates based on input and discussions with Solana Beach staff that would be involved in its implementation and the anticipated implementation activity included in the Climate Action Plan Implementation Plan developed by Ascent Environmental, Inc. The costs are based on the best available information and can help each of these departments develop near-term budgets. To account for changes in CAP implementation activities, cost, and staffing impacts, the estimates included here can be updated in the future in concert with regular CAP monitoring and updating efforts. This would provide sufficient time to better understand how implementation activities may actually occur allowing for synchronization with the Solana Beach’s budget process.

The following sections summarize the process used to estimate CAP implementation costs and the overall framework used to identify and evaluate costs.

2.1 Process to Estimate CAP Implementation Costs

The general steps in the process to estimate CAP implementation costs were to: (1) determine the tasks required to implement CAP actions; (2) define workload associated with these tasks; and, (3) estimate staffing levels and associated costs. Figure 3 illustrates the general process used to identify resource gaps (blue boxes), estimate the cost of those resources (green boxes), compile results, conduct a review, and update appropriate Solana Beach staff (orange boxes).

Figure 3 Process to Develop CAP Implementation Staffing Cost Estimate

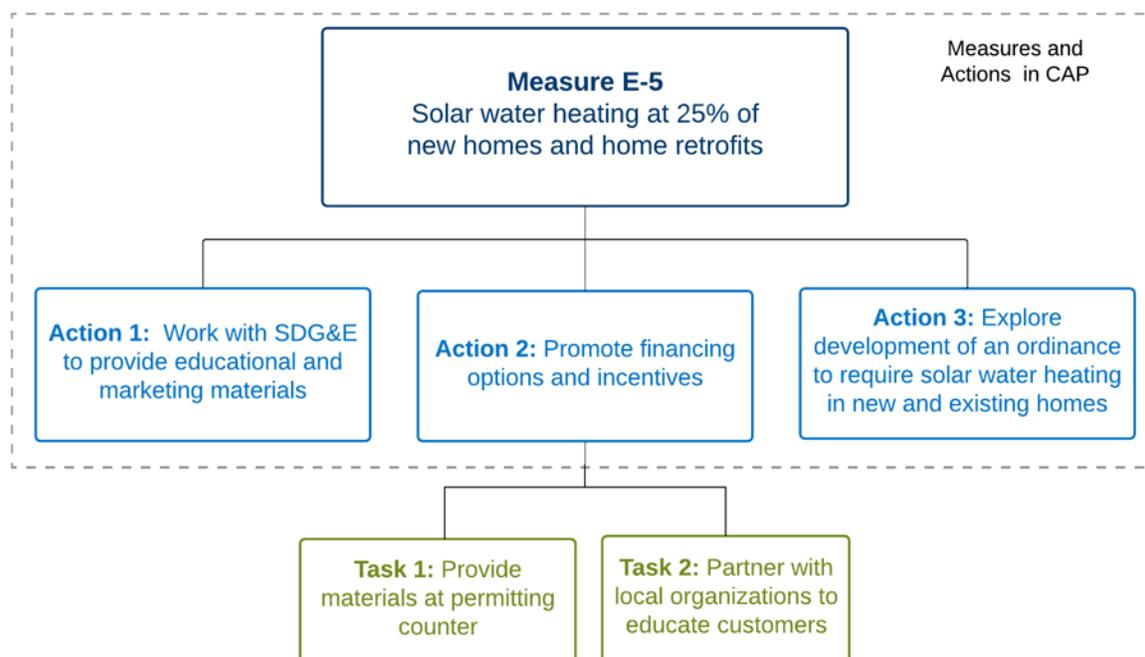


2.1.1 Identify CAP Tasks

The first step was for Solana Beach staff to identify tasks that represent the expected workload. The CAP comprises measures that include specific programs, policy actions, and associated tasks that will

be implemented to reduce GHG emissions. To better understand the potential workload and more accurately estimate associated costs, Solana Beach staff, assisted by Ascent Environmental, Inc., identified preliminary tasks for each action as part of the Climate Action Plan Implementation Plan. Figure 4 illustrates the relationship between the CAP measures, actions, and examples of implementation tasks.

Figure 4 Hierarchy of Measures, Actions, and Example Tasks



2.1.2 Establish Preliminary Cost Estimates

Once the tasks were identified, Solana Beach staff developed estimates for the staffing effort (in hours) required to implement CAP actions. To facilitate and standardize the collection of implementation cost data provided by Solana Beach staff across several departments, EPIC created a data collection template. Solana Beach staff and EPIC conducted meetings with department managers and staff representatives to further discuss cost estimates and cost data collection.

The cost estimates presented in this study reflect the staffing costs to implement the CAP adopted in July 2017. The cost estimates are based on reasonable assumptions of the work effort needed to implement the CAP actions. If the CAP measures change over time, implementation costs could be different from those reported here and would need to be adjusted.

2.1.3 Quality Control and Update to Departments

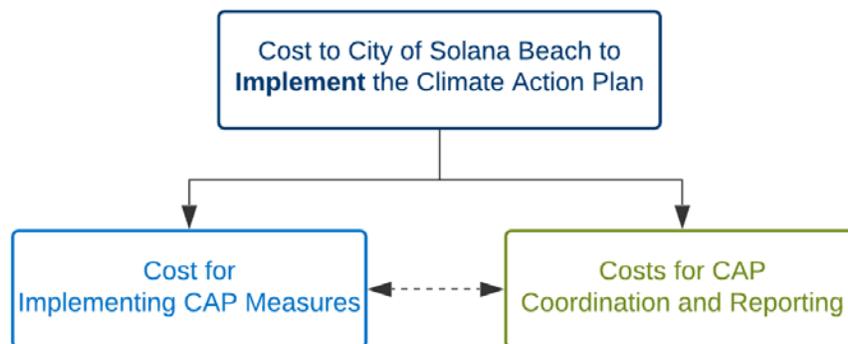
Quality control and data validation occurred at several stages. Primary validation occurred after total estimated costs were collected. EPIC and Solana Beach staff then performed an internal quality control check, updated key managers, and reviewed costs with department managers and staff. Based on this initial review, some cost components were updated to create consistency across all departments and to create a complete data set. Solana Beach staff also conducted a detailed consistency check to ensure internal cost reporting consistency. EPIC conducted a final review of all costs prior to inclusion in this report.

2.2 Costs Evaluated

In general, two broad types of costs can be considered in CAP implementation cost estimates: those incurred to implementing programs and activities related to CAP measures (including education and outreach, ordinance development, and conducting retrofits on city facilities), and those related to overall CAP coordination and reporting (including updating the GHG inventory, the monitoring and reporting progress, and updating the CAP) (Figure 5). There is a relationship between these two categories. Data on activity to implement CAP measures is needed to monitor and report CAP progress. Also, coordination among departments can identify effective methods to implement CAP measures.

While Solana Beach should anticipate a range of potential incremental costs to implement the CAP, including consultants, materials and supplies, and capital expenditures, this report focuses on staffing costs. All cost estimates, which are based on current fiscal year staff hourly rates with an assumed annual increase of 2.5%, are presented in 2017 dollars.

Figure 5 Implementation Cost Types Included in Analysis



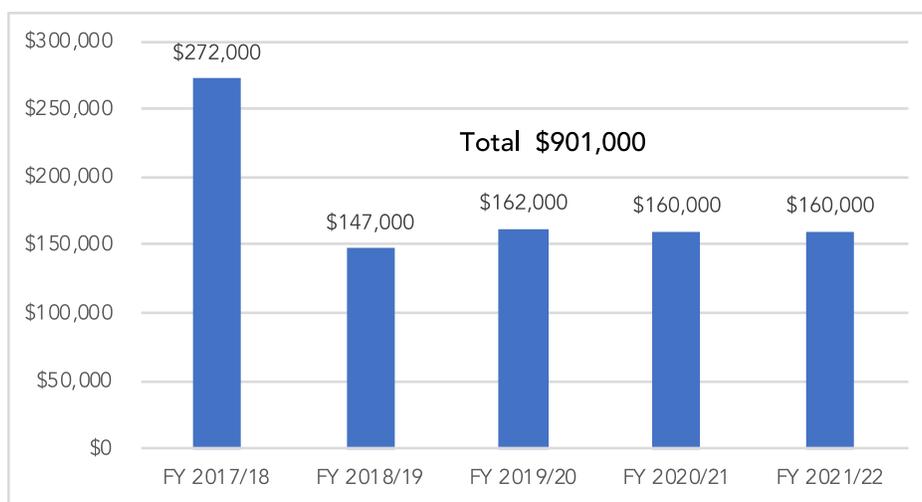
3 RESULTS – STAFFING COSTS

This section presents the results of the Solana Beach CAP Implementation Cost Analysis and answers the question: **What are the staffing costs to Solana Beach to implement the CAP over the first five fiscal years?** It presents an overall summary of staffing costs for the first five fiscal years and summarizes results by Solana Beach department, staff position, CAP measure, and CAP strategy.

3.1 Overall Results

Figure 6 summarizes the estimated staffing costs related to CAP implementation. The total staffing costs to implement CAP actions for the first five fiscal years is estimated to be about \$901,000. Of this total, \$272,000 (30% of total) would occur in the current fiscal and represent the start-up nature of many CAP activities. The level of staffing costs for the remaining four fiscal years are relatively steady at between about \$145,000 and \$160,000 annually.

Figure 6 Personnel Cost to Implement the CAP



3.2 Staffing Costs by Department

The Solana Beach CAP Implementation Cost Analysis estimated incremental costs for each affected department to illustrate how CAP staffing costs and workload would be distributed across the Solana Beach organizational structure. The highest percentage of total estimated incremental costs for CAP implementation are in the City Manager’s Office, which represents about 73% of total costs, followed by Public Works, with about 15% (Figure 7). These two departments represent nearly 90% of all staffing costs. Measure E-1 (Implement a CCA Program), subject to City Council approval, represents about 50% of the total staffing costs for the City Manager’s Office. Increasing bike lanes (Measure T-10) represents about 30% of the total staffing costs for the Public Works Department, followed by increasing commuting by walking (Measure T-g) and diverting waste from landfills and capturing landfill gas emissions (Measure W-1), which each represent about 10% of total costs.

Figure 7 Total Staff Cost by Department (Years 1-5)

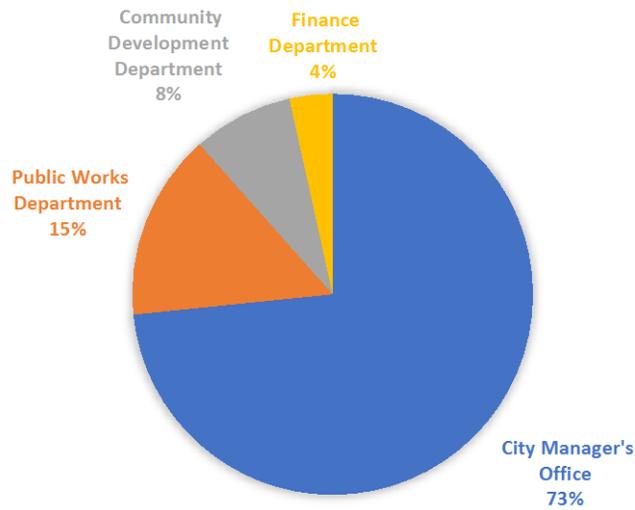
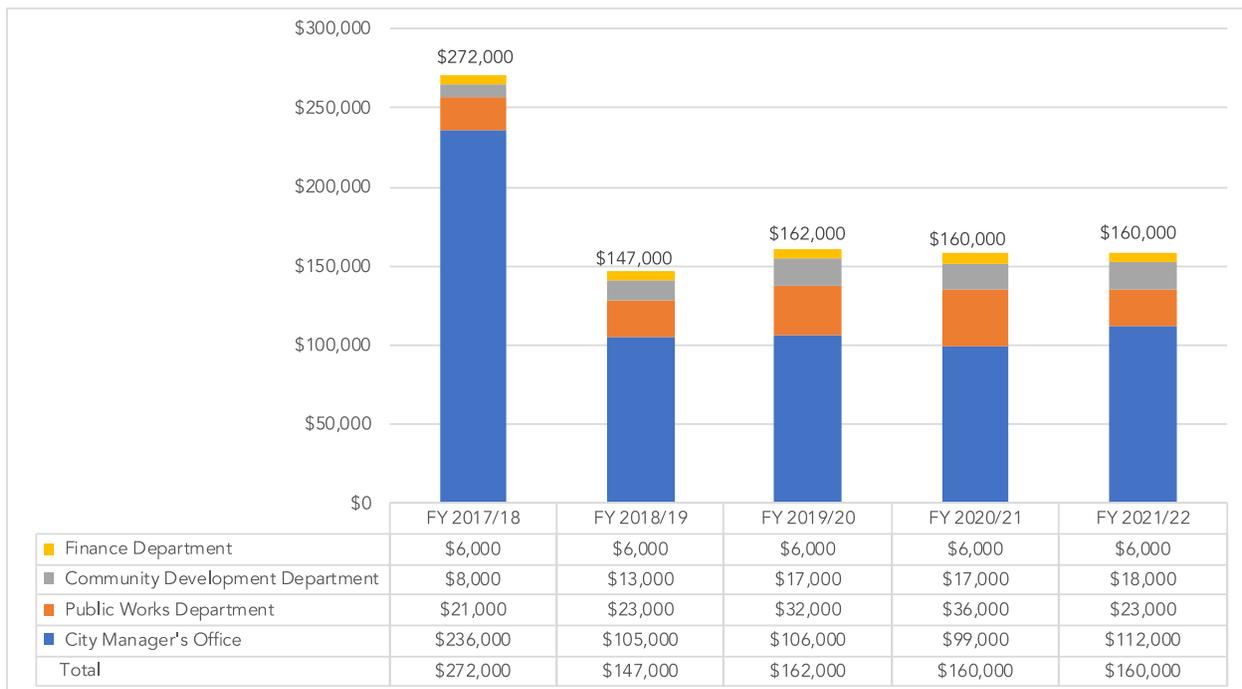


Figure 8 shows the annual staffing cost results for each department.

Figure 8 Total Personnel Cost to Implement the CAP by Department

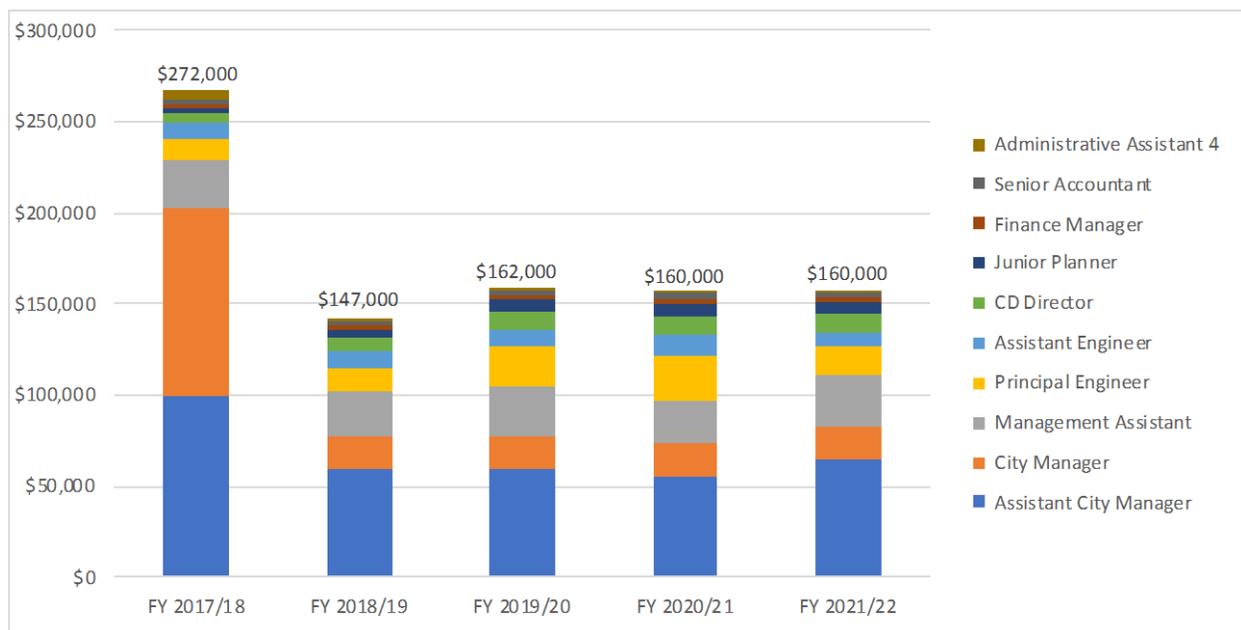


3.3 Staffing Costs by Staff Position

This section breaks down total staffing costs by staff position and provides a more granular perspective that allows for personnel planning associated with CAP implementation. It provides further detail for total costs and the incremental portion of costs associated with new programs.

The Assistant City Manager’s position in the City Manager’s Office would have the highest estimated total staffing costs over the first five fiscal years of CAP implementation, about \$339,000 (38% of total costs). Of the total for this position, \$100,000 would occur in FY 2017-18 and \$229,000 over the final four fiscal years, an average of between \$50,000 and \$60,000 annually over this period. The City Manager would have the second highest staffing cost of about \$175,000 (19% of total costs). About \$100,000 of these costs would occur in FY 2017-18 and \$75,000 in the remaining fiscal years. These two positions account for nearly 60% of total personnel costs associated with CAP implementation during the first five fiscal years. Figure 9 show the estimated cost by staff position for each participating Solana Beach department.

Figure 9 Total Staff Cost by Position



Work associated with three CAP measures would account for about 55% of the total staffing cost for the Assistant City Manager position: Implement a CCA Program (Measure E-1), subject to City Council approval, with about \$120,000 in costs over the five-year period (35% of total staffing costs for this position), Measures T-1 (Electric Vehicles and Alternative Fuel Vehicles) and E-2 (Residential Rooftop Solar Photovoltaic Systems) each would have a staffing cost of about \$30,000, about 10% of total costs for this position.

Costs associated with the City Manager’s participation in CAP implementation would be about \$175,000 over the five-year period, all associated with the Measure E-1. Similar to the cost distribution in Figure 9 above, about 60% of the costs associated with the City Manager and Assistant City Manager positions would occur in FY 2017-18, mainly due to the anticipated program development activities related to implementing a Community Choice Aggregation program (Measure E-1).

3.4 Staffing Costs by CAP Measure

The CAP implementation cost analysis also determined the total cost and staffing impact for each CAP measure. Table 3 below presents the estimated total staffing costs to implement each CAP measure in for the first five fiscal years. Measure E-1 (Implement a CCA Program) would have the highest total staffing cost during the five-year period with about \$371,000, or 41% of total staffing costs. The cost in

FY 2017-18 would be about \$200,000 and then drop to between \$40,000 and \$45,000 annually for the remaining four fiscal years. Measures T-1 (Electric Vehicles and Alternative Fuel Vehicles) would have a total cost of \$54,000 (6% of total) and E-8 (Commercial Energy Efficiency Retrofits) would cost about \$49,000 (5% of total).

3.4.1 CAP Coordination and Reporting

In addition to the measures included in the CAP, this analysis estimates the staffing cost associated with CAP coordination and reporting activities, including conducting regular inventories, monitoring CAP progress, updating the CAP, and interdepartmental coordination. These activities, which account for about \$78,000 over the five-year period, are not included as part of a CAP Measure and are therefore omitted from the totals presented in Table 3 below. These costs are included in total cost values presented in other sections of this report. The Assistant City Manager Position would account for about 35% of these estimated costs over five years.

Table 3 Staffing Cost by CAP Measure

CAP Measures	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	Total*	% of CAP Total
E-1	\$201,000	\$41,000	\$42,000	\$43,000	\$44,000	\$371,000	41%
T-1	\$9,000	\$12,000	\$11,000	\$11,000	\$11,000	\$54,000	6%
E-8	\$6,000	\$13,000	\$12,000	\$10,000	\$8,000	\$49,000	5%
E-2	\$5,000	\$9,000	\$10,000	\$10,000	\$10,000	\$44,000	5%
W-1	\$4,000	\$9,000	\$11,000	\$10,000	\$5,000	\$39,000	4%
T-10	\$14,000	\$13,000	\$3,000	\$5,000	\$4,000	\$39,000	4%
T-5	\$4,000	\$4,000	\$7,000	\$5,000	\$3,000	\$23,000	3%
E-3	\$1,000	\$5,000	\$6,000	\$5,000	\$5,000	\$22,000	2%
W-5	\$4,000	\$6,000	\$4,000	\$2,000	\$2,000	\$18,000	2%
T-9	\$0	\$0	\$8,000	\$7,000	\$1,000	\$16,000	2%
T-3	\$0	\$0	\$1,000	\$7,000	\$5,000	\$13,000	1%
T-4	\$0	\$1,000	\$3,000	\$5,000	\$2,000	\$11,000	1%
T-7	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$10,000	1%
T-11	\$1,000	\$2,000	\$2,000	\$2,000	\$1,000	\$8,000	1%
E-4	\$0	\$2,000	\$2,000	\$3,000	\$2,000	\$9,000	1%
T-2	\$2,000	\$2,000	\$1,000	\$1,000	\$1,000	\$7,000	1%
E-7	\$0	\$1,000	\$2,000	\$2,000	\$2,000	\$7,000	1%
T-8	\$0	\$1,000	\$3,000	\$2,000	\$1,000	\$7,000	1%
W-3	\$0	\$0	\$0	\$4,000	\$2,000	\$6,000	1%
E-5	\$0	\$1,000	\$1,000	\$1,000	\$1,000	\$4,000	0%
U-1	\$0	\$1,000	\$3,000	\$0	\$0	\$4,000	0%
T-6	\$0	\$0	\$3,000	\$2,000	\$0	\$5,000	1%
W-4	\$0	\$0	\$1,000	\$0	\$0	\$1,000	0%
E-6	\$0	\$0	\$0	\$0	\$0	\$0	0%
W-2	\$0	\$0	\$0	\$0	\$0	\$0	0%
Total	\$263,000	\$137,000	\$147,000	\$151,000	\$122,000	\$820,000	91%

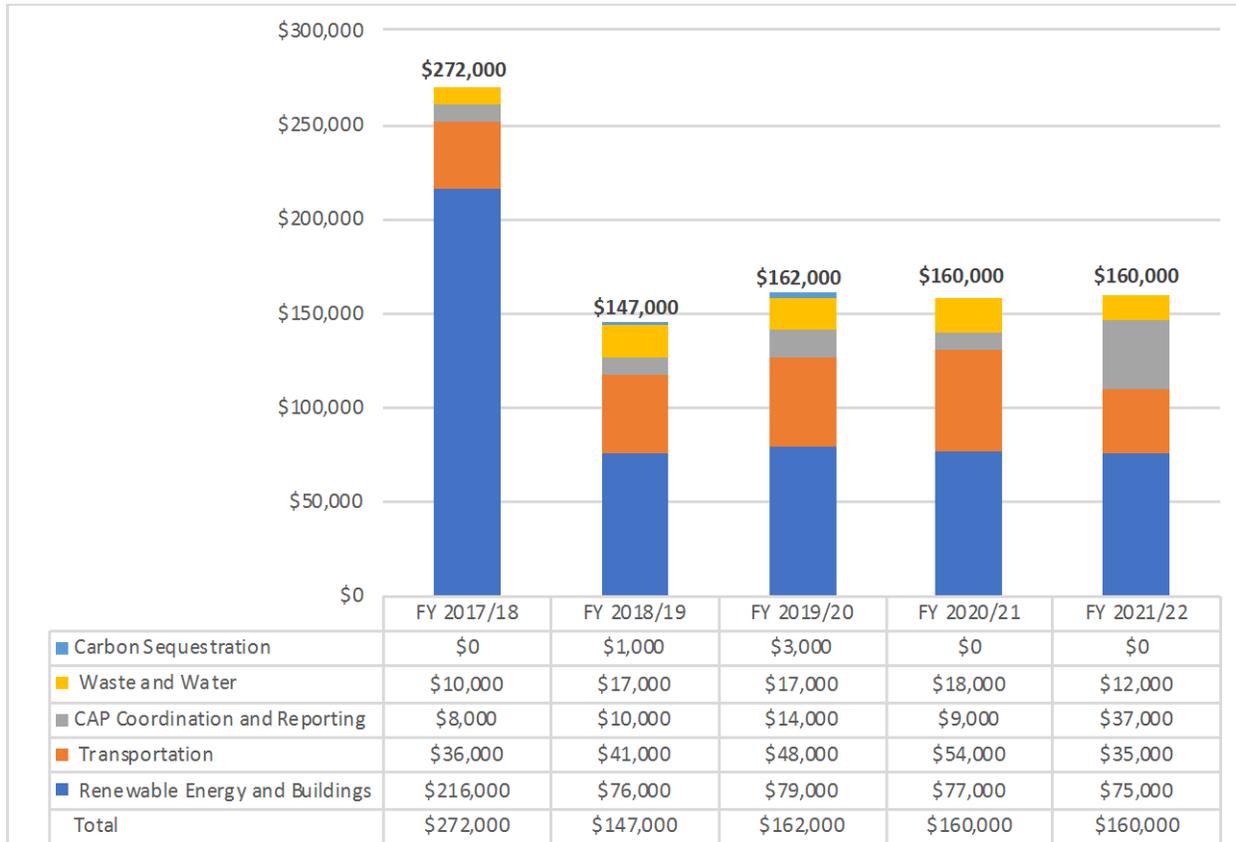
*The totals presented are for CAP measures and do not include costs related to CAP Coordination and Reporting. Values may not sum to totals due to rounding.

3.5 Staffing Cost by CAP Strategy

The Solana Beach CAP is organized into five broad strategies: Transportation, Renewable Energy and Buildings, Waste and Water, and Carbon Sequestration. Costs related to CAP Coordination and Reporting are included here. The Renewable Energy and Buildings strategy would have the highest associated staffing costs with a total of nearly \$523,000, or about 58% of overall costs. The staffing costs for this strategy are due mainly to Measure E-1 (Implement a CCA Program), which would represent about 70% of the total staffing costs for the Renewable Energy and Buildings strategy. About \$216,000 associated with this strategy would be incurred in FY 2017-18 and between about \$75,000 and

\$80,000 annually over the next four fiscal years. The Transportation strategy would be the second highest cost strategy with \$214,000, or 24% of total costs. Annual costs for this strategy are relatively steady and range between \$35,000 and \$55,000. Figure 10 summarizes these results.

Figure 10 Total Staff Cost by CAP Strategy



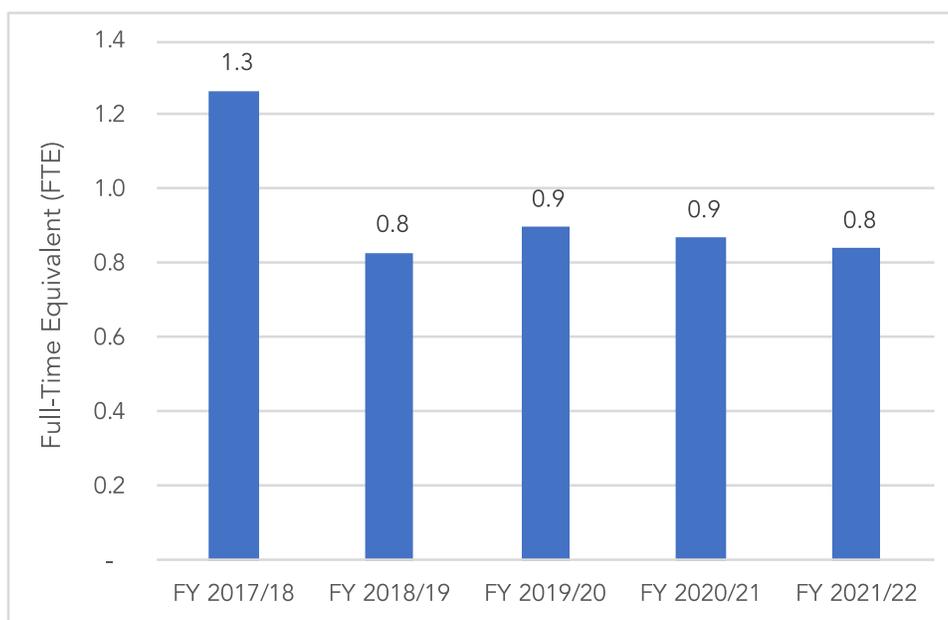
4 RESULTS – STAFFING IMPACTS (FTE)

The section presents the results of the Solana Beach CAP Implementation Cost analysis and answers the question: **What are the staffing impacts to Solana Beach to implement the CAP over the first five fiscal years?** It presents annual staffing needs over the first five fiscal years of CAP implementation. Results are broken down by Solana Beach department, staff position, CAP measure, and CAP strategy.

4.1 Overall Staff Impacts

Estimated annual staffing needs to implement CAP activities would be 1.3 FTE in FY 2017-18, about 0.8 FTE in FY 2018-19, 0.9 FTE in FY 2019/20 and FY 2020-21, and 0.8 FTE in the final fiscal year of the analysis period.¹ Higher staffing needs in the early years of CAP implementation is common and represents the startup nature of many of the associated programs, which could be new lines of work. This pattern is also affected by the work FY 2017-18 by the City Manager's Office to implement a CCA Program (Measure E-1). Figure 11 summarizes these results.

Figure 11 Summary of Annual Staffing Impacts (FTE) to Implement CAP Measures



The following sections present staffing impacts in more detail. Results are annual staffing needs, or the total FTE required to implement the anticipated CAP activities in each fiscal year. Also, it was assumed that all additional CAP efforts could be absorbed by existing staff and no new staff positions would be needed.

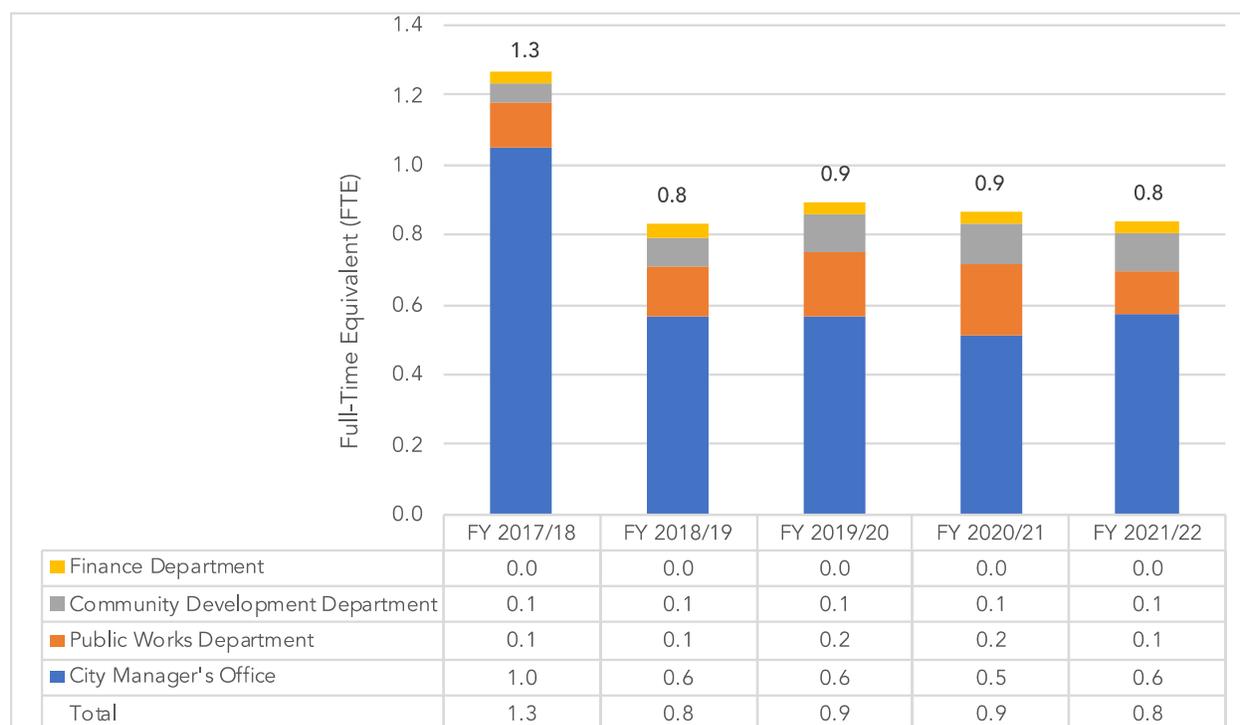
4.2 Staffing Impacts by Department

Similar to the distribution of staffing costs, the City Manager's Office would have the highest staffing impact with a total of 1 FTE in FY 2017-18 and between 0.5 and 0.6 FTE for the remaining four fiscal

¹ To convert hours to full-time equivalent (FTE), 2,080 hours is considered full-time.

years of the analysis period (Figure 12). The Public Works Department would have the second highest level of staffing needs as a result of the CAP with between 0.1 FTE and 0.2 FTE over the five-year period. These two departments account for over 90% of annual staffing impacts in FY 2017-18 and about 85% for the remaining four fiscal years.

Figure 12 Total Staff Impact (FTE) by Department²

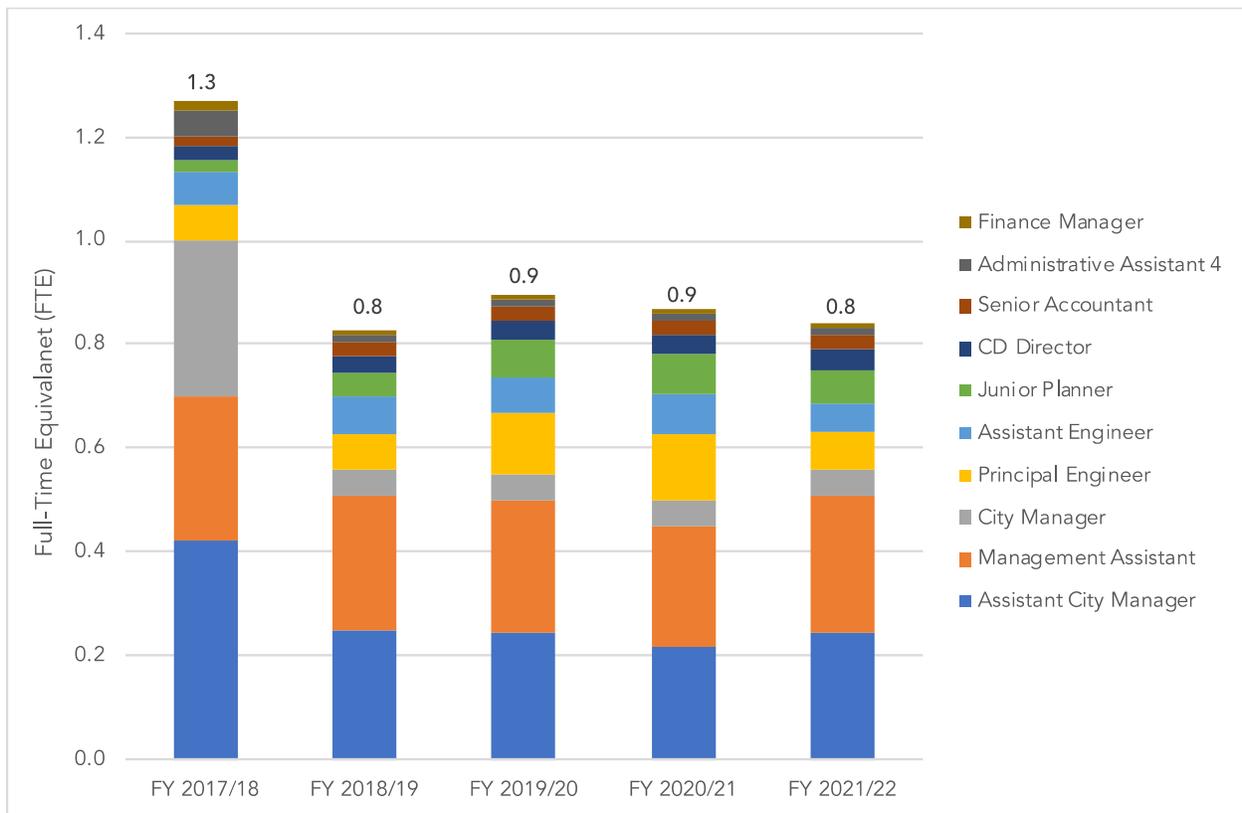


4.3 Staffing Impacts by Position

Three of the positions most affected by CAP implementation are in the City Manager’s Office: the Assistant City Manager, Management Assistant, and City Manager positions would account for nearly 80% of all staffing needs in FY 2017-18 and between 55% and 80% of the annual totals over the final four fiscal years. The Assistant City Manager would require 0.4 FTE in the first fiscal year and about 0.2 FTE annually for the remaining four fiscal years. The Management Assistant would require 0.3 FTE each year except FY 2020/21, which would require 0.2 FTE. The City Manager would require about 0.3 FTE in FY 2017-18 and 0.1 FTE annually in the remaining four fiscal years. The Assistant and Principal Engineer positions in the Public Works Department would also have among the highest staffing impact from CAP implementation with about 0.1 FTE annually over the five-year analysis period. Figure 13 summarizes these results.

² Values may not sum to totals due to rounding.

Figure 13 Total Staffing Impact (FTE) for Affected Positions



4.4 Staff Impacts by Measure

Measure E-1 (Implement a CCA Program) would have the highest staffing impact with 0.8 FTE in FY 2017/18 and 0.2 FTE annually the remaining four fiscal years of the analysis period. Measure T-1 (Electric and Alternative Fuel Vehicles) 0.1 FTE annually over the five-year period and Measure E-8 (Commercial Energy Efficiency Retrofits) would require 0.1 FTE annually in the final four fiscal years of the analysis. These three CAP measures would represent about 50% of the total staffing impact over the first five-year implementation period. Table 4 summarizes staffing impact by CAP measure.

Table 4 Total Staff Effort (FTE) by CAP Measure

CAP Measures	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
E-1 Community Choice Aggregation	0.8	0.2	0.2	0.2	0.2
T-1 Electric and Alternative Fuel Vehicles	0.1	0.1	0.1	0.1	0.1
E-8 Commercial Energy Efficiency Retrofits	0.0	0.1	0.1	0.1	0.1
T-10 Bike Lanes	0.1	0.1	0.0	0.0	0.0
E-2 Residential Solar Photovoltaic Systems	0.0	0.1	0.1	0.1	0.1
W-1 Waste Diversion and Landfill Gas Capture	0.0	0.1	0.1	0.1	0.0
E-3 Commercial Rooftop Photovoltaic Systems	0.0	0.0	0.0	0.0	0.0
T-5 Preferred Parking for Alternative Fuel Vehicles	0.0	0.0	0.0	0.0	0.0
W-5 Water Conservation	0.0	0.0	0.0	0.0	0.0
T-9 Walking	-	0.0	0.0	0.0	0.0
T-3 Average Commuter Trip Distance	-	-	0.0	0.1	0.0
T-11 Alternative Work Schedule	0.0	0.0	0.0	0.0	0.0
T-7 Telecommuting	0.0	0.0	0.0	0.0	0.0
E-4 Solar Water Heating (Existing Commercial)	0.0	0.0	0.0	0.0	0.0
T-4 Mass Transit	0.0	0.0	0.0	0.0	0.0
E-7 Residential Energy Efficiency Retrofits	0.0	0.0	0.0	0.0	0.0
T-8 Convert Municipal Fleet to Electric Vehicles	0.0	0.0	0.0	0.0	0.0
T-2 Vanpools	0.0	0.0	0.0	0.0	0.0
E-5 Solar Water Heating (Existing Homes)	0.0	0.0	0.0	0.0	0.0
W-3 Recycled water Program	-	-	-	0.0	0.0
U-1 Carbon Sequestration (Urban Tree Planting)	0.0	0.0	0.0	0.0	-
T-6 Traffic Signals Retiming	-	-	0.0	0.0	0.0
W-4 Wastewater Treatment Emissions Capture	0.0	0.0	0.0	0.0	0.0
E-6 Residential Natural Gas Efficiency	0.0	0.0	0.0	0.0	0.0
W-2 Existing Water Rate and Billing Structure	0.0	0.0	-	-	-
Total CAP Measures*	1.2	0.8	0.8	0.8	0.6

*Does not include staffing impact from CAP Coordination and Reporting activities.

Note that a zero represents a value that due to rounding is not visible in the significant digits presented. A dash (-) represents no staffing impact (or 0 FTE).

4.4.1 CAP Coordination and Reporting

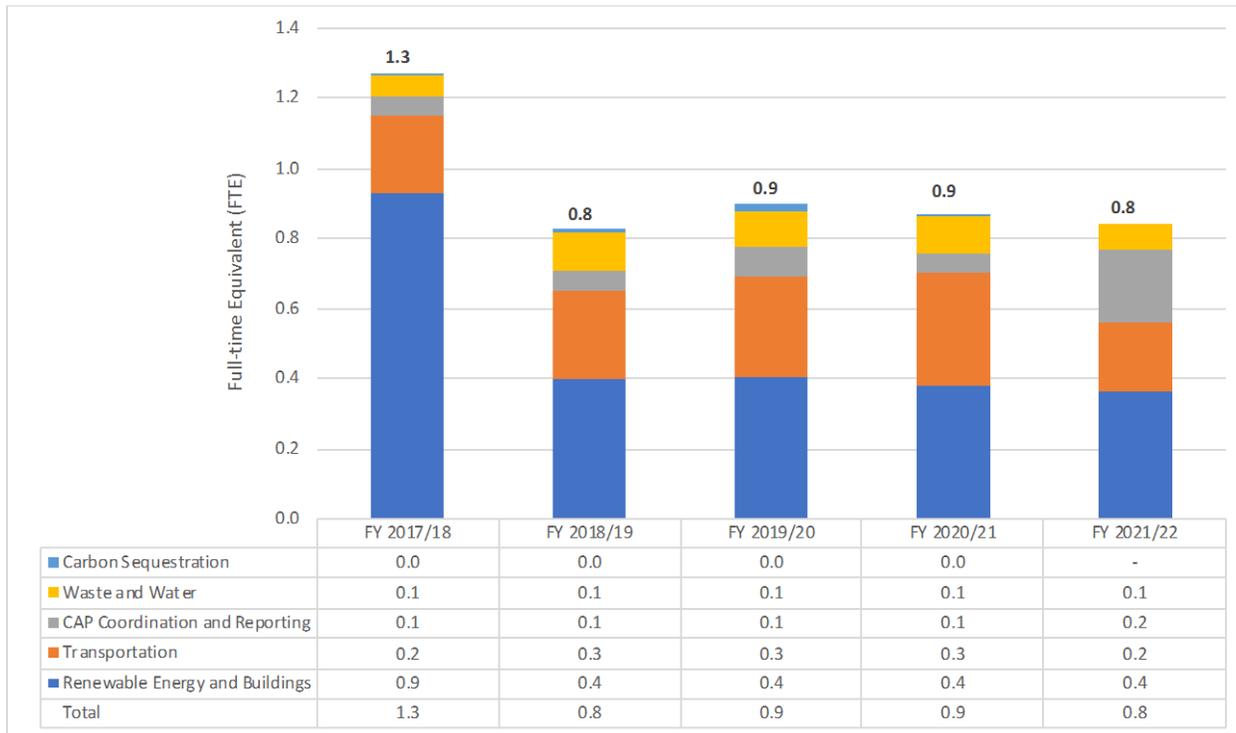
The staffing impact of CAP Coordination and Reporting activities would be minimal relative to other CAP implementation activities, accounting for 0.05 FTE in FY 2017/18, between 0.05 and 0.08 annually through FY 2020/21, and about 0.2 FTE in the final fiscal year. The Assistant City Manager and Management Analysis positions in the City Manager's Office would have the highest staffing needs for CAP Coordination and Reporting, representing about one third of all necessary effort.

4.5 Staff Impact by CAP Strategy

The Renewable Energy and Building Strategy would have the highest associated staffing impact with 0.9 FTE in FY 2017/18, and 0.4 FTE annually for the remaining four fiscal years. The Transportation Strategy would have the second highest staffing impact, with between about 0.2 FTE and 0.3 FTE

annually over the five fiscal years. These two strategies represent about 90% of annual staffing impacts in FY 2017/18 and between about 70% and 80% of annual FTE needs over the remaining four fiscal years. Figure 14 summarizes these findings.

Figure 14 Total Staff Impact (FTE) by CAP Activity Type³



³ Values may not sum to totals due to rounding.

5 LIMITATIONS

There are inherent limitations with any cost analysis that result in a degree of uncertainty that should be taken into account. This cost analysis uses the best information, data, and methods available at the time. Nonetheless the following limitations should be considered.

5.1 Staff Costs Only

This report evaluates only the staffing cost and impact (FTE) to implement CAP measures. It includes preliminary estimates for other costs (like supplies and materials and consultants), but does not allocate these to CAP measures, Solana Beach staff departments, or the other categories in the way staffing costs and impacts are presented. The cost estimates here do not capture cost estimates for consultants, supplies and materials, or capital associated with CAP measures. Additional analysis would be required to develop a more comprehensive estimate of CAP implementation costs.

5.2 Preliminary Estimate

The cost and staffing impact results presented are preliminary estimates. Because there is limited information about the specific tasks that would be required to implement the CAP measures, the estimates included are based on assumptions about the work to be performed. Over time, the specific tasks required to implement final CAP measures will become clearer and considerations for how to coordinate and sequence activities can be made, which may also affect the ultimate cost and staffing required to implement the final CAP.

5.3 CAP Time Horizon

This analysis evaluated Solana Beach's staffing cost and impact (FTE) for the first five years of CAP implementation through FY 2021-22. While the CAP has an implementation horizon of 2035, this report does not estimate costs between FY 2022-23 and 2035. This could cause misinterpretation of some of the findings. For example, certain CAP measures will be implemented and have costs beyond the scope of this initial cost analysis, but only the cost during the first five fiscal years of CAP implementation are captured here. To account for future costs, cost estimates could be updated through the CAP monitoring process.

5.4 GHG Emissions

This report does not consider the GHG emissions associated with CAP measures. It is common for cost analyses to normalize cost across GHG emission reductions in a CAP; this means dividing costs by GHG emissions to derive a cost per ton of carbon-dioxide equivalent (CO₂e) reduced. It is not possible to derive such values from the cost information included in this report, because there is no way to correlate the amount of GHG reductions that would occur due to the specific staffing expenditures estimated for this effort. For example, it would not be accurate to divide costs for the first five fiscal years by the total GHG reduction for 2035, because there could be additional costs associated with achieving those reductions.

6 CONCLUSION

This report summarizes the findings for the Solana Beach CAP implementation Cost Analysis conducted by the Energy Policy Initiatives Center (EPIC) at the University of San Diego. The overall goal of the report is to identify the total and incremental staffing costs and impact (FTE) required to implement CAP Measures.

Estimated staffing costs to implement CAP measures over the first five fiscal years would be \$901,000: about \$272,000 in FY 2017-18 and between about \$145,000 and \$160,000 over the remaining four fiscal years. The City Manager's Office would represent about 73% of total staffing costs to implement CAP measures over the first five fiscal years, followed by Public Works with 15%. These two departments would account for nearly 90% of all staffing costs. Measures E-1 (Implement a CCA Program) would have the highest total staffing cost during the five-year period with about \$371,000, or 41% of total staffing costs.

Estimated annual staffing needed to implement CAP activities would be 1.3 FTE in FY 2017-18, about 0.8 FTE for FY 2018-19, 0.9 FTE for FY 2018/19, 0.9 FTE through FY 2020-21, and 0.8 FTE in the final fiscal year of the analysis period. Higher staffing needs in the early years of CAP implementation is common and represents the startup nature of many of the associated programs, which could be new lines of work. This pattern is also affected by the work in FY 2017-18 by the City Manager's Office to implement a CCA Program (Measure E-1). The highest staffing impacts would occur in the City Manager's Office in the first fiscal year. The Assistant City Manager would require 0.4 FTE, the City Manager 0.3 FTE, and the Management Assistant 0.3 FTE in the first year of the analysis. The contribution of these three positions drops in the remaining four fiscal years.

Given the preliminary nature of this estimate, which is based on the CAP, regular updates may be necessary to monitor costs and to integrate any changes to measures and actions over time.

6.1 Next Steps and Recommendations

Understanding the estimated annual staffing costs and impacts is an important step in determining the cost of implementing the CAP, especially since staffing costs are likely the most significant cost incurred by Solana Beach. However, several additional steps could complement this analysis to provide a more comprehensive cost estimate.

- **Estimate Other CAP Implementation Costs** – Solana Beach will incur additional costs to implement the CAP beyond staffing costs. Other costs could include consultants, materials and supplies, and capital expenditures. Estimating these costs would provide a more comprehensive view of CAP implementation costs.
- **Determine Incremental CAP Implementation Costs** – This analysis estimated total staffing cost and did not distinguish between existing activities and programs that would have been implemented regardless of CAP adoption and new activities that would be implemented only as a result of CAP adoption. Determining which costs are new as a result of the CAP can help Solana Beach understand the incremental costs associated with the CAP.
- **Consider Estimating the Cost Impacts to Solana Beach Residents and Businesses** – This analysis focuses on Solana Beach staffing costs and does not consider the potential cost impacts to homes and businesses located in Solana Beach. Conducting a benefit-cost analysis provides information on how cost-effectively each CAP measure can reduce GHG

emissions and estimates the financial impacts to those who participate in the programs or policies. All CAP measures will be presented to City Council for approval.