



Funding and Financing Climate Action Plans

2019 USDN Innovation Fund Project

Final Report

ACKNOWLEDGMENTS

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Common Acronyms

USDN = Urban Sustainability Directors Network
HIP = Human Impact + Profit
CAP = Climate Action Plan
GHG = Greenhouse Gas
ROI = Return on Investment
PPP = Public Private Partnership
EV = Electric Vehicle
PACE = Property Assessed Clean Energy

EXECUTIVE SUMMARY

The *Funding and Financing Climate Action Plans* project seeks to be an important contribution to the past several years of progress towards climate action, attempting to answer the fundamental question:

How can cities better construct Climate Action Plans to ensure that the actions identified and prioritized can be implemented resulting in greater climate change mitigation and community resilience?

The USDN Innovation Fund began supporting research and experimentation on this issue in 2016, with the funding of the [Financing Sustainable Cities Scan and Toolkit](#). The toolkit identified more than 30 financing pathways for a wide range of climate action project types, and organized cities to build relationships with private sector finance providers. In the years since the publication of this report, cities have built on this work in several key ways, including summarizing financial data in climate action plans, developing finance maps for their own cities, and seeking new methods of estimating costs for both internal (city) and external (community) financial impacts.

In this report, building on the 2016 *Financing Sustainable Cities Scan and Toolkit*, HIP Investor was able to construct clear and accessible finance maps for six participating cities, demonstrating options and choices available for obtaining funding for each climate action. In 2019, the six cities described in this report – Anchorage, AK; Bend, OR; San Luis Obispo, CA; Fremont, CA; Columbia, MO; and Oakland, CA – worked with HIP Investor, Inc. to create detailed, visual Funding and Finance Climate Action Maps for each city’s climate actions and initiatives.

This work is additive to traditional climate action plan (CAP) creation or updates, meant to facilitate future implementation. Each City intends to use this project to establish financing strategies with cost estimations for priority actions within its plan. While cost estimations proved challenging, the financial mapping was more straightforward, and was aided by collaboration with outside experts working across cities who offered their industry expertise and relationships. This project’s resulting contribution to CAPs provided a value-add for elected officials and City administrations, demonstrating how actions could be implemented, and communicating a greater level of detail for the adoption of each CAP.

The following final report documents the process undertaken to develop finance maps for climate actions in CAPs. The Funding and Financing Climate Action Plans project contained both rewarding results and educational challenges, and holds value for cities seeking to understand options available for generating viable funding and finance pathways for their planning processes. This report was designed and written to provide cities with recommendations and best practices based on the experiences of the six participating cities, with the intention that more cities are able to build on this work with additional innovations, leading to best practices that help build the formality and credibility of sustainability as a core governmental expertise, skill, and capability.

Key Findings and Lessons Learned

- **Collaboration and teamwork across city departments is a key driver of success.** When City sustainability staff effectively collaborate with multiple stakeholder groups from the outset — including with City finance and economic development leads, elected officials, internal budget experts, and implementing managers across departments — they can improve understanding of available financing sources, utilize preferable methods for displaying cost projections, and enhance the accuracy and suitability of CAP funding and financing strategies.
- **Having a fully formed CAP, which includes a refined list of climate actions and preliminary project scopes, is essential to thoroughly estimating capital costs, operating expenditures, and ROI.** While cities glean actionable insights from considering funding and financing at any point in the CAP development process, creating the map itself is more informative when cities have a refined list of prioritized climate actions requiring capital funding, especially in regards to cost and revenue estimations. Given their early stage of CAP development, many cities found robust cost estimation to be beyond their capacity. Instead, they benefited from identifying a range of possible costs based on case studies from other cities, and identifying per-unit costs of from industry and academic studies. These methods enable cities to develop ballpark estimates for both capital and operating costs ranges, as well as the return on investment and payback for CAP actions. When operating and capital cost estimates and ROI calculations are pursued in full, cities often rely on engineers or feasibility studies that are transparent about the many assumptions made about future projects.
- **Capital and operating cost estimates, and ROI projections can be calculated in a number of ways, and local preference and needs should drive which methodology is used.** Some cities will seek to use their CAPs to understand the entire financial landscape of actions (including long term impacts to operational costs and triple-bottom-line benefits), while others will focus only on increment expenditures to existing processes (such as the added capital costs of electric alternatives for fleet vehicle replacement). Some cities may seek to capture broader community costs and ROI beyond what falls on city balance sheets. Choosing an analytical frame that is both approachable for City leaders and expansive in its consideration of costs and benefits can help city staff better advocate for CAP projects.
- **Financial innovation often originates from combining multiple mechanisms, or actions, into a single project.** By combining multiple funding pathways into a blended mechanism for a single project, and by creating or utilizing project structures that align the interests of private and public actors, cities can often overcome split-incentive problems and leverage external funding. Additionally, grouping several different climate action projects together under the same funding mechanism can create a multiplier effect for both project benefits and available funding. Bonds and grants are both funding mechanisms that can fund multiple projects, and even several climate action themes, in a single financial transaction.
- **Funding and Financing Climate Action Maps are effective and actionable communication tools.** City sustainability staff use their maps in meetings with their City Councils, local elected officials, agency leads, and external partners to communicate priority CAP projects, budgetary needs, and possible funding pathways. Cities valued case studies from other cities already implementing or piloting helpful, especially when detailed information on project scope was shared.

PROJECT DESCRIPTION

The *Funding and Financing Climate Action Plans* project was designed to address a specific deficiency in typical climate action plan (CAP) development: **Most CAPs fail to include both budgeting for municipal climate action implementation, and identifying funding and financing strategies to cover those costs.** This fundamental flaw would not be acceptable in any other city planning document guiding the provision of a municipal service, such as sewer, water, transportation, or land-use planning.

If the next generation of CAPs are to reach increased effectiveness and success, cities must better understand the costs and payback of implementing climate action strategies, and have funding plans that acknowledge, and even take advantage of, the often-complex ways climate action projects are paid for.

To begin this transformation, the six cities of the project applied to the USDN Innovation Fund for a grant to work with **HIP Investor, Inc.** to develop funding and finance maps for each of the planned or ongoing CAP updates in 2019 and 2020. The maps convey the rough costs of climate action projects wherever possible, and identify viable funding and finance mechanisms for cities to explore, along with possible partners and case studies of successes from other cities. The work proceeded with the following requirements and expectations for process and outcome:

1. Integrate Funding and Financing into Climate Action Planning

Cities can more proactively strategize how to implement their climate action plans by integrating funding and finance considerations earlier in the climate action planning process. The 2016 *Financing Sustainable Cities Scan and Toolkit* identified more than 30 funding vehicles and 8 partnership structures that cities can use to capitalize climate projects, with categorizations based on the type of financial mechanism (grants, partners, loans, bonds, budget, fees and new taxes, etc.), the possibility for revenue generation, taxation status, and other factors. Climate actions are generally selected based on their potential to reduce GHG emissions or build urban resilience. However, prioritizing actions with a clear path to available funding and financing could mitigate climate impacts more immediately

2. Realize Network-Wide Value

The six participating cities applied a consistent framework — identifying climate action themes, specific initiatives and projects, financial mechanism types, sources and potential partners, and case studies — across their diverse communities, to determine the funding and financing strategies that best suited their city's unique CAP. The six cities involved included a broad range of municipalities, both coastal and inland, and with a diversity of population, demographics, and regulatory environments. This approach is intended to ensure that the resulting products reflect the variable practices and norms in climate action planning across the USDN network, and thus maximize involvement among USDN member cities.

3. Build Internal and External Relationships

For many cities, climate action planning has been treated as aspirational or optional, rather than as a core municipal service to be provided to residents and businesses. While cities have significant internal resources for financing infrastructure and operations, they haven't been widely utilized for climate action planning. Additionally, the unique nature of funding for climate action (often combinations of user fees, grants, utility partnerships, philanthropy, general fund allocations, and many more) pose barriers to working with municipal finance and budget teams. **Building internal working relationships between cities' sustainability, economic development, and**

finance departments enables more strategic selection of priority climate actions and increased capitalization of high-impact projects, and a core goal of the 2019 work.

4. Produce Funding and Financing Climate Action Maps and Resources Usable by All Cities

Final maps, images, and outputs are referenced and integrated into this report, and are uploaded to the USDN website. Collectively, the maps demonstrate the many ways in which the participating cities attempted to identify and integrate the wide array of financial mechanisms into their unique geographies and municipal structures. This final report serves as the guidance document for cities and counties seeking to utilize and replicate the approach moving forward. In most cases, climate actions were not refined enough in scope to generate exact cost, investment, and ROI estimates, but where applicable, ranges per-unit calculations were refined to support the selection of financial strategies and potential funders, and were integrated into City’s detailed Funding and Finance Climate Action Maps. These maps illustrate the range of finance options that could be utilized to meet each city’s climate needs, and showcase unique case studies and blended models for traditional financing strategies. **City Funding and Finance Climate Action Maps have already helped USDN cities better communicate their funding needs and options, and attract resources and partners,** as well as collaborate with other cities to build economies of scale and drive coordinated action.



THE VALUE OF A FUNDING AND FINANCING MAP

A customized, detailed Funding and Financing Climate Action Map can be used just like a road map to decide where to drive climate action. Cities can 1) start with an action, 2) weigh the array of options for funding and financing, synthesizing into that equation their unique political environment and available credit, and 3) validate those options with case studies and potential partners.

Key Values

- + The process of creating a map **facilitates inter-agency coordination on climate action**, and helps sustainability departments advance projects through the process of project scoping and cost estimation.
- + Once completed, maps are **useful as a communication tool with internal and external partners** to secure political support, select funding and/or financing pathways, and take the next step towards project implementation.

Ideally, cities use their maps to pursue funding of their climate action projects, but until they are ready to implement, funding maps can help them prepare for the future. Cities can take their Funding and Financing Climate Action Maps to City Council, present them to constituents for feedback, or publish them on CAP websites. Sustainability department staff can utilize maps in working with their finance departments to identify potential pools of capital, and select a project's ultimate funding or finance strategy. Maps can be used in collaboration with staff in planning, building, transportation, and public works departments to further define climate actions and get specific on estimating capital and operating costs, and ROI, or in applying for grants or philanthropic support for projects.

City participants emphasized the political marketing value of their maps, and their utility in meetings and as a jumping-off point when starting to think about implementing a particular action. The maps visually express:

1. Which climate themes and actions have ample financial mechanisms, and where there are gaps
2. That most CAP projects can find funding and financing through multiple pathways
3. Inviting and shaping future discussions about the scope, costs, and ROI – and potential partners for climate action projects

In addition, by taking a system-wide perspective, Funding and Financing Climate Action Maps can help sustainability and finance professionals see how various funding and financing mechanisms apply across different climate themes and actions. Maps make visually apparent how a single funding or financing strategy could be utilized by multiple climate actions, helping cities schedule and coordinate joint efforts around the pursuit of a particular financing tool, or identify underutilized tools available in a state or region.

For example, the City of Fremont is considering a bond to combine a large subset of climate action initiatives, including transportation, municipal building energy efficiency retrofits, and energy generation projects. Bend is considering both a revolving loan fund, as well as exploring a Commercial-PACE (C-PACE) program, both of which leverage external funding to support a variety of project types including energy efficiency retrofits and renewable energy generation. Oakland is considering a Green or Public Bank as part of its CAP, which could

serve as the funding source for multiple other CAP action items.

To choose a preferred financial mechanism and begin productive conversations with funders, investors, and donors, cities need to refine their project scopes and work plans to a level of sufficient technical detail. This begins with stakeholder engagement, and in some cases is aided by feasibility studies, and possibly even pilot projects as a proof-of-concept for larger citywide initiatives. Building a Climate Funding and Financing Climate Action map is a great intermediary step between developing a city's CAP and sponsoring feasibility studies for CAP actions.



AN OVERVIEW: FUNDING AND FINANCING CLIMATE ACTION

Distinguishing Funding, Financing, and Revenue Generation

There are three major categories of financial pathways available for climate action: funding, financing, and revenue generation. For the purposes of this project, **funding** refers to repayment-free capital that is available from third-parties, **financing** refers to borrowed capital including loans, bonds, and other cost-sharing mechanisms that ultimately require the borrower to pay back the capital in full (typically with interest), and revenue generation from new charges, fees, or taxes, to citizens, beneficiaries, or customers, which can be placed on specific project users or applied to every resident or business in a given area. In some cases, **revenue generation** includes capturing cost savings that accrue from the project. Funding, financing, and revenue generation are often used together to implement major capital projects. While funding can support a capital project as a stand-alone mechanism, financing usually requires identifying a funding or revenue stream that will be used to repay borrowed capital.

Key Lesson

Innovation in municipal finance centers around creating new blends and combinations of the six major financial mechanisms. Whether through contractual agreements, legal structures or new city policies — innovative mechanisms break down traditional funding and finance mechanisms. Funding and financing integrate a multitude of public, private, and nonprofit partners in order to better align incentives, maximize financial benefits, evenly distribute risks and share technical expertise across partners.

Six Major Types of Financial Mechanisms

Building on the Financing Sustainable Cities Scan and Toolkit produced in 2016, below is an expanded and refined spectrum of financial mechanisms that are available for cities' climate action projects. Each of these mechanism types are included in the City maps in this project. This list is ordered by the increasing amount of debt load that would be incurred by the city (or other project lead): starting with free capital from grants and partnerships, continuing to capital borrowed from loans and bonds, and concluding with city funding from budget, taxes, and fees.

- 1. Grants** can provide a substantial source of 'repayment-free' capital, if cities have the staff capacity to invest in grant management. Grants make the most sense for cities with the necessary staff capacity (1-2 full-time equivalents, either internal or external experts) to track grant opportunities, craft meaningful proposals that link to the goals and mission of the donors, submit applications, and track results required for ongoing reporting.
- 2. Partnerships** often tap resources, and secure capital, from non-governmental and corporate actors, which can spread the financial risk of a project across multiple public, private, and/or nonprofit entities. Partnerships are well-suited for cities who cannot or do not want to own their project outright, and who are willing to share possible cost savings and revenue generation with a third-party.

3. **Loans** give cities access to upfront capital, whose principal and interest must be repaid over the duration of the loan. While cities should first consider grants and private partners that can provide repayment-free capital, when those pathways are unavailable loans are a dependable alternative. In many cases, municipal borrowers and impact-driven projects can find financing with low-interest rates.
4. **Bonds** provide dependable, predictable financing for cities looking to capitalize large infrastructure projects ranging from the millions to billions of dollars. A city can issue a bond directly, or apply for funds from a state bonding program. These bonds can be backed either by general city funds, or specific revenue sources. There are multiple types of bond structures including general obligation, revenue, and conduit bonds, as well as certifications like “green” bonds for climate and sustainability that communicate what types of projects bond proceeds are being used for.
5. **Budget** refers to using money in a city’s general fund to capitalize projects. Every year cities collect tax revenue and other fees to populate their general funds, portions of which are appropriated to new capital projects and infrastructure investments. As the inability of city budgets to cover the expansive list of new costly climate projects in CAPs is a primary motivation for this project, financial mechanisms beyond budget must begin covering a larger share of the load, and other financial mechanisms should be fully explored before cities turn to budget funding. Yet, opportunities remain for climate action to take higher priority in cities’ budgeting processes and for city budgets to fund appropriate climate-related expenditures. If using city budget is an option, well-suited projects tend to have total costs that are small enough to fit into 1 to 3 years of the city’s budget, and/or have costs incurred in a dispersed manner, ideally evenly distributed over a number of years or decades, like the costs of staffing for a new program.
6. **New taxes and fees**, as well as cost savings and other revenues, can create new flows of capital to fund climate action. Most often, however, ongoing revenue generation is not earmarked for a particular project and accumulated in a savings account. Rather, new revenue flows are funneled into cities’ general funds, or leveraged through financing, as is the case with revenue bonds. Revenue generation via new taxes and fees makes sense for cities that have not significantly raised taxes or fees on residents in the past year or two, for projects that do not need immediate upfront capital, or for cities pursuing a revenue bond that needs a source of project-based revenues.

A full explanation of the six major types of financial mechanisms, including the advantages and disadvantages of each approach, can be found in the **Appendix to the [Master Resource Document](#)**. The Master Resource Document is a catalog of funding, financing, and revenue-generation mechanisms, applied to cities’ CAP themes and actions (energy, buildings, transportation, waste, and natural resources). The appendix contains the total sum of all financial mechanisms, organized by the categories below.

THE METHODOLOGY OF BUILDING A MAP



Step 1: Preparation



Step 2: Document Financial and Political Sensitivities



Step 3: Prioritize Climate Action Initiatives for Financial Analysis



Step 4: Cost Estimation



Step 5: Generate List of Funding Pathways



Step 6: Build Relationships with External Funders and Partners



Step 7: Moving Towards Implementation

Step 1: Prepare, Plan, and Align Expectations



Lessons Learned

- **Before beginning, align expectations internally for cross-agency coordination**, open communication, and dedicated follow-up from other city departments engaged in CAP development. Collaboration between sustainability and finance staff is especially useful for identifying and refining funding and finance pathways.
- **Make a plan to engage with residents and community groups on their preferred funding and finance mechanisms**. Community outreach and engagement for CAPs can go beyond gathering feedback on projects and include preferences on finance strategies.
- **Link the CAP update process to the budget cycle**. Ideally, the climate action plan is updated as the budgeting period is kicking off, so that the learnings (and map) can be incorporated into fiscal allocations.

The successful implementation of a Climate Action Plan requires support from and collaboration between internal departments, and with external stakeholders. Engaging the Finance and Economic Development teams early in CAP advancement can help educate on the potential benefits of CAP projects, align expectations on the feasibility of various projects and financial mechanisms, and garner support for CAP initiatives. Before you start, reach out to staff from the finance and economic development teams in your city to set expectations for regular collaboration and feedback. Explain motivations for developing funding and finance strategy in tandem with CAP development, how their expertise and involvement will support better implementation of CAP projects.

Furthermore, support from City leadership for climate action — and specifically for conjoining CAP development with a proactive funding strategy — can create a sense of urgency and commitment within city government, as well as open doors with funders and potential partners. Looping in city leadership and soliciting their feedback on CAPs and financing maps early in the fiscal year can aid a smooth budgeting process. Whenever possible, work to secure buy-in from higher levels of city government.

Also critically important is creating forums to listen to the community and source feedback on impact areas and implementation approaches. Getting early buy-in from stakeholder groups on climate action projects, but also for the possibility of new fees, taxes, bond measures, and/or public-private partnerships, can generate the necessary political support for these finance mechanisms to be utilized. To reach a genuinely diverse audience, stakeholder engagement should ask residents for ideas and feedback, reach multiple neighborhoods and languages, honor residents' local expertise, and to the extent possible, provide childcare, food, and/or compensation for residents' participation.

The six project cities have taken a variety of approaches to engaging with their constituents on CAP development including hosting community events, forming special committees, conducting surveys, or publishing a draft CAP online for community members to comment on. The [Sacramento Mayors' Commission on Climate Change](#) stands as a good model for early stakeholder engagement on finance methods. They have put out calls for input on financing strategies to a diverse group of stakeholders, and the resulting feedback for specific action initiatives have been engaging and insightful. For example, the commission recently deprioritized on-bill financing for residential energy efficiency retrofits to avoid possible displacement of low-income residents.

The feedback gathered from conversations with city staff, elected officials, residents, and other local stakeholders creates a web of useful and practical advice that can be drawn upon while moving through the rest of the methodology outlined below. Furthermore, convening and facilitating discussion amongst business owners and industry interests, key public agencies, and community residents can encourage triple-bottom-line solutions, inter-departmental support for priority projects, and increased sharing and utilization of viable funding and finance mechanisms across agency silos.

It is very helpful to align cyclical timing so that tools created and lessons learned are ready to support upcoming decision making. In order for a Funding and Financing Climate Action Map to be useful in fiscal allocation, it would need to be prepared prior to the budget. If timing is misaligned, implementation could be stalled for a complete budgetary cycle and/or funding and financing options may be unavailable.

Step 2: Document Financial and Political Sensitivities



Lessons Learned

- **Engaging with other city departments about their sensitivities to various financial pathways brings multiple benefits**, including increasing the visibility of climate action projects, generating excitement about the possibility of revenue and/or cost savings, and helping align city priorities and timelines.
- **Gaining clarity on political sensitivities and other barriers can prevent sustainability departments from investing time and resources in nonviable financial mechanisms.**

Whereas Step 1 is about laying the foundation for collaboration with other city agencies and leaders, as well as local stakeholders and community members, Step 2 is about facilitating productive conversations to unearth any unique sensitivities your city may have to specific financial mechanisms. It is important early on to create a city-specific list of funding pathways that reflects what is pragmatically available.

To start, work internally to identify any political or other sensitivities to the comprehensive list of financial mechanisms (*see Six Types of Financial Mechanisms on page 10 of this report, and the [Master Resource Document Appendix](#) pages 66 to 86 for more information*). HIP Investor developed an internal survey – measuring Awareness, Viability, and Challenges – for sustainability teams to provide to their finance and economic development departments, or local elected officials who may better understand political sensitivities, to help create this list. The survey gleans institutional knowledge and expert opinions from city staff and documents historical, financial, legal, and political sensitivities to specific financing strategies. The survey reflects the 2016 Financing Sustainable Cities Scan and Toolkit’s 30 financing mechanisms and 8 partnerships and is updated with new innovations in funding and financing. See the Survey in the appendix of this final report.

Going through this process also serves as an opportunity for sustainability and finance departments to engage with each other. This helps align fiscal expectations for the CAP, and it also allows sustainability staff to communicate with their finance department about possible revenue or cost savings generated from these actions, helping to gain city-wide buy-in for the CAP. Additionally, cities should be reaching out to external stakeholders about their financial preferences for CAPs through community forums, and meetings with key industries, institutions, and special interest groups. By presenting on the range of pathways available to fund, finance, and generate revenue for climate action, as well as how those pathways impact stakeholders financially, cities can solicit vital information about each community’s willingness to pay and preferences on financial mechanisms.

Stakeholder engagements can also help cities identify community-driven finance mechanisms (ex: community solar) as well as businesses and institutions that are willing to enter into private-public partnerships to advance climate action. Furthermore, the needs of different stakeholder types, and the resources available to them, can drastically affect what actions make the most sense for a particular city. For instance, the creation of a Commercial-PACE program will have more impact and support in a community with a higher percentage of commercial facilities.

For the six cities engaged in this project, political and financial sensitivities that emerged included:

- **Anchorage, Alaska** is actively pursuing a C-PACE program. Anchorage's first choice would have been a statewide program, but in the absence of state leadership, the City decided to implement this as a local program. In order to make it easy for lenders to invest across jurisdictions however, Anchorage is coordinating with other boroughs in order to make Alaska's C-PACE programs as similar as possible.
- **Bend, Oregon's** sustainability and finance teams, painted a picture of a city building infrastructure for peak seasonal residents, but with the tax burden being shouldered unevenly by the permanent community. Bend had limited appetite for additional taxes directed at long-term residents. A gas tax had recently been attempted to support transportation investments and was voted down. Attempting another would be sensitive and most likely prioritized to support transportation investments broadly. Parcel Taxes were unlikely and Developer Impact Fees were already cumbersome. Community Choice Aggregation for energy is not authorized in the state of Oregon. Bend is instead pursuing different financing strategies, such as partnering with an Energy Services Company (ESCO).
- **Columbia, Missouri** turned down ESCO proposals during previous attempts to retrofit municipal buildings because they wanted to manage projects internally in order to capture their cost savings. Whether due to budgetary constraints or prioritization, several years later when these projects were still on the to-do list, Columbia is now reconsidering Energy Savings Performance Contracts (ESPCs) to get over the hurdle of inaction that can come with higher costs adding to indebtedness.
- **Fremont, California's** Finance and Sustainability Departments had been in ongoing conversations on the potential to fund a large subset of climate action projects through a bond measure, prior to launching their CAP development process. As climate actions are prioritized, and capital and operating costs and ROI are estimated, this conversation advances.
- **Oakland, California** has defined its plan as the Equitable Climate Action Plan. Ensuring the operating and capital cost burden and project benefits and ROI of any action are equitably distributed is an important factor in determining both what those actions are and how they should be funded. For example, Oakland's exploration of a Public Bank was the top-rated climate action among workshop participants, who believe that divestment from fossil fuels is a powerful market signal. Upon establishment, this could also serve as a source of capital for equity-based projects in the community.
- **San Luis Obispo, California** expressed during interviews that they had the full support of their city council and wanted to explore all funding options in more detail. They did have an initial interest in understanding revenue mechanisms, however political and technical feasibility, along with competing ballot measure revenue initiatives being considered by the City, made this infeasible to continue pursuing.

While each of the six major types of financial mechanisms may theoretically be capable of generating the necessary funding or financing for a given action, in reality, the funding landscape is much more complex, with each city carrying unique legacies of failure and success (i.e., tax sensitivities, failed bond measures, avid private partners, close relationships with foundation funders, etc.). As seen through these city-specific examples, each community needs to navigate its own unique set of financial and political sensitivities around each of these pathways.

Step 3: Prioritize List of Climate Action Initiatives for Financial Analysis



Lessons Learned

- **Prioritize financial analysis for CAP actions with large capital needs, higher ROIs, clear and concrete project scopes, and ample political and community support.**
- **A defined project scope and high-level analysis of the capital needs for each action can be very useful** in determining what types of funding and/or financing is needed, as well as what private partners and grant funders might be interested in the project.

If cost or schedule limitations make doing analysis of all action items untenable, consider selecting a smaller group of priority projects for consideration. Among the CAP projects of the six cities, 20 to 100 CAP projects and programs were reviewed relative to the bullets above, resulting in approximately 15 priority climate action initiatives to consider for deeper analysis for specific funding and financing. Developing the refined lists of CAP projects was an iterative process, which encouraged cities to balance capital needs, potential GHG reductions and resilience improvements, estimated returns on investments (ROIs), community and political support, and the viability of funding, financing, and revenue generation.

Key questions that guided the process are:

1. Did political or community feedback identify this climate action project as a high priority?

Using feedback gathered from Step 2 to refine the total action list, note initiatives that have strong political and/or community momentum. Also identify projects that are expected to move forward in the nearer-term or are otherwise on the fast-track to implementation.

2. Does this climate action need large amounts of capital to be implemented?

Not every high priority action is a great fit for the Funding and Financing Climate Action Map. Try to avoid actions that rely mostly on annual funds for employee salary, such as outreach, education, incentives, and policy initiatives. Such actions may have significant costs (or displaced revenue) over the program lifetime, but are generally funded by city budget or grants and likely won't be served by an array of funding or financing mechanisms. Choosing to focus on capital intensive projects gets cities to focus on the hardest to fund big-ticket items. This helps expose funding gaps in earlier in the CAP development process, giving cities adequate time to leverage private funds and explore alternative mechanisms. In some cases, there may even be opportunities for cities to facilitate new financial mechanisms to fill the gaps, such as a Green Bank, Revolving Loan Fund, or PACE program by passing legislation or supporting administrative requirements.

3. Is this action defined enough in scope to conceptualize its upfront capital needs, as well as its ongoing costs and payback?

Identify actions that have specific capital and operating costs, as well as cost savings and expected revenues. For example, developing a Zero Waste Policy may be a great initiative to prioritize, but until it has been refined into actions such as 'build a composting and yard trimming facility', then the action is still in the ideation stage and is not yet ready for a Climate Action Map. Greater understanding in project scope not only enables cities to better understand the project's capital needs and appropriate funding and finance pathways, but prepares cities to gauge interest from investors and outside partners early on, and in doing so, moves the defined actions closer to implementation.

4. Does this action unlock outside capital, have a quick return on investment, draw in private partners, or generate revenue that could support other CAP projects?

Prioritize climate actions that can catalyze investment, such as public-private partnerships (P3s) and other creative financial mechanisms. These projects benefit from early, coordinated planning between finance and sustainability departments. Additionally, capital intensive projects with significant long-term cost savings, such as building retrofits or electric vehicle fleet conversion, are great fits for Funding and Financing Climate Action Maps.

An additional tool that cities can use to help refine their CAP lists is the *Potential Action Matrix* developed by Fremont, California, which can be found in the appendix. The tool allowed Fremont to create a list of high impact priority actions that are likely to be included in its CAP before the plan was actually completed. From this, HIP Investor was able to begin identifying and developing relationships with potential funders and financiers for some of these projects and programs.

Step 4: Estimate Capital and Operating Costs and ROI



Lessons Learned

- **Case studies with defined project scopes, and transparent information about capital and operating costs and ROI, are useful communication tools** with internal and external stakeholders to convey a CAP action's projected financial impacts.
- **Per-unit estimates can be useful in refining project scope.** Unit costs, like the cost of a solar farm broken down into per-watt units, help cities estimate how upfront and ongoing costs and ROI will scale based on project size.
- **Cost and ROI estimate ranges help cities prioritize between multiple funding or financing strategies** by clarifying which financial mechanisms are most appropriate for the project's scale, upfront and ongoing costs, and ROI. However, in order to have confidence in expected project costs and ROI, CAP initiatives need concrete project scopes and usually the engagement of engineers and other technical professionals through a feasibility study. Without such detail, capital and ongoing cost estimates and ROI projections should be considered ballpark ranges. Starting with orders of magnitude can be a valuable first step.
- **The kind of funding and financing that is needed and/or available changes depending on project cost type** (fixed vs. variable; equipment vs. labor), **stakeholders** (who pays vs. benefits), **payback and ROI** (positive vs. negative), and **timing** (upfront vs. dispersed vs. ongoing).

Accurate cost and ROI estimates require a more detailed project scope and the engagement of specialized engineers, vendors, and contractors. As such, the estimation process usually takes place inside of a larger feasibility study and/or pilot project. Detailed and professional estimates are integral to securing funding and financing, and most projects will not be able to obtain grant funding, loans, or even city budget funds without a detailed budget and potential payback of all project costs. In some instances, grants can be a useful tool to fund feasibility studies and/or pilot projects. Cities had the greatest success in developing funding and financing strategies when specific projects that had already undergone feasibility studies, such as the Biodigester project in Bend, Oregon.

That said, CAP projects were in the earliest stages of development for the six participating cities, and City staff found it difficult to get more specific on project scopes and were hesitant to make the assumptions necessary to do so. Many CAP projects had yet to begin the cost estimation and/or feasibility study process, and were still indeterminate on key details. Furthermore, many cities are challenged to internally estimate costs of climate actions due to limited staffing, constrained budgets for technology, ranging project scopes, and changing costs of equipment and hardware, labor, and variable revenue projections, especially for the most innovative actions.

Given these barriers to cost and ROI estimation, and how project scoping was in the earliest stages for most CAP projects, the Funding and Financing Climate Action Plans project had to move towards capturing case studies from equivalent projects, estimating per-unit costs and ROI from industry and academic research, and in some cases developing ballpark estimates for entire projects.

Before starting any kind of cost or ROI estimation study, whether range-based or technically specific, it is critical that each city consider *what types of capital and operating costs to include in the analysis.* Costs can be broad-based (community and governmental) or narrow (governmental only), and can be incremental (climate additions to existing funded projects) or comprehensive (total project cost for all elements). Each approach has benefits, but local priorities and information will likely help define which approach works best for a particular city. The City of Oakland, as an example, utilized narrow and incremental capital and operating costs in its CAP, in an effort to inform its City Council of the additional investment needed to refine their existing processes and programs into climate-friendly alternatives. For cities wanting to communicate the financial benefits of climate action, it can be helpful to focus on community, incremental costs and ROI over a longer time horizon. Many climate interventions (including renewable energy, energy efficiency, fleet electrification, recycling facilities, and green infrastructure) often have positive ROI on city budgets when compared with business as usual capital investments and maintenance expenditures over a 10-year, 20-year, or longer time period.

The process of developing **ballpark ranges and estimates** should begin with conversations across municipal departments. A sustainability director may not be an expert on available roof space on municipal buildings, but facilities managers may have already completed that analysis, and have a better gauge for the specific upfront and maintenance costs and ROI of implementing in the geography. In the same vein, a sustainability director could reach out to the transportation director to understand the fleet size, age, and budget for conversion to new fuels or powertrains.

Per-unit estimates can be sourced from external research reports, industry association figures, and individual case studies. Cities should exercise caution when working with reports that are over a few years old, or that are from different geographies or regulatory landscapes — all of which can undermine the accuracy of an estimate. Where appropriate, these figures can be applied to the specific scope of city CAP projects. It should be stressed that such ballpark analyses do not serve the technical rigor required to procure actual funding and financing, but they are part of an ongoing iterative process to make progress towards climate action, and can help to refine project scope and prioritize resources.

Where projects are innovative and a city doesn't have a good benchmark to reference project scope or cost, it is helpful to reference **case studies** from similar cities that recently implemented similar climate actions. Researching Bend, Oregon's potential upfront and ongoing costs for administering a Commercial PACE program, EnergyTrust of Oregon and PropertyFit Multnomah County served as reasonable references, when adjusting for order of magnitude. This process also initiated a dialogue that eventually presented opportunities to leverage resources and reduce costs.

Regardless of whether cities have technical cost and ROI estimates, or a ballpark range, having a basic understanding of a project's financials helps cities appreciate how much capital they need, what payback is viable, which financial mechanisms are best suited for their CAP project. For example: if estimates for an off-site solar array project millions of dollars in capital costs, cities can assume that even a successful grant application is unlikely to cover 100% of the upfront capital needed, and that the project would need a bond, bank loan, or private partner in order to break ground. Likewise, if EV charging stations are in a CAP, a grant application or private partner might be best to capitalize a small pilot, compared to a bond which would be more appropriate if there's a comprehensive plan to implement EV stations ubiquitously and in high volume.

Ranges of cost savings and revenue streams, and how those costs and revenues accrue over time into a payback or ROI calculation, are prudent factors to structuring partnerships and engaging stakeholders.

For example, energy efficiency retrofits can generate cost savings of more than 30% for 15 to 20 years. If external partners are involved, such as with an energy savings performance contract (ESPC), cities may not need to provide any upfront capital, but the project's cost savings would accrue with a private third party and be lost by the city. An anaerobic digester may need \$5M to \$10M in upfront capital, but could also generate \$1 to \$2M annually in natural gas delivery revenue. Over 20 years, that can be an attractive financial investment for a city. Cities must consider the estimated return on investment (ROI), how project costs and revenues balance out over the useful life of the project, and whether they are willing to forego long term cost savings or revenue generation capacity by partnering with a private third party.

Furthermore, cities can also quantify the “triple-bottom-line” (people, planet, and profit) costs and benefits of projects. Many sustainability projects generate a breadth of social and environmental benefits beyond financials. For example, green infrastructure not only reduces stormwater runoff, but also benefits local recreation, enhances aesthetics (which can be reflected in property values), reduces heat stress-related illness and fatalities, improves water quality, enhances wetlands, creates jobs, reduces energy use, absorbs carbon and air pollution, and improves air quality and community health (learn more at [EPA.gov](https://www.epa.gov)). If cities are able to quantify these external benefits, and how they impact city budgets over time, they can better position themselves to advocate for capital investments that generate relatively greater triple-bottom-line ROIs.

In some situations, however, cities need to go beyond quantifying and communicating triple-bottom-line benefits, and also work to **align incentives so the agencies paying for triple-bottom-line projects accrue some of the related benefits and cost savings.** In Fremont, CA, efforts to use more expensive asphalt with better draining properties and a higher albedo coefficient were stalled because the benefits of the project would not be realized by the department implementing them. It was difficult for the Transportation Department to justify the additional upfront expenditure as the department would not be reimbursed for the higher-quality asphalt's environmental benefits, nor would they be responsible for measuring value-add to people, planet or profit. To overcome these hurdles, cities can apply for specific grant funding to reimburse higher costs, or use mechanisms such as Environmental Impact Bonds or Conservation Banking, which generate revenues from specific impact performance metrics, and can help to shift the incentives of various departments.

There are several examples of methodologies for estimating capital and operating costs and ROI that were identified in the course of this project (and the previous 2016 report). These are available for use and reference by cities seeking to do their own cost estimations for CAP action items. The [City of La Mesa Climate Action Plan](#) (specifically see Appendix C in La Mesa's CAP) and an [independent cost report for the San Diego County Climate Action Plan](#) were both useful analyses completed by the EPIC Center at the University of San Diego School of Law. The City of Toronto completed full community-level cost estimates for its [TransformTO Climate Action Plan](#). These efforts can serve as a starting point for cities seeking to utilize existing work in climate cost estimation.

Step 5: Generate List of Funding Pathways



Lessons Learned

- **Synthesizing information about a CAP project's ownership structure, budget, cost savings, capital optimization, revenue generation, political and community support, and impact theme will narrow down the list of applicable funding and finance mechanisms.**
- **State-level support for climate action can vary widely**, as expressed through the amount of funds available to municipalities through state-administered grants and loans, as well as regulatory support for climate mitigation and adaptation initiatives. If located within a climate-leader state, a city could take advantage of readily available state resources and programs. If not, cities need to pursue additional external funders and private partners.
- **The population size and density of a city affects the viability of certain funding and finance pathways.** Bigger cities tend to have more internal resources and stakeholders to draw upon, and can be more attractive for certain types of private partnerships. For example, Fremont expressed they had difficulty attracting a partner for a car-share program because of the city's low population density. Larger cities can capitalize on their consumer base and economic power, whereas smaller cities may succeed with local industry stakeholders or in partnership with nearby cities to grow their influence.

After developing cost estimates for a city's refined list of climate actions, cities are ready to start mapping available funding pathways to these actions. Below are some of the primary criteria that help cities generate a list of appropriate funding and finance pathways for CAP projects. By working through this set of questions, a city can create a map of funding and finance pathways that are well-suited for each unique climate action.

In addition to the list below, HIP Investor developed a [Master Resource Document](#) documenting a catalog of some of the most common funding and financing mechanisms used for popular climate actions. Any city looking to fund a specific action within their own plan may use this document to see how other cities have funded similar actions in the past, and what some of the determining factors have been to decide when to pursue one pathway over another. This report may be of value to cities narrowing down which financial mechanisms to explore, and is complete with case studies that are specific to each funding mechanism suggested for every climate action.

By going through the following questions, cities can refine their list of viable pathways based on their unique circumstances.

Guiding Questions to Determine Viable Funding and Finance Pathways

Who will own this project?

- + **Who is legally responsible for the project?**
- + **Who will own any assets related to the project?**
- + **Who will potentially accrue cost savings or revenue from the project?**
- + **Who will be responsible for maintaining this project over its useful life?**
 - If the city plans to own the project - focus on grants and debt
 - If the city is open to external partners - focus on private loans and funding, and partnerships

What is the project's budget?

- + **Does this project need upfront or ongoing funding?**
- + **How much funding does this project require?**

Note: municipal departments or community stakeholders with significantly higher cost of capital may find it worthwhile to pursue funding or financing through grants, partnerships or more budgetary support.

 - If billions of dollars - focus on bonds, federal or state grants, and taxes and fees
 - If hundreds of thousands to millions of dollars - focus on loans, foundation grants, and partnerships
 - If thousands - focus on budget, foundation grants

Will this project generate financial benefits?

- + **Will the project lower future costs?**
- + **Will the project generate revenue? Collect fees?**
- + **If so, is there a positive return on investment?**

Note: there may be many types of revenue generation, capital optimization, and costs savings from a given project, so please explore the entire range. For example, renewable energy microgrids generate: (1) ongoing revenue from electricity, (2) cost savings on electricity when the price of energy is high and users can use battery energy, and (3) economy-wide savings when there are power outages and critical services and businesses can remain in operation.

 - If there are potential cost savings - focus on mechanisms that secure upfront capital in exchange for future savings such as ESPCs, Environmental Impact Bonds, loans, or use city budget to capture the value of cost savings
 - If there is a positive return on investment - focus on city budget to capture return on investment, or if upfront capital is needed, use revenue bonds or partnerships
 - If there is revenue generated but not enough to cover costs - focus on general obligation bonds, or using grants to supplement a partnership
 - If there is no revenue generated - focus on general obligation bonds, grants, taxes or fees

Guiding Questions to Determine Viable Funding and Finance Pathways

Is there political momentum?

- + **Is there high-level support from the federal, state, and/or local government?**
- + **Are there plentiful government grants, loans, and incentives?**
 - **If there is political momentum on the federal or state level** - focus on government grant or loan programs
 - **If there is local political momentum** - focus on municipal bonds, or taxes and fees
 - **If there is no political momentum** - focus on foundation grants, partnerships, and external sources

Is there community support?

- + **Are local industries, businesses and/or residents champions of this initiative, or climate action generally?**
- + **Are there any major institutions, employers or businesses who would benefit from this initiative?**
- + **Will this project benefit everyone, or a specific subset of the population?**
 - **If there is community support** - focus on local partnerships, foundation grants, or taxes and fees
 - **If there is not community support** - focus on federal and state grants, and external partnerships
 - **If project only benefits a subsection of the population** - avoid bonds, taxes and fees that apply to all stakeholders

What is the impact theme of your project?

- + **What impact is this project seeking to address?**
- + **What stakeholders are typically involved with this impact area?**
 - **If the project is related to Energy Supply** - focus on PPAs, Bonds and Utility Fees in partnership with renewable energy developers and local utilities
 - **If the project is related to Energy in Buildings** - focus on ESPCs, and C-PACE in partnership with energy service providers and large building owners
 - **If the project is related to Transportation** - focus on Federal Grants, Leases and/or Loans, and Private Partners
 - **If the project is related to Waste** - focus on Fees and Private Partners
 - **If the project is related to Natural Areas and Resources** - focus on Federal and State Grants and Loans, Bonds, Taxes and Fees, and Private Partners

Step 6: Build Relationships with External Funders and Partners



Lessons Learned

- **Building relationships with funders when projects are in the pipeline, but not yet actively seeking funding, can build trust** with investors and lenders to facilitate capital deployment down the road.
- **Begin by identifying external partners who might fund or support CAP projects.** You can ask for help from finance and economic development teams, as well as research your own networks with keywords like investing and banking. LinkedIn is a great resource for referrals and connections.
- **Cities can gain leverage with external funders by presenting to them in partnership with other cities** that have common interests in climate action projects

To advance from a mapped funding and finance strategy towards project implementation, cities must court and build relationships with external funding and financing partners, especially if cities are pursuing grants, partnerships, and loans. As with most enterprise level transactions, investors, lenders and donors will likely need to cultivate reciprocity and trust before capital deployment.

When cities don't have pre-existing relationships with funders, this courting process should be started as soon as possible. Creating opportunities to meet and greet with investors before projects need immediate funding can lay the foundation for later funding requests, and low-stakes virtual meetings with one investor and one or multiple cities can be a great format to determine whether there's a funding fit. These interactions are a way not only to communicate city priorities to potential funders, but also to help sustainability staff understand the funding priorities of potential sources of capital, learn from other cities in how to successfully pitch ideas, and utilize the connections of other professionals to build a broader network of financial and philanthropic partners.

During this project, HIP Investor facilitated three digital mixers to introduce the participating cities with:

- **Community Capital Management** - manages impact investing portfolios of government-related bonds issued to promote community development. This digital mixer had a focus on climate projects that could be of interest to investors seeking local financings, including in Opportunity Zones. Click [here](#) for webinar recording.
- **Closed Loop Partners** - an investment firm comprised of funds in venture capital, growth equity, private equity, project finance, as well as an innovation center. Closed Loop invests in the circular economy, a new economic model focused on a profitable and sustainable future - and Closed Loop investors include large multinational corporations who may have a presence in your city. Click [here](#) for webinar recording.
- **CDP** - a global non-profit, presented on the CDP Matchmaker program which brings together investors and other financial sector actors with city-led climate change and resilience projects spanning flood control, waste management, sustainable transportation, renewable energy, water management, and energy efficiency. CDP Matchmaker serves as a clearinghouse for cities to showcase planned projects and better position them to secure external funding and/or financing. Click [here](#) for webinar recording.

Beyond funders, cities can also benefit from building relationships with nonprofits whose missions are to facilitate climate action. Clean energy and energy efficiency organizations tend to provide additional financial incentives and support for projects from ideation through implementation. Examples include the EnergyTrust of Oregon and GRID Alternatives.

Step 7: Move Towards Implementation



Lessons Learned

- **Funding and Financing Climate Action Maps are effective communications tools** that can generate broader support for Climate Action Plans.
- **Share and reference the Funding and Financing Climate Action Maps in grant applications, philanthropic requests, budget requests, and other opportunities to demonstrate a higher level of financial preparation.**
- **Develop infographics** or other supporting documents for use in working with other departments to pursue funding strategies.

While the previous steps have focused on work completed during the project, this section lays out the anticipated uses of the final products from the effort. While speculative in nature, the list below reflects the intentions of the participating cities to maximize the value of this effort during CAP implementation.

City Maps and Master Resource Documents can be:

- + Published on city or CAP websites
- + Presented to constituents and community groups for feedback
- + Brought to the City Council as part of the budgeting process
- + Included in grant applications for feasibility studies and pilot projects
- + Supportive of cities as they are deciding which financial mechanism will capitalize each project
- + Helpful to facilitate conversations with financing and economic development staff in order to identify available funds for climate action
- + Used to prioritize between CAP projects, based on rough expected capital and operating costs, ROI, and ability to utilize external funding
- + A guiding document as cities define project scopes, capital and operating cost estimates, and paybacks and ROIs, with appropriate implementing departments (planning, building, housing, public works, economic development, and transportation departments, among others)

The six participating USDN cities are **using their Funding and Financing Climate Action Maps as communication tools in conversation with city officials**, elected officials, and community members.

Participating cities found case studies to be particularly helpful, as well as ballpark ranges of project costs.

- + **Anchorage, Alaska**, for example, shared their map with an Assemblymember during a meeting about EV charging infrastructure. As Anchorage staff reviewed the EV charging resources and case examples with the Assemblymember, the Assemblymember's interest and curiosity to learn more led them to explore several other CAP initiatives on the map.
- + **Fremont, California** shared that this project gave sustainability staff a more defined starting point to begin working with their finance department, enabling conversations about which CAP actions are large-scale priority projects, and what pathways may be able to fund or finance them.

Funding and Financing Climate Action Maps can also draw attention to other cities with similar climate action goals, and **help cities identify potential city-partners for collaborative purchasing**. When multiple city agencies from a number of cities and counties join together, they can use their combined purchasing power to drive down the first costs of equipment and hardware ranging from solar panels to electric vehicles and LED lights. Such purchases still require funding or financing, but the savings can be significant, especially when reduced transaction costs from market research and contracting are taken into account.

City staff engaged with the project also expressed interest in participating in a follow-up working group.

This Phase II working group would bring multiple cities within the USDN network together who share an interest in specific action types (ex: microgrids, carbon farming, mobility-as-a-service) to walk through the action implementation process. The focus would be moving from ideation and strategy, to action and implementation.

A Phase II could support cities to:

- + Explore collaborative contracting and purchasing
- + Selecting a funding strategy
- + Identify and secure capital
- + Source local, regional and national vendors
- + Explore how to optimize capital and operating costs of implementation
- + Launch climate action



RESULTS: DETAILED FUNDING AND FINANCE CLIMATE ACTION MAPS

For each of the six participating cities, HIP Investor developed a **Funding and Financing Pathways Map** reflective of each city’s priority actions, particular sensitivities and stage of CAP development. Below are two maps for visual reference (full maps for all six cities can be found in the Appendix), selected to showcase how maps vary based on cities’ different levels of action refinement.



The first map below refers to Bend Oregon’s CAP. During the course of this project, the City of Bend was ready to bring the plan to city council which is reflected in map’s level of detail. The specificity in action identification allowed for the development of cost estimations, which were used to further refine the list of available funding pathways.

The second map was developed with the City of Oakland, California. Oakland is at a slightly earlier stage in their CAP development, leading to the inclusion of more actions, more pathways for each action, and the exclusion of cost estimates in their map. This higher-level view of potential funding can be used to help refine how the city may want to pursue certain actions based on available funds.

Bend Oregon's Community Climate Action Plan: Funding and Financing Pathways Map

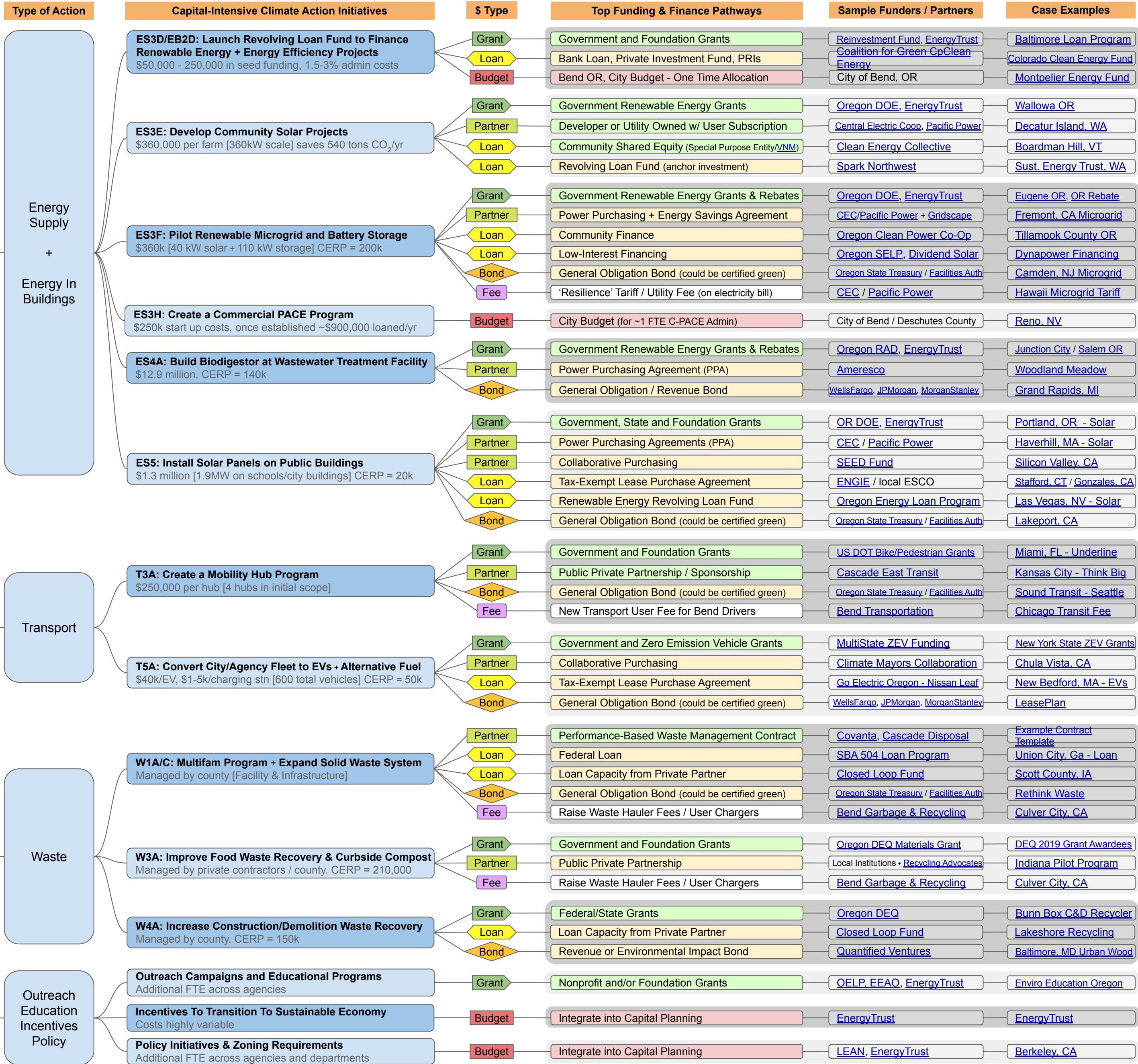
estimates rough and based on limited project info - see [doc](#) for assumptions

see key below

City Capital Required: **white** = revenue **red** = upfront capital required; **yellow** = no upfront, but long-term obligations; **green** = none

see [Master Resource Document](#) for context and additional information

COMMUNITY CLIMATE ACTION PLAN - Fall 2019



MAP FOR INFORMATION AND EDUCATION: NOT A SOLICITATION NOR AN OFFER OF SECURITIES

For questions, contact HIP Investor Inc. at HIPinvestor.com, ClimateAction@HIPinvestor.com

Source: City Climate Action Plan; HIP Investor Inc. research. Updated: 2/2020

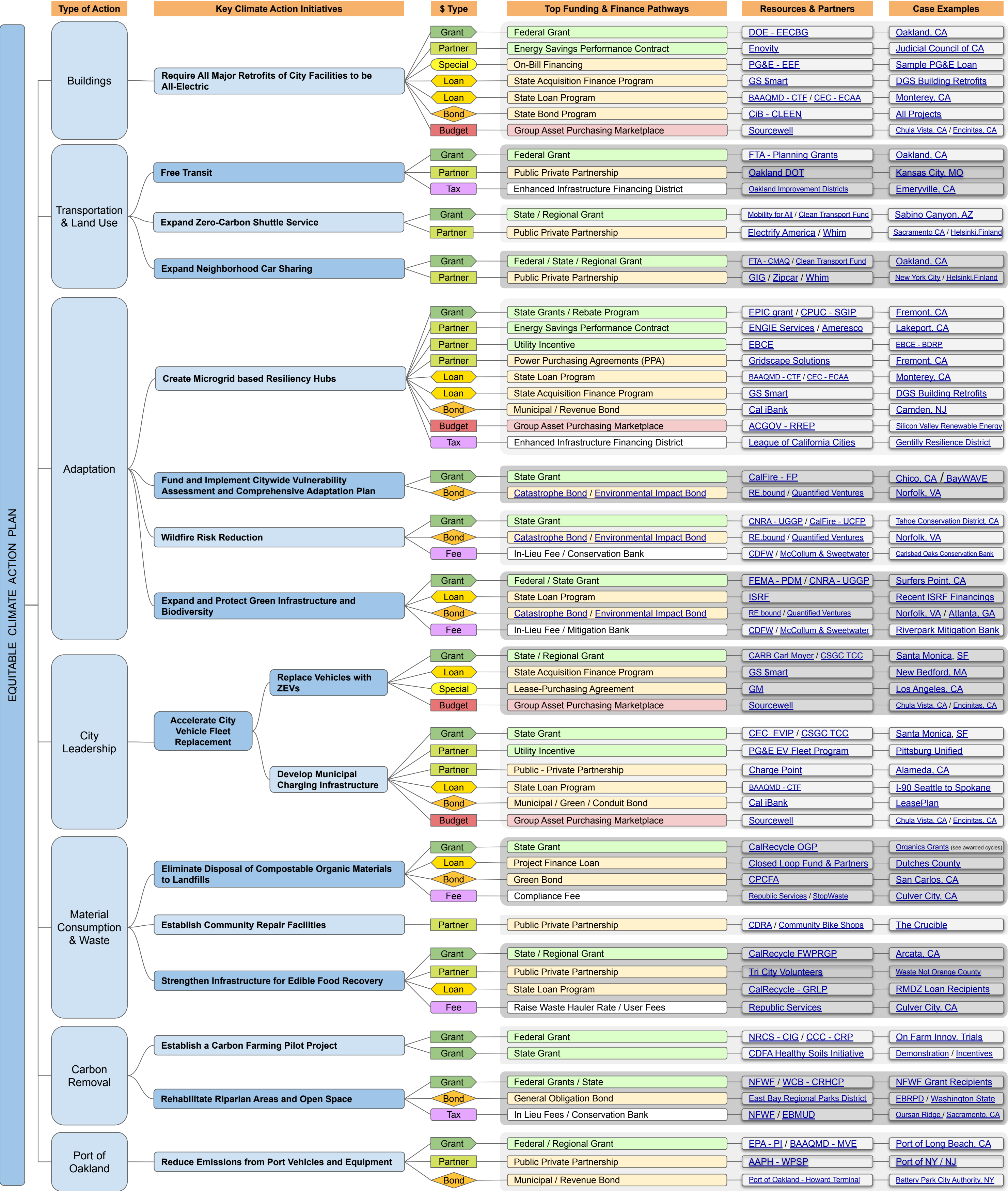
Tax/Fee Renewable Energy Credits, Developer Impact Fees, Traffic Congestion
Budget City or Agency Budget Bond Gen Obligation, Green, Lease Revenue Loan/Lease PACE, Federal, Utility, On-Bill Finance
Grant WorldBank, IFC, Federal, State, Corporate, Foundations Cross-Sector Partnership Public-Private-Partnerships, Pay for Performance

Oakland, CA: Integrating Funding and Financing into Equitable Climate Action Plan

estimates are rough & based on limited project info - see doc for assumptions

see key below

City Capital Required: **red** = upfront capital required; **yellow** = no upfront, but long-term obligations; **green** = none



MAP FOR INFORMATION AND EDUCATION: NOT A SOLICITATION NOR AN OFFER OF SECURITIES

For questions, contact HIP Investor Inc. at HIPinvestor.com, ClimateAction@HIPinvestor.com
 Source: City Climate Action Plan; HIP Investor Inc. research. Updated: 3/2020

Budget City or Agency Budget **Tax/Fee** Renewable Energy Credits, Developer Impact Fees, Traffic Congestion
Bond Gen Obligation, Green, Lease Revenue **Loan/Lease** PACE, Federal, Utility, On-Bill Finance **Special** Revolving Loan, Catastrophe Bond Insurance
Grant WorldBank, IFC, Federal, State, Corporate, Foundations **Cross-Sector Partnership** Public-Private-Partnerships, Pay for Performance

PROJECT SUMMARY: SUCCESSES AND CHALLENGES

This section of the report **identifies specific lessons learned by participating cities with the intent to help other municipalities** understand the variability of approach, to provide insight into best practices for each city, and to present considerations that went into the Funding and Financing Climate Action Maps for each of the six cities.

Success Factors in Integrating Funding and Financing into the Climate Action Planning Process

Cities found success integrating financial planning into their CAP development process when there was **active and transparent engagement between the sustainability team, elected officials, and other municipal departments** (including finance and economic development teams). This transparent collaboration enabled sustainability teams to gain support and **align expectations across internal and external stakeholders**, as well as more fully develop project scopes — increasing the likelihood of action implementation.

Additionally, when cities **engaged directly with contractors and non-government organizations** who work on specific climate action solutions, cities were able to build on lessons learned from previous projects. Essential to all of the above is having sufficient staff capacity to manage communications and iterative feedback cycles. Similarly, ample staff capacity enabled some cities to regularly dedicate staff hours towards seeking out grants, partnerships, and other resources.

Where a city is in its CAP development process is another key factor that determines success. When projects in cities' CAPs were clearly defined — with **concrete scopes and identified capital and operating costs** (not targets to reach or programs to launch) and a **clear understanding of scale** (pilot vs. citywide) — cities were able to create maps that were more nuanced and actionable.

For example, when CAP actions were closer to “install 25 EV charging stations at 5 municipal sites throughout City,” versus “support municipal EV charging infrastructure,” project specificity facilitated better cost estimating, and enabled financial planning that was tailored to their unique project’s scale and scope (and could potentially be included in an upcoming budgetary process).

Challenges Integrating Funding and Financing into the Climate Action Planning Process

Cities faced challenges estimating costs, investments required, cash flows, and ROIs — and the resulting financial strategies — for their CAP projects when **limited staff capacity** restricted cross-agency collaboration. Additionally, when **projects were recent additions to CAPs**, and had yet to be vetted and refined by internal and external stakeholders, it was hard to identify concrete actions, let alone refined project scopes and related cost and ROI estimates.



Detailed estimates were particularly difficult to execute across all six cities. While these barriers limited the specificity of cities' Funding and Financing Climate Action maps, going through the process generated alternative benefits such as initiating conversations earlier with finance department staff and external partners about key climate projects, as well as flagging expensive projects early enough to be included in green bonds and federal grant proposals.

Additionally, the high number of **unknowns related to the impacts of climate change on cities' economic, social, and environmental wellbeing**, made it difficult to estimate the cost of doing business as usual. This complicated cities efforts to quantify estimated cost savings, especially with the added challenge of **estimating the triple-bottom-line ROI of climate action**. These unknowns made it difficult to effectively communicate the cost savings expected from a specific project.

Another challenge for cities was **separating out capital-heavy projects with programmatic staff-driven initiatives**. These two categories of actions have very different funding needs, with capital projects benefiting most from innovative and layered funding and financing strategies. In comparison, staff-driven outreach, education, and programmatic actions are usually solely funded by agency and/or city budgets, and are hard to scope beyond estimating the number of full-time equivalents required. While some cities appreciated narrowing their focus on capital intensive projects, others wished that their maps reflected the total sum of CAP initiatives, including educational campaigns and policy actions.

Finally, some cities were concerned with the **complexity of certain funding pathways**. Given general staff limitations, such as the lack of a dedicated grant manager or buy-in from the finance department, or a prerequisite of passing new legislation (as is the case with C-PACE for example), cities see barriers to utilizing new complicated multi-party financing schemes.

City Specific Successes and Challenges

Anchorage, Alaska

- **Successes:** Anchorage staff's pre-existing work identifying funding and financing pathways for CAP projects made steps 1, 2, and 3 straightforward and efficient.
- **Challenges:** Sustainability staff found it difficult to narrow down list of actions that were capital intensive from the total list of CAP actions that included policies and programs (and were thus less relevant to this funding and financing project).

Bend, Oregon

- **Successes:** Bend's sustainability team engaged city contractors and nongovernmental agencies within Oregon to support state and local best practices, as well as comparable cost estimates. Bend staff also had clear conversations with their finance department regarding political sensitivities to specific financing pathways (example: no opportunity for gas tax or developer fees).
- **Challenges:** Bend had difficulty cost estimating strategies for projects that were not defined and scoped to the necessary level of detail. Engagement with the finance team was not sustained as the finance team tends to be focused on higher priority items and projects already in the budget. Due to a period of rapid growth, Bend already raised costs for residents through fees, rates, and bonds to support critical infrastructure, and therefore does not want to additionally burden permanent residents.

Columbia, Missouri

- **Successes:** Columbia staff made explicit their preferences for certain financial mechanisms, which aided in prioritizing between funding and financing pathways (example: communicating lessons learned from pursuing efficiency projects with ESCOs vs a DIY approach, and desire for city control and ownership).
- **Challenges:** Columbia's CAP projects were still in development and changed in scope during the project, which affected cost estimates and the selection of viable financial mechanisms for certain climate actions.

Fremont, California

- **Successes:** Fremont sustainability and finance staff worked together to clearly identify which pathways were familiar and accessible. The sustainability team engaged multiple city departments including environmental services in digital mixers with external funders. This work uncovered that finance and economic development departments were open to working collaboratively to issue a comprehensive municipal bond.
- **Challenges:** Fremont's CAP initiatives were in the early stages of development, making it difficult to map pathways to undefined actions.

Oakland, California

- **Successes:** Oakland staff directly identified which funding and financing pathways the City was currently executing. This uncovered shareable case studies for innovative financing approaches, such as [EcoBlock](#).
- **Challenges:** Oakland was delayed by their efforts to fully incorporate community feedback into their CAP and coordinating among stakeholders with varying project timelines. At times balancing the USDN project and Oakland's additional Funding and Financing CAP consulting agreements made it difficult to finalize deliverables, and made hitting key milestones on time less useful given active contracts for future work.

San Luis Obispo, California

- **Successes:** Strong support from San Luis Obispo's Mayor and City Council encouraged city staff to explore more innovative financial mechanisms, and created additional opportunities for project implementation.
- **Challenges:** San Luis Obispo encountered difficulties working with multiple departments to develop a top-down implementation plan for EV charging, which hindered the City's ability to concretely define project scope, capital needs, and projected ROI.

APPENDIX: RESOURCES FOR FURTHER PROGRESS

This appendix contains additional materials that may be of use for cities as they seek to apply the lessons of this project. This information is accurate as of February 2020, and is presented as supporting material for the remainder of this Final Report.

A) City Funding and Financing Climate Action Maps for 2019 and 2020 CAP Updates (1 page each)

- [Anchorage, Alaska](#)
- [Bend, Oregon](#)
- [Columbia, Missouri](#)
- [Fremont, California](#)
- [Oakland, California](#)
- [San Luis Obispo, California](#)

B) HIP Investor [Master Resource Document](#) (86 pages) a detailed catalog and guide to supplement city maps, can be used to learn what is available for climate financing and funding possibilities.

C) HIP Investor [Funding and Finance Questionnaire](#) to document Awareness, Possibility, and Challenges, about the six major types of financial mechanisms in collaboration with Finance and Economic Development staff.

D) Fremont, California's "[Potential Action Matrix](#)" is a tool designed by Fremont to help navigate the array of possible funding and finance strategies for their CAP.



To learn more about HIP investor,
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To learn more about USDN
visit www.USDN.org, or email
web@usdn.org

