



2023-2024

Final Evaluation Report

December 2024

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Background & Introduction

In recent decades, environmental resiliency has become an increasing concern in communities around the world. The effects of climate change, for instance, have started to negatively impact people and the environment in myriad ways. To address this issue, the State of Colorado committed to 100% net-zero greenhouse gas emissions by 2050, and Washington State set a target to reduce greenhouse gas emissions by 95% by 2050, relative to 1990 levels.

While participation from almost all sectors of the economy is needed to accomplish the ambitious goals set forth by Colorado and Washington State, a large portion of the responsibility for implementing resiliency strategies falls to local governments – cities, counties, regional agencies, schools, and special districts. However, many local agencies are not equipped with the tools and resources necessary to effectively carry out these efforts. For instance, local governments are often without dedicated staffing, data, formal plans, or mechanisms to implement and track progress on initiatives. As such, in order to meet state goals, there is a significant need for increased capacity among agencies and organizations responsible for achieving environmental resiliency goals. For states to meet their ambitious goals and to prevent significant, negative impacts on the state economy and environment, local governments need expanded capacity to manage the research, planning, and implementation tasks required.

The CivicSpark program is designed to address these issues by building the capacity for local governments to address emerging environmental and social equity resilience challenges such as climate change, water resource management, affordable housing, and mobility. As a Governor’s Initiative AmeriCorps program administered by CivicWell, CivicSpark engages skilled AmeriCorps Members to work collaboratively with government agencies (“beneficiaries”) on research, planning, and implementation projects in pursuit of advancing local environmental and equity initiatives. Each year, CivicSpark places AmeriCorps Fellows with local governments in need of technical assistance and support on environmental and social equity resiliency projects. During the 11-month service year, Fellows work in collaboration with their host agency to complete research, planning, and implementation projects, all of which build the capacity of local governments to address specific environmental and social equity needs. Through this experience, not only do local governments receive dedicated project support, but Fellows are able to gain valuable professional development experience.

Such an intervention builds capacity for local governments by providing beneficiaries with: (1) tangible, written products that provide stakeholders and staff with concrete, actionable information and resources, (2) opportunities to engage new stakeholders into climate initiatives, and (3) direct experience working with the new resources they need to integrate climate concerns into existing skills and responsibilities. In the longer-term, CivicSpark contributes to a more effective statewide climate change response by building regional networks, creating a statewide platform to disseminate effective strategies and resources, and strengthening state and local coordination.

In 2023, CivicWell contracted with LPC Consulting Associates, Inc. (LPC) to evaluate CivicSpark’s ability to help beneficiaries achieve their project goals and to increase the capacity of local

governments to address environmental and social equity resilience challenges. This evaluation focused solely on CivicSpark partners located in Colorado and Washington State.

This report presents the results of a quasi-experimental evaluation study comparing beneficiary agencies from the 2023/24 service year with a comparison sample of local government agencies not receiving services from CivicSpark. The report describes outcomes related to changes in agency capacity, capacity improvements, as well as goal achievement across intervention and comparison groups.

Methodology

Study Design

The evaluation of the CivicSpark program focused on examining the degree to which local government agencies' capacity to enact their environmental resiliency projects is affected by CivicSpark support. The evaluation employed a quasi-experimental design, using a pre- and post-test assessment with a comparison group of local government agencies not served by CivicSpark to measure goal achievement and changes in capacity over time. The evaluation sought to answer the following research questions:

Research Questions

1. Do local governments increase their capacity to address climate change during the program?
2. Does AmeriCorps service result in beneficiaries' achievement of climate capacity goals? Which goals (i.e., staff, project, knowledge sharing) are more often met and why?
3. Do local governments who receive CivicSpark support demonstrate a greater increase in capacity and goal achievement than local governments not receiving the services?

The evaluation utilized a quasi-experimental time series design using a pre- and post-test assessment with a comparison group to measure changes in capacity. While a randomized control trial (RCT) is preferable for attributing causal relationships, due to the current process used to approve local governments to participate in the program and the importance of maintaining existing long-term relationships with several local government agencies, CivicWell determined that it would not be feasible to randomly assign participating governments to a comparison group or intervention group. As such, the evaluation instead measured program outcomes by comparing capacity and goal achievement before and after implementation, among both the intervention and comparison groups.

This evaluation design allowed CivicWell to answer questions about the effectiveness of the CivicSpark program by eliminating some of the confounding factors present in the non-experimental evaluations previously conducted. The addition of a comparison group added to the validity of results by controlling for the influences that may affect local governments during the study period. Using this design, CivicSpark will be able to determine the extent to which changes in capacity are due to external factors or to the program itself.

Measurement Tools

This study utilized a Pre- and Post-Capacity Assessment Survey to measure changes in environmental and social equity resiliency capacity and goal achievement. Both surveys were administered online via Alchemer to the intervention and comparison group.

The Pre-Survey (Appendix A) consisted of approximately 20 questions, including both open- and closed-ended question types. This survey served as a baseline measure of local government capacity in a number of climate action domains, including: (1) overall agency capacity, (2) understanding of climate impacts, (3) program and service delivery capacity, (4) stakeholder support, (5) policy awareness, and (6) resource awareness. Under each of these domains, respondents rated themselves on various items using a 5-point Likert scale. The Pre-Survey also captured qualitative data about local governments' goals related to climate action, and descriptive characteristics about the respondent and the agency.

The Post-Survey (Appendix B) served as an endpoint measure of local government capacity and largely mirrored the Pre-Survey. The Post-Survey included additional questions about the agency's achievement of climate action staffing, project, and knowledge sharing goals.

Sample

The sample for this study included a census of all CivicSpark beneficiary agencies in Colorado and Washington State during the 2023/24 service year. The comparison group sampling frame was constructed based on the CivicSpark program staff's existing contacts, which consisted of potential partners who expressed interest in hosting a fellow and/or are part of networks doing work aligned with CivicSpark's primary focus areas in the community resilience field. To recruit local government agencies and community organizations for a comparison group, CivicSpark staff emailed the Capacity Assessment Pre-Survey to a distribution list including many local governments and nonprofits in Colorado and Washington that were not CivicSpark beneficiaries, explaining the purpose of the survey and requesting their participation in the study. Given the low response of comparison agencies, the CivicSpark team drew upon its networks to increase the sampling frame and also pulled additional names from attendee lists of several conferences that program staff attended in the summer and fall of 2023 in both states.

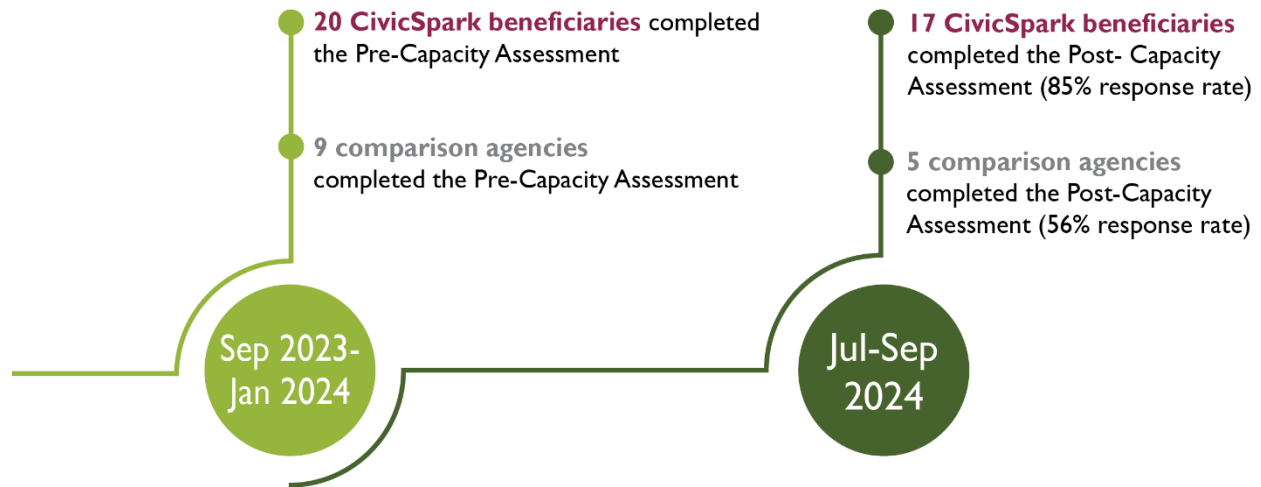
Data Collection

Data collection for the evaluation spanned 12 months, and occurred at two points in time. The Pre-Capacity Assessment Survey was administered online via Alchemer to both the intervention and comparison group when CivicSpark service commenced (September 2023-January 2024). The Post-Capacity Assessment was administered using the same process when the service term concluded (July-September 2024). At each administration, agencies received up to four reminder emails from CivicWell staff.

Unfortunately, comparison responses lagged behind beneficiary responses on both the Pre-Survey and the Post-Survey, despite survey reminders and incentives offered. In total, nine (9) comparison group agencies completed the Pre-Survey and five (5) completed the Post-Survey (a 56% follow-up response rate). A total of 20 beneficiary agencies completed the Pre-Survey and 17 completed the

Post-Survey (an 85% follow-up response rate). Additional data cleaning steps, described in Appendix C, resulted in valid responses from 17 beneficiary agencies and five (5) comparison group agencies.

Figure I. Survey Data Collection Timeline



Matching Procedure

The evaluation team performed a propensity score matching procedure to match comparison agencies with CivicSpark beneficiaries. To begin the matching procedure, the sample included 17 cases from the intervention group and five (5) cases¹ from the comparison group. To create the propensity scores, four variables were used: (1) population, (2) jurisdiction budget per capita, (3) agency type, and (4) perceived capacity to address climate change. Multicollinearity between these variables were examined and all scaled generalized variance inflation factors (GVIFs) were close to one, indicating that there was little correlation between each predictor variable and the remaining predictor variables.

Next, the model was created using one-to-one matching and the optimal algorithm, without caliper and without replacement (see Appendix D for additional details about the matching procedure). To assess balance, the Std. Mean Difference (SMD), empirical Cumulative Distribution Function (eCDF) statistics, variance ratios, and several visual diagnostics were examined. In this model, the mean eCDFs were close to 0, which is an indicator for good balance. However, the SMDs and variance ratios were less than ideal. Overall, beneficiary and control groups were more imbalanced prior to matching and moderate imbalance can be expected in small samples, even if the propensity score model has been correctly specified (Austin, 2009). Consequently, the matching model was determined to be adequate for purposes of this analysis (see Appendix E for details about the quality of the matching model).

¹ One comparison group respondent fully completed the Pre-Survey and partially completed the Post-Survey. This agency was included in the analysis in order to maximize sample size.

To visually assess balance, a jitter plot, empirical quantile-quantile (eQQ) plots, a histogram of propensity scores, and density plots were created (see Appendix E). Following the matching procedure, the sample consisted of five (5) intervention cases and five (5) comparison cases.

Next, a confirmatory analysis of the matching process was performed. Respondent and agency characteristics (including the variables used in the matching procedure) as reported on the Pre-Survey were calculated using simple frequencies and percentages for the intervention group (n=5) and the comparison group (n=5). To identify any statistically significant differences in characteristics across the two groups, the analysis included chi-square tests for dichotomous and categorical variables and t-tests for continuous variables (see Appendix F). No variables were significantly different across the two groups.

Analysis Approach

Analysis of Pre- and Post-Service Capacity Assessment Survey data was conducted using R. Change in agency capacity (RQ#1) was measured by comparing baseline and endpoint data for the intervention group and the comparison group. Analysis included the calculation of absolute change and percent change in each of the domain scores, as well as total average change by group. T-tests and/or chi-square tests were performed within each group, to determine statistical significance of change over time on each survey item. Before analyzing capacity domain scores, items measuring the same domain were combined to create a composite score representing a measurement of each latent variable (e.g., understanding of climate change, policy awareness, etc.). Two of the five comparison group respondents did not answer all questions in the Post-Survey. Consequently, analysis for comparison group domain scores that had missing values also excluded the matched beneficiary counterpart to maintain balance across the two groups.

To assess the difference in capacity building between the intervention and comparison group (RQ#3), the analysis included the estimation of bivariate logistic regression models and linear regression models predicting change in capacity and goal achievement using group type (i.e., intervention or comparison) as the predictor variable.

Next, goal achievement (RQ#2) was measured by comparing Post-Survey data for the intervention group and the comparison group. Analysis included calculating the proportion of respondents in each group who achieved their goal in three goal areas. Logistic regression models were estimated using group (intervention and comparison) as the predictor variable and achievement of goal as the dependent variable.

Due to the high degree of attrition and small sample size in the comparison group, nonresponse bias was examined by comparing outcomes of beneficiaries included in the final sample to the outcomes of beneficiaries dropped from the sample due to attrition from their comparison group counterpart. A similar analysis was performed comparing Pre-Survey capacity of comparison group agencies that responded to the Post-Survey to the comparison agencies that did not respond to the Post-Survey. A Wilcoxon rank sum test or chi-square test was used depending on variable type. There were no significant differences in capacity or goal achievement outcomes between the two beneficiary groups, and no significant differences in Pre-Survey capacity between the two comparison groups, suggesting minimal nonresponse bias on the items of interest.

Study Limitations

There were several main limitations to this evaluation. First, it was not feasible to use random sampling to recruit local governments for the evaluation or to randomly assign local governments to intervention and comparison groups. Thus, beneficiary agencies that self-select into the program could be fundamentally different from the comparison group agencies on a number of unmeasured characteristics that may influence the outcomes of interest. Similarly, individual respondents to the Pre- and Post-Service Capacity Assessment were self-selected, instead of selected via within-agency random sampling. These individuals may respond differently from their colleagues on the variables of interest, which could lead to biased results.

Second, the success of this study depended on access to a comparison group that matched the intervention group on the identified characteristics. Unfortunately, there were limitations associated with achieving and retaining a quality match for each beneficiary case. First, the study was not able to recruit enough comparison agencies to provide a one-to-one match with all the beneficiary agencies. In most studies using matching procedures, the intervention sample tends to be smaller than the comparison sample; however, in this study, the opposite was the case. Because of this, it was necessary to drop beneficiaries from the sample, resulting in a smaller sample size and thus less power to detect the expected effects. This challenge was coupled with attrition among the comparison group despite multiple follow-ups, the offer of a \$50 gift card, and an offer to send survey results to all participants. Comparison agencies did not have the same ongoing connection with the CivicSpark program or the obligation to complete the survey as did the beneficiary agencies. Although attrition resulted in a smaller sample size, and thus less statistical power, a nonresponse bias analyses found that the capacity characteristics of agencies that did not participate in the Post-Survey were not statistically different than those that did respond to the survey (with the exception of one item “Understanding of where work is most need to address this issue in your community”; $p=0.04$), suggesting that attrition did not strongly impact the evaluation results.

Finally, other potential sources of bias in the data may exist, such as measurement biases associated with the assessment survey tool and the way the survey was administered. In particular, self-reported data may be correlated with participation in the CivicSpark program. For example, beneficiaries are required to complete the survey as part of their participation in the program, and because the survey is not anonymous, survey respondents may have had different motivations in answering questions than did comparison agencies. Also, there were several instances where the person who responded to the Pre-Survey for an agency was not the same individual who responded to the Post-Survey for that agency. This could introduce measurement error, as changes in response may be due to change in respondent and not to actual change at the agency level. Findings should be interpreted in light of these potential biases.

Capacity Assessment Results

Goal Achievement

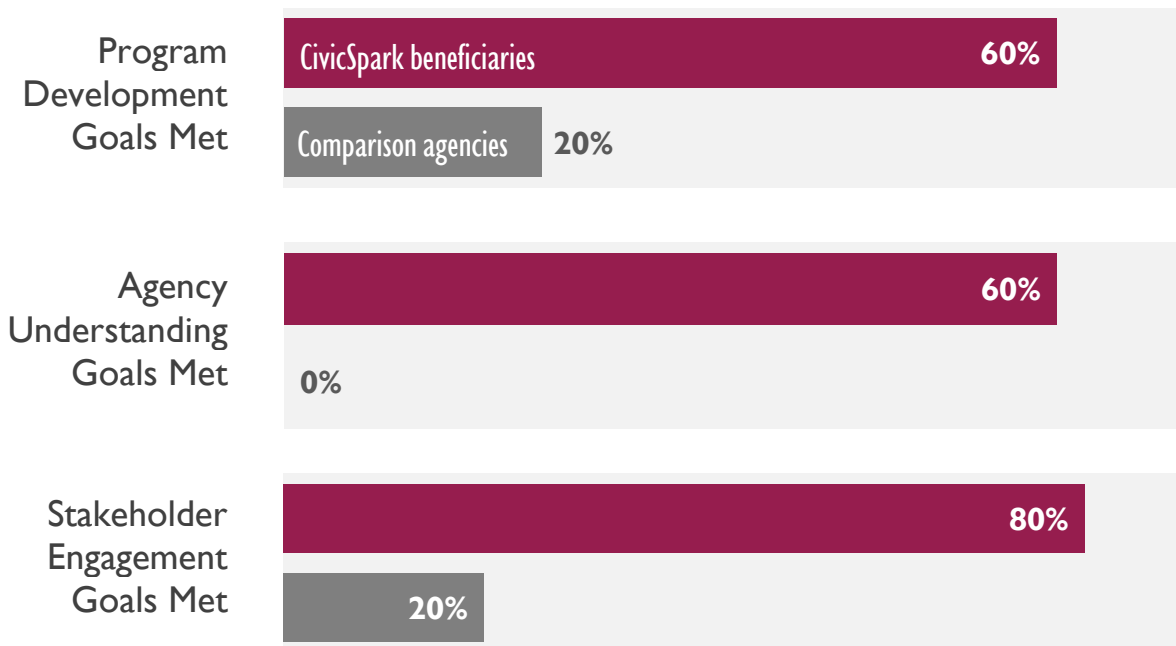
Beneficiaries and comparison group agencies identified their project goals in the following three areas at the beginning of the service year, and reported on their achievement of the same goals at the conclusion of the year:

- Program development** program and service accomplishments
- Agency understanding** technical knowledge or resource understanding capacities
- Stakeholder engagement** stakeholder interest, involvement, and communication

When comparing the percentage of agencies that met or exceeded their stated goals, survey results indicate that a greater percentage of CivicSpark beneficiaries met or exceeded their goals in each of the three categories, as compared to the comparison agencies (see Figure 2).

Figure 2. Comparing Goal Achievement

A greater percentage of **CivicSpark beneficiaries** (n=5) achieved their goals related to their resiliency project, as compared to the **local government agencies not in the program** (n=5).



Furthermore, logistic regression models using group (intervention and comparison) to predict goal achievement showed that CivicSpark beneficiaries were more likely to achieve their project goals than were comparison agencies. Being in the intervention group gave an agency **16 times greater odds** of achieving their Stakeholder goals, and **6 times greater odds** of achieving their Program Development goals. However, neither of these likelihood measures were statistically significant due to small sample size. Details about each of these models can be found in Appendix G. For Agency Understand goals, 60% of CivicSpark beneficiaries achieved their goal, while no comparison group agencies (0%) met their goal. Because no comparison group agencies met this goal, a predictive logistic regression model was unable to be estimated.

Changes in Agency Capacity

At the beginning and end of the service year, beneficiary and comparison group respondents assessed agency capacity in five overarching domains, listed below. When comparing change in capacity during the service year, beneficiaries generally demonstrated a greater increase in capacity to address environmental resiliency issues as compared to agencies that did not receive CivicSpark services. This pattern was observed across three of the five capacity domains (Personal Understanding, Support, and Staffing), as shown in Figure 3 and described below. Results for the other two capacity domains (Awareness and Delivery) were mixed. However, none of the differences in scores were statistically significant at the $p < 0.05$ level.

Personal Understanding

To assess the personal understanding of an agency's project manager, survey respondents were asked to rate their level of understanding, with respect to their project, on eight items using a scale from (1) no understanding to (4) full understanding (see Appendix I for details). For beneficiary agencies, the average score across the eight items increased slightly from 2.97 at baseline to 3.09 at endpoint (a **4% increase**). Meanwhile, the average score for the comparison group slightly decreased from 3.16 to 3.00 (a **5% decrease**).

Stakeholder Support and Internal Structure

To examine changes in external support for the resilience project, respondents indicated the degree of support (1=no support, 5=complete support) the project had from five different stakeholder groups (see Appendix I for details). On average across the five items, both beneficiaries and comparison agencies rated their project support between "some" and "complete" support at baseline and endpoint. **Ratings of support increased among beneficiaries** from the Pre- to the Post-Survey (14% increase), **while support ratings decreased among comparison agencies** (15% decrease).

Apart from stakeholder support, agencies also assessed their internal structure by indicating their level of agreement (1=strongly disagree, 5=strongly agree) with the following statement: "Our agency has well-defined mechanisms for tracking burdens and/or impacts related to this issue." On average, **beneficiary agency scores for this item decreased 17%** (2.00 at baseline to 1.67 at endpoint) while **comparison agency scores had no change** in internal structure (with an average of 2.00 for Pre- and Post-Surveys).

Policy and Resource Awareness

Next, survey respondents assessed agency staff's awareness of policies and resources related to the resiliency project by rating their level of agreement with four statements on a scale from (1) strongly disagree to (4) strongly agree. Average awareness rating **decreased by 6% for beneficiaries**, while capacity in this area **increased by 16% for the comparison group**. This discrepancy may have been due to outside influences unrelated to the CivicSpark program, and is likely not a reflection of the program itself.

Agency Staffing

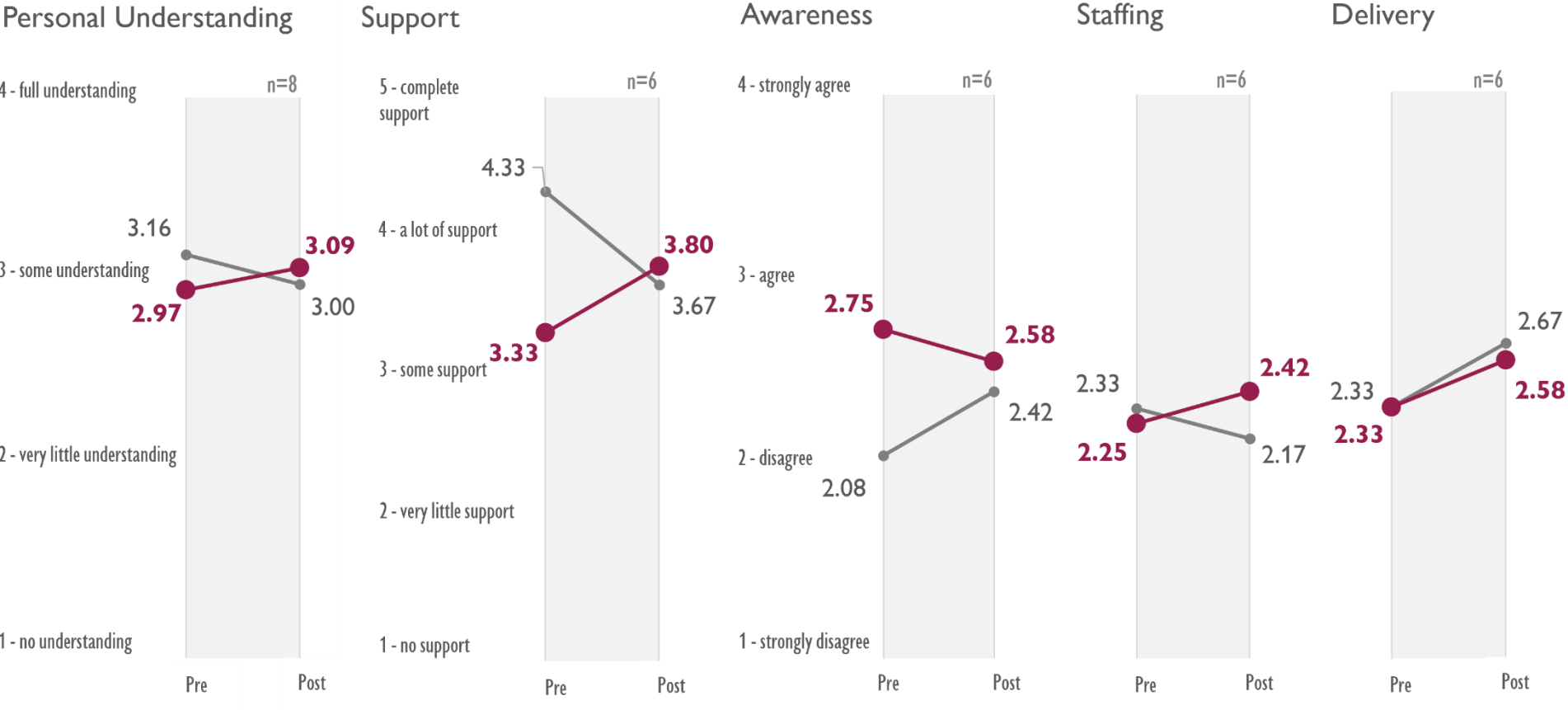
To assess staffing, partners indicated their level of agreement with four statements on a scale from (1) strongly disagree to (4) strongly agree. Again, the average score was somewhat neutral for both groups, falling midway between "agree" and "disagree" at both baseline and endpoint. Average staffing ratings for **beneficiary agencies increased 7%**, while ratings for the **comparison group decreased 7%**.

Program Service and Delivery

Lastly, change in program service and delivery capacity was assessed using respondents' level of agreement with four statements using the same scale (1=strongly disagree to 4=strongly agree). Again, the average score was somewhat neutral for both groups, falling midway between "agree" and "disagree" at both baseline and endpoint. However, while the average program delivery rating **increased by 8% for beneficiaries**, average ratings for the **comparison group had a larger increase of 14%**, although the difference between groups was not statistically significant at the $p < 0.05$ level.

Figure 3. Comparing Changes in Agency Capacity

Average capacity among **CivicSpark beneficiaries** increased for four of the five domain areas, while changes in average capacity among the **comparison group** increased for only three of the five domain areas.



Note: Differences in n values across domains are due to missing data from comparison group respondents. To maintain balance between the two groups, the matched beneficiary respondents were excluded from analysis where appropriate.

Overall Capacity Improvements

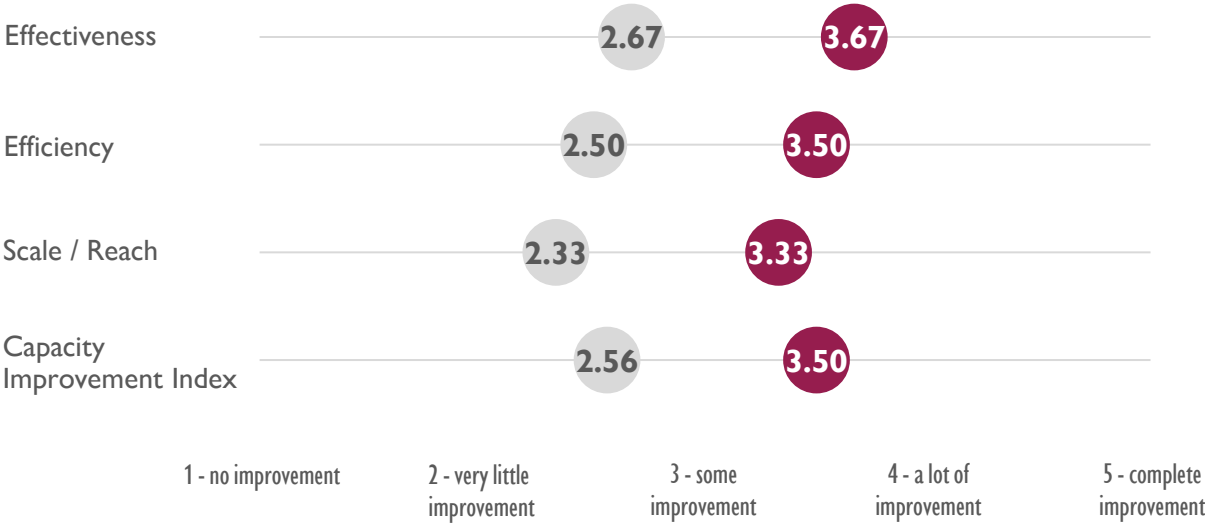
On the Post-Survey, beneficiaries and comparison group agencies rated the degree to which their agency had improved its capacity in three areas:

- Effectiveness** ability to achieve success or quality of outcomes
- Efficiency** ability to achieve better outcomes with the same resources, or the same outcomes with fewer resources
- Scale/Reach** scope of services (e.g., more people served, new populations served, new/expanded services)

On average, CivicSpark beneficiaries rated their capacity improvement between “some” and “a lot” of improvement, while comparison agencies rated their capacity between “very little” and “some” improvement, as shown in Figure 4. Overall, **beneficiaries reported their “scale/reach” and “effectiveness” improved 1.0 points more** than the comparison group. **Beneficiaries also reported their “efficiency” improved 0.83 points more** than the comparison group. However, none of these differences were statistically significant at the $p < 0.05$ level due to the small sample size.

Figure 4. Comparing Overall Capacity Improvements

On average, **CivicSpark beneficiaries** had greater capacity improvements than the **comparison agencies** in each of the three overarching areas.



Key Findings

1

A greater percentage of CivicSpark beneficiaries met or exceeded their goals related to their resiliency project, as compared to the agencies not in the program. Being in the intervention group gave an agency 16 times greater odds of achieving their Stakeholder goals, and 6 times greater odds of achieving their Program Development goals. However, due to the small sample size, none of these results were statistically significant.

2

Beneficiaries generally realized greater changes in agency capacity during the service year than did comparison agencies. Average capacity among CivicSpark beneficiaries increased in four of five topic areas (personal understanding, support, staffing, and program delivery), while changes in average capacity among the comparison group either decreased or ended up lower than the beneficiary group at endpoint (in all topic areas except for delivery). However, differences between the beneficiary and the comparison group were not statistically significant due to small sample size.

3

CivicSpark beneficiaries reported greater overall improvements in effectiveness, efficiency, and scale/reach than did the comparison group. On average, CivicSpark beneficiaries rated their improvement in these areas between “some” and “a lot” of improvement, while comparison agencies rated their capacity between “very little” and “some” improvement. Beneficiaries’ “scale/reach” and “effectiveness” improved 1.0 points more on average than the comparison group, and their “efficiency” improved 0.83 points more. However, these findings were not statistically significant due to the small sample size.

Appendix

Appendix A

CivicSpark Capacity Assessment for Service Recipients 2023

Introduction

We are asking you to complete this survey because you have been listed as one of the service recipients for a 2023-24 CivicSpark Project. As a Governor's Initiative AmeriCorps program, CivicSpark has specific performance goals and tracking measures. Having service recipients complete this survey is part of that performance tracking. Thank you for your help!

The intent of this survey is to better understand the capacity-building goals that local public agencies have for their work, their current capacity to implement projects over time, the factors that influence their progress, and the various ways in which CivicSpark might be helping to build their capacities. The best way to learn about these issues is from public agency staff like you.

Some survey questions are subjective and may reflect your opinions. We are interested in identifying your specific project and capacity-building goals and your frank and candid assessment of where your community and/or agency stands with respect to the issue your project is seeking to address. We ask that you answer each question genuinely and to the best of your ability at this point in time (without regard to any desired outcome or anticipation of impacts to come). Your responses on this survey will not affect your agency's eligibility to partner with CivicSpark.

This survey should take approximately 15-20 minutes to complete. All individual responses will be kept strictly confidential and will not be shared outside of CivicWell and its evaluator, LPC Consulting Associates, Inc. Responses will be reported so that no individual person or agency can be identified, and only aggregate survey results will be shared.

As the survey has required answers, and sections appear on a series of pages, you can't preview all the questions without entering information on each page. If you want to preview the whole survey, please [download a copy here](#). Please do not submit the survey in pdf form; rather, we ask that you please return here to submit your answers online.

We also ask that you fully complete all questions to the best of your ability, as partial responses limit our ability to learn from the data. If you start the survey and need to finish your responses at a later time, please use the "Save and Continue Later" button in the upper-right hand corner and enter an email address when prompted.

Thank you in advance for your participation. We look forward to your responses. We will require a similar survey near the completion of the CivicSpark project next year to learn about your progress toward your goals and any changes in your agency's capacity.

If you have any questions or would like assistance with this survey, please contact Bill Sadler at bsadler@civicwell.org.

Survey Security

Local Public Agency Information

All local public agencies working with a CivicSpark Fellow must provide the following information. We use this information to match your response to a specific project in our system and to track outcomes from the support provided during the service year.

The following questions ask for specific contact, organization, and project details and ask you to indicate the problem or need in your community that this project seeks to address (which you may have described in your application). If you did not apply for a Fellow but are working with an organization that did, please reach out to that contact to confirm project-specific information. We will ask you to refer back to this identified problem/need when answering questions about your agency's capacity later in the survey.

1) First, we would like some information about you:*

First name: _____

Last name: _____

Job title: _____

Email address: _____

(untitled)

2) What is the name of your agency?*

3) Which of the following best describes your agency?*

- City or Town
- County
- Council of Governments (COG), Community Advisory Group (CAG), Metropolitan Planning Organization (MPO), etc.
- Special District
- Joint Powers Authority (JPA)
- Other - Write In: _____

4) What department do you work in?*

- City / County Manager
- Planning
- Public Works
- Parks and Recreation
- Environmental Services
- Other - Write In: _____

5) How long has your agency been partnering with the CivicSpark program?*

- This is our first year working with CivicSpark.
- This is our second year working with CivicSpark.
- We have worked with CivicSpark for three or more years.

6) What is the primary jurisdiction that your agency serves (e.g., San Diego, LA County, or San Fernando Valley CoG)?*

Project

7) Please provide a short descriptive name of the capacity-building project CivicSpark is assisting with.*

8) How long has this project been going on? *

- The project has not yet started
- Less than 3 months
- 4-6 months
- 7-12 months
- A year or more

9) In general, what percentage of your time at work is spent (or will be spent) on the specific resiliency area this project is focused on (e.g. climate, water, housing)?*

10)

How much experience do you have working in the specific resiliency area of this project (e.g. climate, water, housing)?

*

- None
 - A little
 - Some
 - A lot
-

(untitled)

11) What is the primary environmental and/or social equity issue that your project will address?*

- Climate Mitigation/Adaptation
- Energy Conservation/Efficiency
- Waste Reduction/Mitigation
- Affordable Housing
- Mobility (alternative or multimodal transportation)
- Water Resources Management
- Environmental Justice/Social Equity
- Other - Write In: _____

Indicate the primary mitigation and/or adaptation focus for the climate project:

What is the primary mitigation focus?*

- Residential Buildings
- Commercial or municipal buildings
- Transportation
- Solid waste
- This project will equally address all mitigation areas
- Other - Write In (Required): _____*
- N/A - there is no mitigation focus

What is the primary adaptation focus?*

- Sea level rise
- Wildfire
- Ecosystems and habitat
- Heat
- Precipitation (drought or flooding)
- This project will equally address all adaptation areas
- Other - Write In (Required): _____*
- N/A - there is no adaptation focus

12) What is the secondary environmental and/or social equity issue that your project will address?*

- Climate Mitigation/Adaptation
- Energy Conservation/Efficiency
- Waste Reduction/Mitigation
- Affordable Housing
- Mobility (alternative or multimodal transportation)
- Water Resources Management
- Environmental Justice/Social Equity
- Other - Write In: _____
- N/A - there is no secondary environmental or social equity problem

Indicate the primary mitigation and/or adaptation focus for the climate project:

What is the primary mitigation focus?*

- Residential Buildings
- Commercial or municipal buildings
- Transportation
- Solid waste
- This project will equally address all mitigation areas
- Other - Write In (Required): _____*

N/A - there is no mitigation focus

What is the primary adaptation focus?*

Sea level rise

Wildfire

Ecosystems and habitat

Heat

Precipitation (drought or flooding)

This project will equally address all adaptation areas

Other - Write In (Required): _____ *

N/A - there is no adaptation focus

(untitled)

13) What kind of activities will this project consist of? (check all that apply)*

Plan development

Program implementation

Research

(untitled)

Next, we would like to hear about your specific capacity-building goals for the project. In the following questions, you will be asked to describe the goals you would like to see accomplished within the 11-month CivicSpark service term. You will be asked about your goals in three areas:

- program development (program and service accomplishments)
- agency understanding (technical knowledge or resource understanding capacities)
- stakeholder engagement (interest, involvement, and communication)

When describing these goals, please identify specific, achievable goals as opposed to broader, longer-term, or larger goals you might have in mind. Remember that you can use the "back" button as needed to return to previous questions.

Broadly, "capacity building" means creating lasting institutional change and enhancing the capacity of the public agency to achieve its goals by increasing the knowledge base, building program resources or plans, or creating or strengthening key relationships.

(untitled)

14)

Program Development Goals: What are the specific environmental and social equity resiliency program and/or service goals you hope to accomplish within the duration of your CivicSpark project? (examples: complete a greenhouse gas inventory; implement a new housing program; develop a water conservation ordinance; prepare a Complete Streets plan)

*

(untitled)

15) Agency Understanding Goals: What specific technical knowledge or resource understanding capacities do you hope your agency can enhance with this project? (examples: agency staff have a deeper understanding of community needs or challenges, including social inequity issues; key staff complete technical training and knowledge; agency staff are engaged in organizational equity assessment)*

(untitled)

16)

Stakeholder Engagement Goals: At the end of this project, how might you like to engage with and transfer lessons learned or outcomes back to other departments and/or stakeholders, including frontline and/or vulnerable community members? (examples: foster lasting relationships with stakeholders through community engagement programs; provide a clear understanding of project results to elected officials and community members; develop a plan of action; identify key stakeholders to be engaged in sustained project work)

(untitled)

This section of the survey explores your current capacities and understanding with respect to the project you are proposing to work on this service term.

17) Indicate your personal level of understanding of each of the following topics with respect to the project whose goals you previously described.*

	No understanding	Very little understanding	Some understanding	Full understanding
How this issue affects your community	()	()	()	()
Who in your community is most negatively affected by this issue	()	()	()	()
How this issue impacts frontline and/or vulnerable	()	()	()	()

populations in your community (e.g. low-income communities, communities of color, immigrants, seniors, people with disabilities, previously incarcerated individuals, individuals experiencing homelessness)				
How the historical context of this issue is related to racial inequities today	()	()	()	()
Where work is most needed to address this issue in your community	()	()	()	()
The steps your agency can take to address this issue at the community level (e.g. through policies, ordinances)	()	()	()	()

<p>The steps your agency can take to address this issue in the long term to maintain services that address this issue (e.g. through tools, financing, training)</p>	<p>()</p>	<p>()</p>	<p>()</p>	<p>()</p>
<p>The steps your agency can take to address the social equity dimension of this issue (e.g., seeking input from key stakeholder groups, creating equity accountability measures)</p>	<p>()</p>	<p>()</p>	<p>()</p>	<p>()</p>

(untitled)

18) Indicate the level to which you agree or disagree with each of the following statements with respect to the project whose goals you previously described.

*Answers to this question will not affect eligibility to partner with CivicSpark.**

	Strongly disagree	Disagree	Agree	Strongly agree
Our agency has sufficient staff allocated to respond appropriately to this issue	()	()	()	()
Our staff represents the diversity of the community we serve	()	()	()	()
Our staff has the technical knowledge and training needed to effectively address this issue in our community	()	()	()	()
Our agency has well-defined mechanisms for tracking burdens and/or impacts related to this issue	()	()	()	()
Our community has a defined vision, plan, or policies related to the issue this project is addressing	()	()	()	()
Our agency has all the funding we need to address this issue	()	()	()	()

for our community				
Our staff has the capacity to ensure leaders across departments are aware of and responsive to this issue	()	()	()	()
Our staff has the capacity to discuss social equity considerations associated with this issue with key stakeholders (e.g., community members, partners, elected officials)	()	()	()	()
Our staff has the capacity/expertise to generate community awareness of and engagement in this issue to support our project	()	()	()	()
Our staff are aware of current policies related to this issue and know how these policies will affect our work on the project	()	()	()	()
Our staff are familiar with all	()	()	()	()

the issue-specific resources we need to efficiently plan and implement our work (e.g., guides, reports, strategies, associations, and organizations)				
Our staff has the capacity to identify social equity implications of proposed solutions to this issue (e.g., policies, plans)	()	()	()	()
Our agency has the capacity to support frontline and/or vulnerable populations (e.g., low income communities, communities of color, immigrants, seniors, people with disabilities) with this project	()	()	()	()

(untitled)

19) Indicate the degree to which your various stakeholders are supportive of the project and goals you previously described.*

	No support	Very little support	Some support	A lot of support	Complete support	Not applicable
Elected officials	()	()	()	()	()	()
City Manager / County Executive Officer (or Leading Director)	()	()	()	()	()	()
Department heads	()	()	()	()	()	()
Community members including frontline and/or vulnerable populations	()	()	()	()	()	()
Local businesses	()	()	()	()	()	()

Thank You!

Thank you for taking our survey. Your response is very important to us.

Appendix B



CivicSpark Capacity Assessment for Service Recipients 2024

Introduction

We are asking you to complete this survey because you were a service recipient of a 2023-2024 CivicSpark Project. As a Governor’s Initiative AmeriCorps program, CivicSpark has specific performance goals and tracking measures. You may remember completing a similar survey at the beginning of the service term, in Fall or Winter 2023. Having service recipients complete this post-survey is part of program performance tracking. Thank you for your help!

In advance of completing this survey, please review the goals defined at the outset of the project during the gap assessment process, as you will refer to them during this survey. A copy of these goals is attached to the email you received from CivicWell containing the survey link.

The intent of this survey is to better understand the achievement of capacity-building goals that local public agencies have for their work, changes in capacity to implement projects over time, the factors that influence their progress, and the various ways in which CivicSpark might be helping to build their capacities. The best way to learn about these issues is from public agency staff like you.

Some survey questions are subjective and may reflect your opinions. We are interested in the degree to which your specific project and capacity-building goals were achieved, and your frank and candid assessment of where your community and/or agency stands with respect to the issue your project addressed. We ask that you answer each question genuinely and to the best of your ability at this point in time (without regard to any desired outcome or

anticipation of impacts to come). Your responses on this survey will not affect your agency's eligibility to partner with CivicSpark in the future.

This survey should take approximately 15 minutes to complete. All individual responses will be kept strictly confidential and will not be shared outside of CivicWell and its evaluator, LPC Consulting Associates, Inc. Responses will be reported so that no individual person or agency can be identified, and only aggregate survey results will be shared.

As the survey has required answers, and sections appear on a series of pages, you can't preview all the questions without entering information on each page. If you want to preview the whole survey, please download a copy [here](#). Please do not submit the survey in pdf form; rather, we ask that you please return here to submit your answers online. We also ask that you fully complete all questions to the best of your ability, as partial responses limit our ability to learn from the data.

Thank you in advance for your participation. We look forward to your responses.

If you have any questions or would like assistance with this survey, please contact Allison Burke at allison@lpc-associates.com.

Local Public Agency Information

All local public agencies working with a CivicSpark Fellow must provide the following information. We use this information to match your response to a specific project in our system and to track outcomes from the support provided during the service term.

The following questions ask for specific contact, organization, and project details and ask you to indicate the problem or need in your community that this project addressed (which you may have described in your application or on the pre-survey). If you did not apply for a Fellow but are working with an organization that did, please reach out to that contact to confirm project-specific information. We will ask you to refer back to this identified problem/need when answering questions about your agency's capacity later in the survey.

1) First, we would like some information about you:*

First name:: _____

Last name:: _____

Job title:: _____

Email address:: _____

2) What is the name of your agency? *

3) Which of the following best describes your agency?*

City or Town

County

Council of Governments (COG), Community Advisory Group (CAG), Metropolitan Planning Organization (MPO), etc.

Special District

Joint Powers Authority (JPA)

Other - Write In (Required): _____ *

4) What department do you work in?*

City / County Manager

Planning

Public Works

Parks and Recreation

Environmental Services

Other - Write In (Required): _____ *

5) What is the primary jurisdiction that your agency serves (e.g., San Diego, LA County, or San Fernando Valley CoG)?*

6) What is the approximate population of your primary jurisdiction?*

Project

7) Please provide the name of the capacity-building project the CivicSpark Fellow assisted with this service term. You should have received a list of project(s) your Fellow(s) served on.

8) How long has this project existed within your agency?*

- Less than 3 months
- 4-6 months
- 7-12 months
- A year or more

9) How long has a CivicSpark Fellow(s) been working on this project with you?

- Less than 1 year
- 1-2 years
- 3-4 years
- More than 4 years

10) Approximately what percentage of your time at work in the last 12 months was spent on the specific resiliency area this project focused on (e.g. climate, water, housing)?*

11) How much experience do you have working in the specific resiliency area of this project (e.g. climate, water, housing, etc.)?

- None
- A little
- Some
- A lot

12) What is the primary environmental and/or social equity issue that your project addressed?*

- Climate Mitigation/Adaptation
- Energy Conservation/Efficiency
- Waste Reduction/Mitigation
- Affordable Housing
- Mobility (alternative or multimodal transportation)
- Water Resources Management
- Environmental Justice/Social Equity
- Other - Write In (Required): _____*

13) What is the secondary environmental and/or social equity issue that your project addressed?*

- Climate Mitigation/Adaptation
- Energy Conservation/Efficiency
- Waste Reduction/Mitigation
- Affordable Housing
- Mobility (alternative or multimodal transportation)
- Water Resources Management

() Environmental Justice/Social Equity

() Other - Write In (Required): _____*

14) What kind of activities did the project consist of? (check all that apply)*

Plan development

Program implementation

Research

Next, we would like to hear about the degree to which your capacity-building goals for the project were achieved or not achieved. Your agency identified specific project goals in the pre-service capacity assessment survey that were finalized with the Fellow during the gap assessment process. A copy of those goals is attached to the email you received containing the link to this survey. Please review those goals before completing this section.

In the following questions, you will be asked to indicate the degree to which the goals were met during the 11-month CivicSpark service term. You will be asked about your goals in three areas:

- **agency understanding (technical knowledge or resource understanding capacities)**
- **program development (program and service accomplishments)**
- **stakeholder engagement (interest, involvement, and communication)**

Remember that you can use the "back" button as needed to return to previous questions.

Broadly, "capacity building" means creating lasting institutional change and enhancing the capacity of the public agency to achieve its goals by increasing the knowledge base, building program resources or plans, or creating or strengthening key relationships.

15) To what extent were your Agency Understanding Goal(s) met?*

- Exceeded goal(s) – met all goals and exceeded one or more goals
- Fully met goal(s) – met all goals
- (Partially met goal(s) – met one or more goals, but did not meet all goals
- Did not meet goal(s) – did not meet any goals

16) Please describe the specific outcomes related to your Agency Understanding Goal(s). Provide comments on the achievement of the goals, or if you did not meet this goal, please share why you think this goal was not met.

17) To what extent were your Program Development Goal(s) met? *

- Exceeded goal(s) – met all goals and exceeded one or more goals
- Fully met goal(s) – met all goals
- Partially met goal(s) – met one or more goals, but did not meet all goals
- Did not meet goal(s) – did not meet any goals

18) Please describe the specific outcomes related to your Program Development Goal(s). Provide comments on the achievement of the goals, or if you did not meet this goal, please share why you think this goal was not met.

19) To what extent were your Stakeholder Engagement Goal(s) met?*

- () Exceeded goal(s) – met all goals and exceeded one or more goals
- () Fully met goal(s) – met all goals
- () Partially met goal(s) – met one or more goals, but did not meet all goals
- () Did not meet goal(s) – did not meet any goals

20) Please describe the specific outcomes related to your Stakeholder Engagement Goal(s). Provide comments on the achievement of the goals, or if you did not meet this goal, please share why you think this goal was not met.

This section of the survey explores your current capacities and understanding with respect to the project you worked on this service term.

21) Indicate your personal level of understanding of each of the following topics with respect to the project and goals you worked on during the past 12 months.*

	No understanding	Very little understanding	Some understanding	Full understanding
How this issue affects your community	()	()	()	()
Who in your community is most	()	()	()	()

negatively affected by this issue				
How this issue impacts frontline and/or vulnerable populations in your community (e.g. low-income communities, communities of color, immigrants, seniors, people with disabilities, previously incarcerated individuals, individuals experiencing homelessness)	()	()	()	()
How the historical context of this issue is related to racial inequities today	()	()	()	()
Where work is most needed to address this issue in your community	()	()	()	()
The steps your agency can take to address this issue at the community level (e.g. through policies, ordinances)	()	()	()	()
The steps your agency can take to address this issue in the long term to maintain services that address this issue (e.g. through tools, financing, training)	()	()	()	()

The steps your agency can take to address the social equity dimension of this issue (e.g., seeking input from key stakeholder groups, creating equity accountability measures)	()	()	()	()
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22) Indicate the level to which you agree or disagree with each of the following statements with respect to the project and goals you worked on during the past 12 months.

*Answers to this question will not affect future eligibility to partner with CivicSpark.**

	Strongly disagree	Disagree	Agree	Strongly agree
Our agency has sufficient staff allocated to respond appropriately to this issue	()	()	()	()
Our staff represents the diversity of the community we serve	()	()	()	()
Our staff has the technical knowledge and training needed to effectively address this issue in our community	()	()	()	()
Our agency has well-defined mechanisms for tracking burdens and/or impacts related to this issue	()	()	()	()
Our community has a defined vision, plan, or policies related to the issue this project is addressing	()	()	()	()
Our agency has all the funding we need to address this issue for our community	()	()	()	()

Our staff has the capacity to ensure leaders across departments are aware of and responsive to this issue	()	()	()	()
Our staff has the capacity to discuss social equity considerations associated with this issue with key stakeholders (e.g., community members, partners, elected officials)	()	()	()	()
Our staff has the capacity/expertise to generate community awareness of and engagement in this issue to support our project	()	()	()	()
Our staff are aware of current policies related to this issue and know how these policies will affect our work on the project	()	()	()	()
Our staff are familiar with all the issue-specific resources we need to efficiently plan and implement our work (e.g., guides, reports, strategies, associations, and organizations)	()	()	()	()
Our staff has the capacity to identify social equity implications of proposed solutions to this issue (e.g., policies, plans)	()	()	()	()
Our agency has the capacity to support frontline and/or vulnerable populations (e.g., low income communities, communities of color, immigrants, seniors, people with disabilities) with this project	()	()	()	()

23) Indicate the degree to which your various stakeholders are supportive of the project and goals you worked on during the past 12 months.*

	No support	Very little support	Some support	A lot of support	Complete support	Not applicable
Elected officials	()	()	()	()	()	()
City Manager / County Executive Officer (or Leading Director)	()	()	()	()	()	()
Department heads	()	()	()	()	()	()
Community members including frontline and/or vulnerable populations	()	()	()	()	()	()
Local businesses	()	()	()	()	()	()

24) Please indicate how much your agency's capacity improved in each of the following areas during the past 12 months.*

	No improvement	Very little improvement	Some improvement	A lot of improvement	Complete improvement
Effectiveness (ability to achieve success or quality of outcomes)	()	()	()	()	()
Efficiency (ability to achieve better outcomes with the same resources, or the same outcomes with fewer resources)	()	()	()	()	()
Scale/Reach (scope of service, for example, more people served, new populations served, or new/expanded services)	()	()	()	()	()

25) Please describe how CivicSpark contributed to the effectiveness, efficiency, or scale/reach of your agency's work. Please be specific in your response as to which of the three you are describing.

Thank You!

Thank you for taking our survey. We appreciate and value your time and response.

Appendix C – Sample for Analysis

Comparison Sample

There were six (6) total submissions to the post-survey from the comparison group. Of these, four (4) were complete and two (2) were partially complete. One (1) of the remaining partials submitted enough data to be included in the analysis. Of these six, one (1) responded “no” to the question: “Is there an environmental and/or social equity resiliency project that your agency is currently working on or worked on in the past 12 months?” making the final sample for the comparison group five (5) agencies. All five agencies had also completed a pre-survey.

Intervention (Beneficiary) Sample

There were 25 total complete submissions to the post-survey from the intervention (beneficiary) group. To create the beneficiary sample, this sample needed to be reduced to one project per agency (as the unit of analysis in the study was the agency, and not the project). The project descriptions were used to reduce the number of responses in the beneficiary group to only one project per agency:

- If a partner only had one submitted survey, this survey was used (10 submissions, 10 partners)
- If a partner submitted a duplicate survey, only one survey was used (2 duplicates into 1 agency)
- If a partner had one pre-survey submitted and multiple post-surveys submitted, we identified the post survey with the project description that matched the pre-survey (11 post surveys into 4 post-surveys)
- If a partner had multiple pre-surveys submitted and one post-survey submitted, we identified the pre survey with the project description that matched the post-survey (2 pre surveys into 1 pre-survey)

With the sample narrowed to one project response per agency, the final sample had 17 agencies.

Appendix D - Propensity Score Matching Procedure

This section describes the model used to create the matched sample. Analysis was conducted in R using the MatchIt package (v4.4.0; Ho, Imai, King, & Stuart, 2011). Optimal matching was performed using the optmatch package (v0.10.5; Hansen & Klopfer, 2006).

The analysis first checked for multicollinearity to determine if there was high correlation among two or more independent variables. In this analysis, generalized variance inflation factor (GVIF) (Fox & Monette, 1992) is reported as opposed to variance inflation factor (VIF), as there is one categorical variable, and VIF cannot be used with categorical variables since it is only suitable with variables having one degree of freedom. To make GVIFs comparable across dimensions, the analysis used $GVIF^{1/(2*DF)}$, where DF (degrees of freedom) is the number of coefficients in the subset, reducing the GVIF to a linear measure (Fox & Monette, 1992).

As shown in Table 1 below, all scaled GVIFs were close to 1, indicating that there was little correlation between each predictor variable and the remaining predictor variables

Table 1. Multicollinearity

Variable	GVIF	DF	GVIF ^[1/(2*df)]
Jurisdiction budget per capita	1.139708	1	1.067571
Agency Type	3.660857	2	1.383234
Population	2.964167	1	1.721676
Pre-Survey Program Service Delivery Index	1.561293	1	1.249517

Next, a regression model for the propensity score matching was created using four variables. Table 2 on the next page lists each variable and the sources of data. A one-to-one matching procedure using optimal matching without caliper and without replacement was run. The sample was large enough to use one-to-one matching. Including more neighbors (e.g., one-to-many) may reduce the variance in the treatment effects, but can increase the bias when using controls that are poor matches. Because “nearest neighbor” is the most common form of matching, this method was initially tried. However, the quality of matches was extremely low. Instead, we used “optimal matching,” which can be more appropriate when there are fewer controls than treated subjects (Gu & Rosenbaum, 1993).

Table 2. Propensity Score Variable Data Sources

Propensity Score Variable	Source
Agency type (dummy variable, factor)	Pre-Survey response (0 – Other, 1 – City, 2 – County)
Population size of jurisdiction (continuous)	<p>Public dataset based on the jurisdiction indicated in survey response</p> <p><i>Note: One organization noted their jurisdiction as nationwide. The state of the organization’s headquarters was used for the population size.</i></p>
Per capita budget allocation of jurisdiction (continuous)	<p>Revenue data was collected for the jurisdiction that each agency served. Jurisdiction revenue data is based on annual revenue for 2022. For jurisdictions that used fiscal years other than the calendar year, annual budgets that ended in calendar year 2022 were used. Biennial budgets were annualized in order to get comparable figures.</p> <p>Beneficiaries</p> <ul style="list-style-type: none"> • City of Steamboat Springs. (2024). <i>City of Steamboat Springs Annual Budget, Fiscal Year 2024</i>. https://www.steamboatsprings.net/DocumentCenter/Index/111 • City of Grand Junction. (2024). <i>2024 Annual Budget</i>. https://www.gjcity.org/DocumentCenter/View/11645/2024-Annual-Budget • City of Fort Collins. (2023). <i>2023-2024 Adopted Budget</i>. https://www.fcgov.com/citymanager/files/2023-24-adopted-budget-document.pdf?1724878867 • City of Boulder. (n.d.). <i>2024 Budget in Brief</i>. https://stories.opengov.com/cityofboulderco/published/wpDxanNxkb • Yakima County. (2022). <i>2023 Final Budget</i>. https://www.yakimacounty.us/Archive.aspx?AMID=40&Type=Recent • Spokane County, Washington. (2023). <i>2024 General Fund Preliminary Budget Tabulation</i>. https://www.spokanecounty.org/DocumentCenter/View/50243/2024-Preliminary-General-Fund-Binder • City of Redmond. (2024). <i>Adopted Budget 2023-2024</i>. https://www.redmond.gov/DocumentCenter/View/27413/2023-2024-Adopted-Budget-PDF • King County Council. (2023). <i>King County Budget, 2023-2024 Biennial Budget</i>. https://kingcounty.gov/en/legacy/depts/executive/performance-strategy-budget/budget/2023-2024.aspx • Washington State Senate Ways and Means Committee. (2023). <i>The 2023 Citizen’s Guide to the Washington State Budget</i>. https://leg.wa.gov/LIC/Documents/EducationAndInformation/2023%20Citizens%20Guide%20to%20Operating%20Budget.pdf • City of Issaquah. (2022). <i>Adopted Budget, 2023-2024</i>. https://www.issaquahwa.gov/Archive.aspx?ADID=905 • City of Yakima. (2022). <i>2023-2024 Biennial Adopted Budget</i>. https://www.yakimawa.gov/services/finance/files/2023-2024-Adopted-Budget-Web-9.20.pdf • City of Bothell. (2022). <i>2023-2024 Biennial Budget</i>. https://bothellwa.gov/DocumentCenter/View/18051/2023-24-Biennial-Budget-11323 • City of Olympia, Washington (2023). <i>2024 Adopted Operating Budget</i>. https://www.olympiawa.gov/Document_center/Government/Budget%20Financial%20Reports/Budget%20documents/2024-Adopted-Operating-Budget.pdf • Washington State Office of Financial Management. (n.d.). <i>Department of Commerce Operating Budget</i>. https://ofm.wa.gov/budget/state-budgets/gov-inslees-proposed-2023-25-budgets/agency-detail-budgets/103

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- Joint Budget Committee, State of Colorado. (2023). *Staff Budget Briefing, FY 2024-25, Office of the Governor (Colorado Energy Office)*. https://leg.colorado.gov/sites/default/files/fy2024-25_govbrf2.pdf

Comparison agencies

- Town of Breckenridge. (2024). *2024 Adopted Annual Budget*. <https://www.townofbreckenridge.com/departments/finance/budget>
- Larimer County. (2022). *Larimer County 2022 Revised and 2023 Adopted Budgets*. <https://www.larimer.gov/performance-budget-and-strategy/budgetsite/archive>
- Whatcom County Administrative Services. (2022). *Whatcom County Executive's 2023-2024 Budget, Volume 1*. <https://www.whatcomcounty.us/DocumentCenter/View/72488/Final-Budget-Vol-1-2023-2024>
- City of Tukwila. (2022). *2023-2024 Biennial Budget*. <https://www.tukwilawa.gov/wp-content/uploads/FIN-Current-Budget.pdf>
- City of Sunnyside. (2023). *City of Sunnyside Budget, 2024*. <https://www.sunnyside-wa.gov/DocumentCenter/View/3210>

Perceived capacity to address climate change (continuous)

Pre-Survey Program Service Delivery Index, which included the following four items:

- Our staff has the capacity/expertise to generate community awareness of and engagement in this issue to support our project
 - Our staff has the capacity to ensure leaders across departments are aware of and responsive to this issue
 - Our agency has the capacity to support frontline and/or vulnerable populations
 - Our staff has the capacity to discuss social equity considerations associated with this issue with key stakeholders
 - Our agency has well-defined mechanisms for tracking burdens and/or impacts related to this issue
-

Appendix E - Quality of Matching Model

To determine the quality of the matching model, the analysis included an assessment of the covariate balance as well a number of visual diagnostics, as described below.

Covariate Balance

The analysis examined the covariate balance by calculating the standard mean difference (SMD), the variance ratio, and the empirical CDF statistics (eCDF Mean and eCDF Max). Note that 12 cases in the treatment group were dropped, as the control group only had 5 observations (Table 1).

Table 1. Sample Size

	Control	Treatment
All	5	17
Matched	5	5
Unmatched	0	12

As shown in Tables 2 and 3, most the SMDs in the model are not close to 0, indicating the model does not have good balance. However, the Mean eCDFs are close to zero, which is an indicator for good balance. The variance ratios are less than ideal. Imbalance can be expected in very small sample sizes, even if the propensity score model has been correctly specified (Austin, 2009), so this result is not uncommon. The imbalance of the model is a limitation of the study and should be considered when assessing the results of the analysis.

Table 2. Summary of Balance for All Data

	Mean Treatment	Mean Control	SMD	Variance Ratio	eCDF Mean	eCDF Max
Distance	0.8902	0.3732	3.7503	0.1282	0.4514	0.7412
Jurisdiction budget per capita	2956.1876	9528.4100	-2.8025	0.0176	0.0879	0.2118
Agency Type (0)	0.2941	0.4000	-0.2324		0.1059	0.1059
Agency Type (1)	0.6471	0.6000	0.0985		0.0471	0.0471
Agency Type (2)	0.0588	0.0000	0.2500		0.0588	0.0588
Population	1914309.7647	173903.4000	0.5598	404.5487	0.1765	0.3529
Pre-Survey Program Service Delivery Index	2.6324	2.2000	0.9225	0.3004	0.1662	0.3412

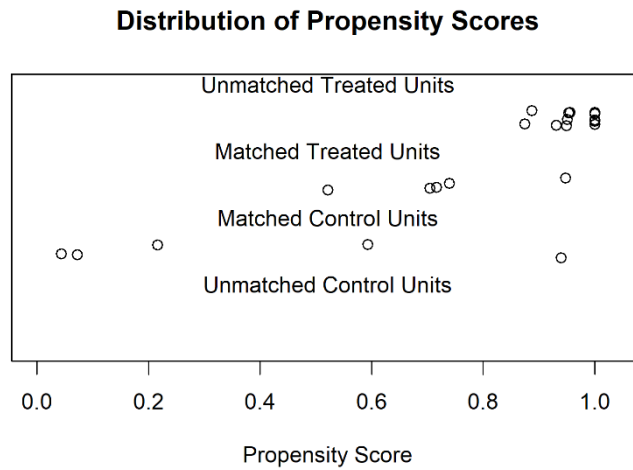
Table 3. Summary of Balance for Matched Data

	Mean Treatment	Mean Control	Std. Mean Diff	Variance Ratio	eCDF Mean	eCDF Max	Std. Pair Dist
Distance	0.7261	0.3732	2.5600	0.1548	0.1579	0.6	2.5600
Jurisdiction budget per capita	3528.0480	9528.4100	-2.5587	0.0079	0.2000	0.0	3.7664
Agency Type (0)	0.2000	0.4000	-0.4389	.	0.2000	0.2	0.4389
Agency Type (1)	0.8000	0.6000	0.4185	.	0.2000	0.6	0.4185
Agency Type (2)	0.0000	0.0000	0.0000	.	0.0000	0.0	0.0000
Population	147908.0000	173903.4000	-0.0084	2.0260	0.1556	0.2	0.0530
Pre-Survey Program Service Delivery Index	2.4000	2.2000	0.4267	0.6239	0.1000	0.6	0.8534

Visual Diagnostics

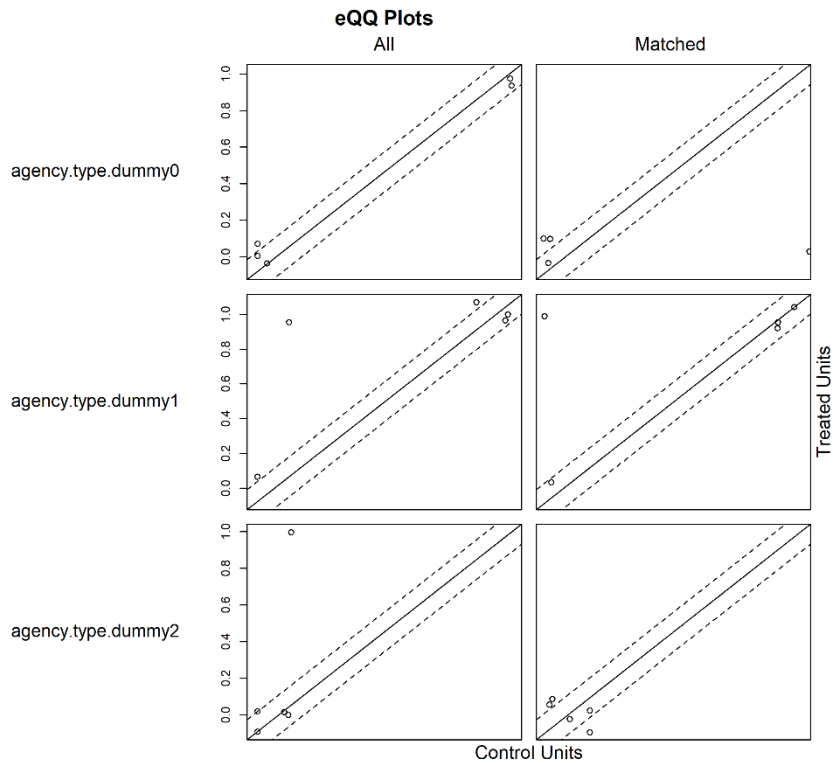
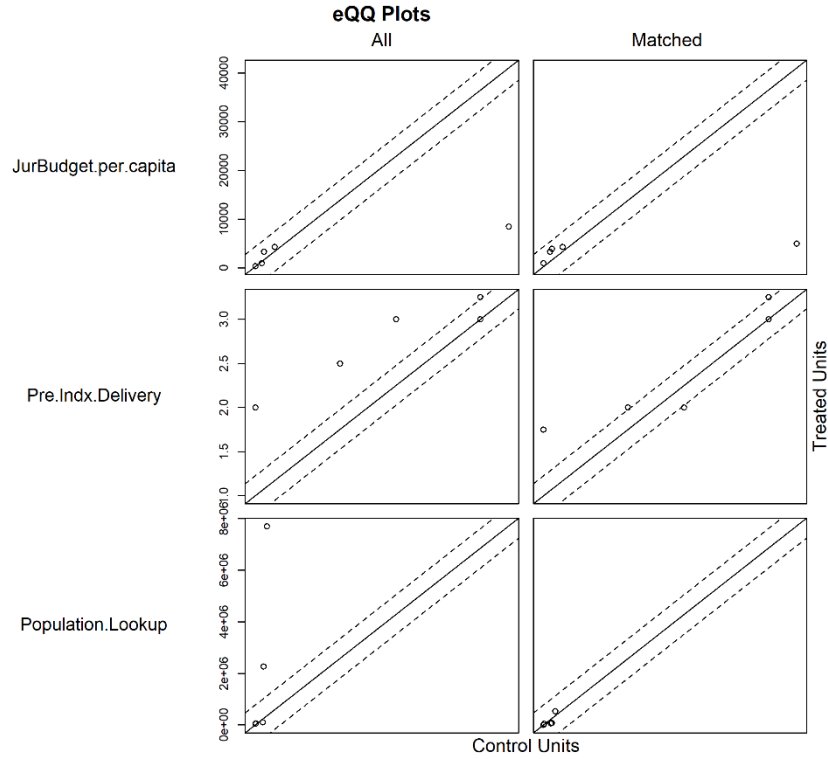
Distribution of Propensity Scores

The analysis assessed “common support” to ensure there is overlap in the range of propensity scores across treatment and comparison groups. Below is a jitter plot of the overall distribution of propensity scores in the treated and control group. This indicates propensity score matching is appropriate to mitigate the imbalance between the treated and control groups prior to matching, even through the resulting model has less than ideal overlap.



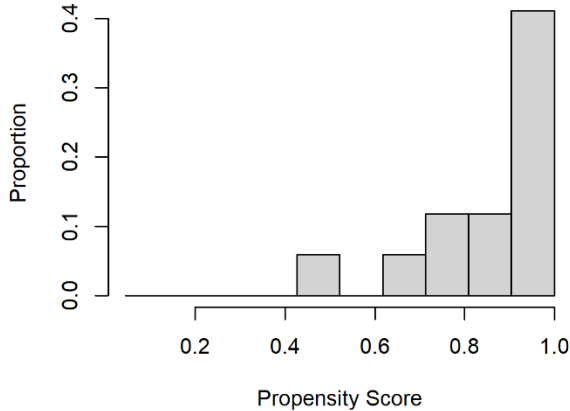
eQQ Plots

The y-axis displays each value of the covariate for the treated units, and the x-axis displays the value of the covariate at the corresponding quantile in the control group. When values fall on the 45 degree line, the groups are balanced (Greifer, 2022). As shown, some units are outside of the 45 degree line, but most are within.

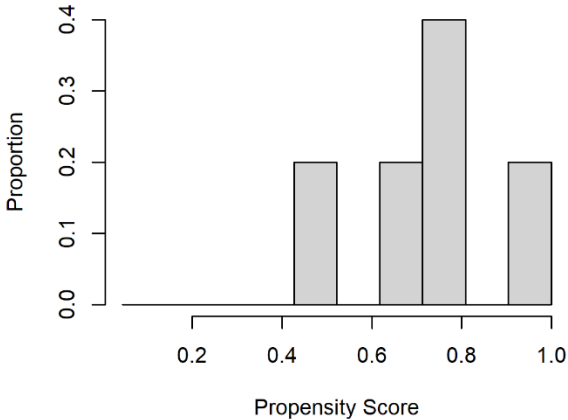


Histograms of Propensity Scores

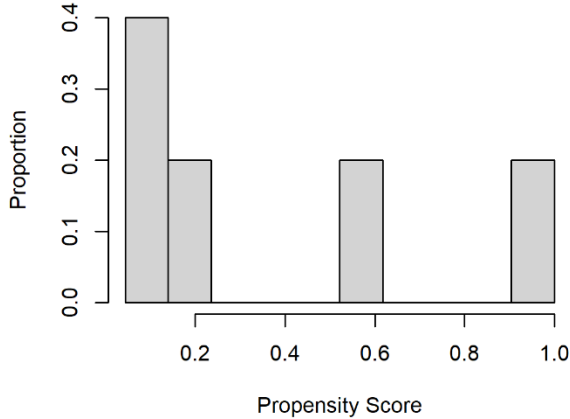
Raw Treated



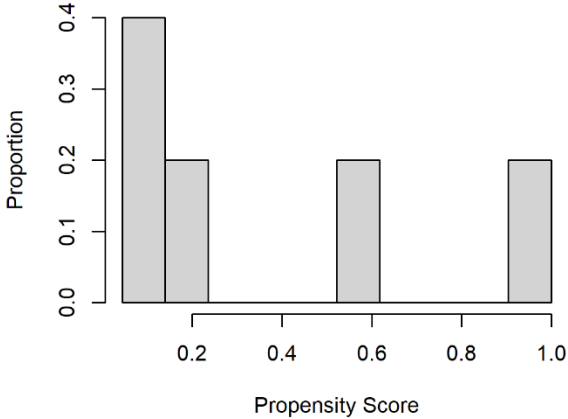
Matched Treated



Raw Control

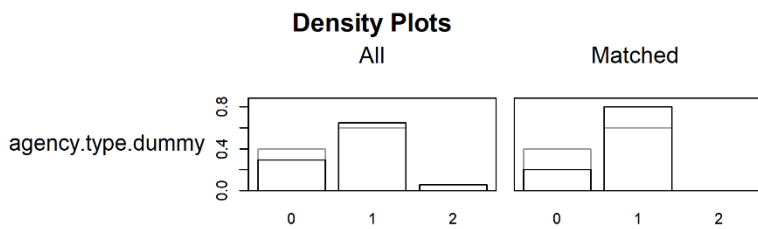
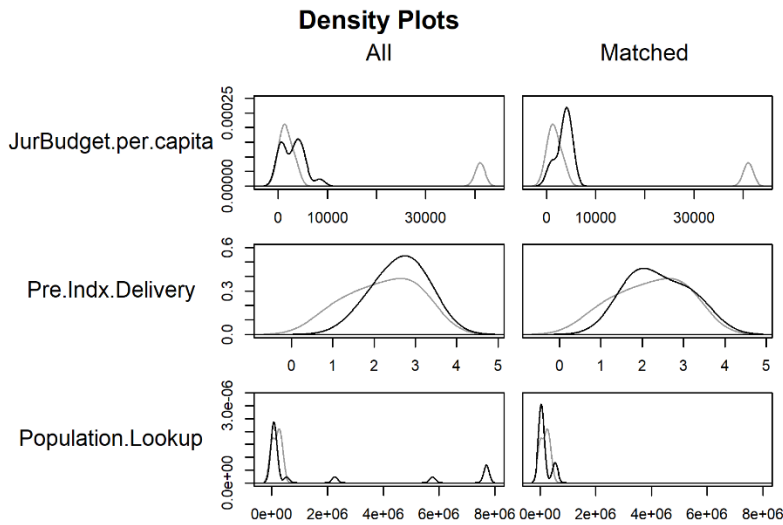


Matched Control



Density Plots

The x-axis displays the covariate values and the y-axis displays the density of the sample at that covariate value. For binary variables, the y-axis displays the proportion of the sample at that covariate value. Perfectly overlapping lines indicate good balance. Our model does not produce overlapping lines, but does illustrate the degree of imbalance between the two groups prior to matching, which the matching model attempts to mitigate. The black line corresponds to the treated group and the gray line to the control group.



Appendix F - Matched Sample Descriptive Statistics

Variable	N	Comparison N = 5 ¹	Treatment N = 5 ¹	p-value ²
Agency Type	10			>0.9
City or Town		3 (60%)	4 (80%)	
Other		1 (20%)	1 (20%)	
Special District		1 (20%)	0 (0%)	
How long has this project been going on?	9			0.079
Less than 3 months		1 (25%)	0 (0%)	
7-12 months		0 (0%)	4 (80%)	
A year or more		3 (75%)	1 (20%)	
Approximately what percentage of your time at work in the last 12 months was spent on the specific resiliency area this project focused on?	8	0.30 (0.23)	0.53 (0.44)	0.5
How much experience do you have working in the specific resiliency area of this project?	9			0.3
A little		0 (0%)	1 (20%)	
A lot		1 (25%)	3 (60%)	
Some		3 (75%)	1 (20%)	
What is the primary environmental and/or social equity issue that your project addressed?	9			0.2
Affordable Housing		1 (25%)	0 (0%)	
Climate Mitigation/Adaptation		1 (25%)	4 (80%)	
Mobility (alternative/multimodal transportation)		0 (0%)	1 (20%)	
Other		1 (25%)	0 (0%)	
Water Resources Management		1 (25%)	0 (0%)	
Population of Primary Jurisdiction	10	173,903 (154,585)	147,908 (220,035)	>0.9
Jurisdiction Budget per capita	10	9,528 (17,668)	3,528 (1,541)	0.5

¹n (%); Mean (SD)

² Fisher's exact test; Mann Whitney Wilcoxon Test; Pearson's Chi-squared test

Appendix G – Regression Models

Assessing Relationship between Capacity and Goal Achievement

Agency Understanding Goals Met and Improved Capacity Index

	Estimated	Std. Error	z-value	p	Odds	CI 2.5%	CI 97.5%
Intercept	-4.859	7.187	-0.676	0.499	0.0077557	8.522224e-14	17.38109
Improved capacity index	0.991	2.052	0.483	0.629	2.6939002	2.236633e-01	2363.19588

Stakeholder Engagement Goals Met and Improved Capacity Index

	Estimated	Std. Error	z-value	p	Odds	CI 2.5%	CI 97.5%
Intercept	-4.599	5.797	-0.793	0.428	0.01005971	1.090259e-10	11.11481
Improved capacity index	1.207	1.681	0.718	0.473	3.34335374	3.870462e-01	585.63749

Regression model could not be performed with Agency Understanding Goals due to small sample size.

Assessing Goal Achievement between Groups

Program Development Goals

	Estimate (log -odds)	Std. Error	z-value	p	Odds	CI 2.5%	CI 97.5%
Intercept	-1.386	1.118	-1.240	0.215	0.25	0.0127798	1.689944
Treatment	1.792	1.443	1.241	0.214	6.00	0.4294638	178.018552

Stakeholder Goals

	Estimated	Std. Error	z-value	p	Odds	CI 2.5%	CI 97.5%
Intercept	-1.386	1.118	-1.240	0.2150	0.25	0.0127798	1.689944
Treatment	2.773	1.581	1.754	0.0795	16.00	1.0046582	702.306154

Regression model could not be performed with Agency Understanding Goals due to small sample size.

Assessing Capacity Improvement between Groups

Program Development Goals

	Estimate (log -odds)	Std. Error	z-value	p	Odds	CI 2.5%	CI 97.5%
Intercept	-1.386	1.118	-1.240	0.215	0.25	0.0127798	1.689944
Treatment	1.792	1.443	1.241	0.214	6.00	0.4294638	178.018552

Stakeholder Goals

	Estimated	Std. Error	z-value	p	Odds	CI 2.5%	CI 97.5%
Intercept	-1.386	1.118	-1.240	0.2150	0.25	0.0127798	1.689944
Treatment	2.773	1.581	1.754	0.0795	16.00	1.0046582	702.306154

Regression model could not be performed with Agency Understanding Goals due to small sample size.