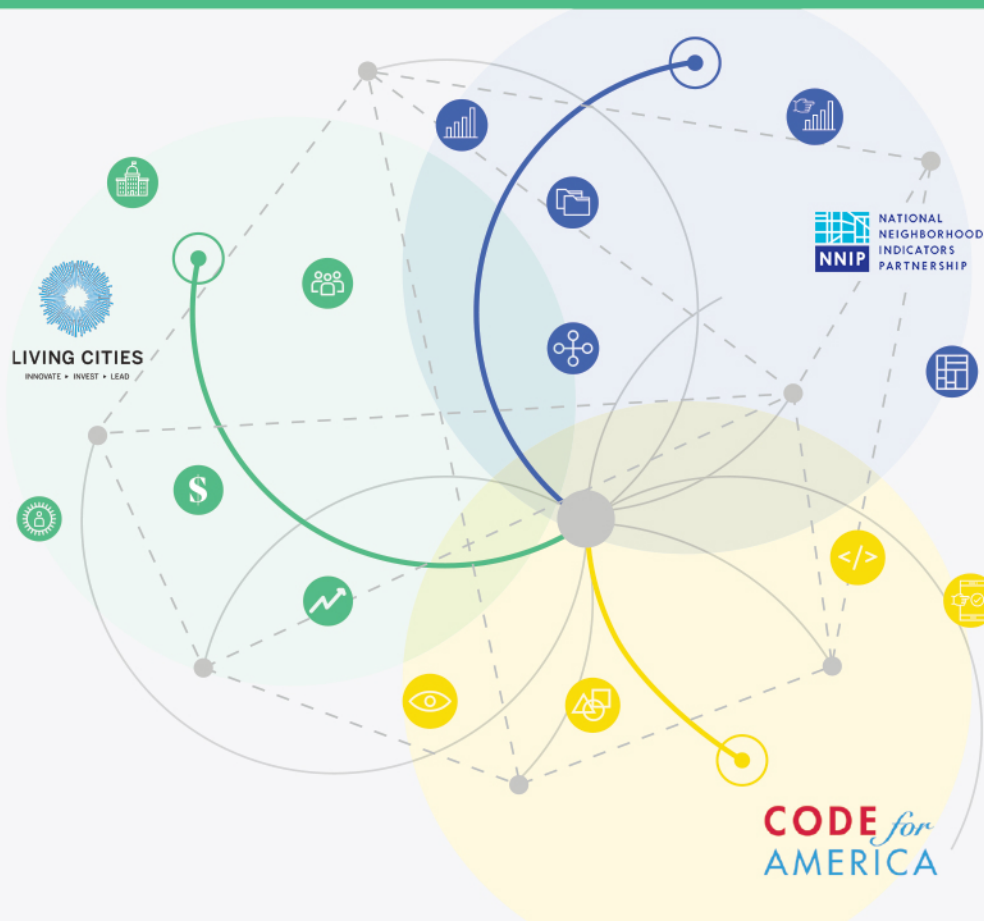


Collaborating For 21st Century Solutions

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CONTENTS

Introduction	04
Ingredients for Civic Tech and Data Collaboratives	08
Engaging Low-Income Residents	12
Mobilizing for Collective Action	18
Resourcing Collaboratives	24
Sustaining the Gain	30
Conclusion	36

Additional materials from the CTDC project, including a companion toolkit for practitioners is available at livingcities.org/CTDC.

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About the National Partners



The nonprofit Urban Institute is a leading research organization dedicated to developing evidence-based insights that improve people's lives and strengthen communities. For 50 years, Urban has been the trusted source for rigorous analysis of complex social and economic issues; strategic advice to policy-makers, philanthropists, and practitioners; and new, promising ideas that expand opportunities for all. Our work inspires effective decisions that advance fairness and enhance the well-being of people and places.



Coordinated by the Urban Institute, the National Neighborhood Indicators Partnership (NNIP) consists of independent organizations in 32 cities that share mission to help community stakeholders use neighborhood data for better decisionmaking, with a focus on assisting organizations and residents in low-income communities.



Living Cities harnesses the collective power of 18 of the world's largest foundations and financial institutions to develop and scale new approaches for creating opportunities for low-income people, particularly people of color, and improving the cities where they live. Its investments, applied research, networks, and convenings catalyze fresh thinking and combine support for innovative, local approaches with real-time sharing of learning to accelerate adoption in more places.



Code for America is a national nonprofit that believes government can work for the people, by the people, in the 21st century. We organize a network of people who build technology to further local governments' priorities of creating healthy, prosperous, and safe communities. Our goal: government services that are simple, effective, and easy to use, for everyone.

1

Introduction

The results are convincing.

When communities invest in and unleash the power of local data and technology expertise, time, money, and even the lives of residents can be saved. Communities should tap and cultivate their capacity to use these tools to solve the everyday but acute challenges that can lead to crises for residents with the fewest resources, but very few do in impactful ways.

Imagine if in one year, you could increase by 20 percent the number of youth in your community accessing economic opportunities by offering better matches for summer jobs? Or dramatically reduce the number of people who go to jail or pay increased fines for traffic violations by making vital court information more easily available? What if more residents could avoid displacement because policy-makers had access to information to make better decisions about preserving affordable housing units? We now have examples of communities that focused on these civic issues and used the power of collaboration to achieve these results and more.

In 2014, our organizations—Code for America, Living Cities, and the National Neighborhood Indicators Partnership (NNIP)—challenged ourselves and our networks. We asked groups that represent local data, tech, and government professionals in cities across the country:



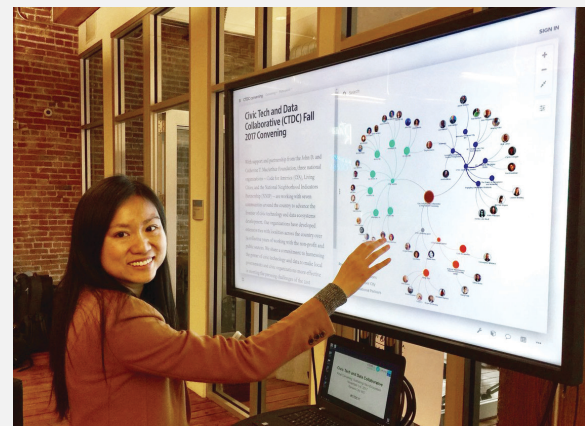
How can we harness the power of data and technology to increase efficiency, equity, and effectiveness of policies and programs that will benefit low-income urban residents?

In response, seven communities embarked on an exploration of how local tech, data, and government entities can work together differently to solve problems that matter to residents using civic tech and data. There are many different definitions of [civic technology](#), but for our project we use the term to mean technology involving intentional collaboration between technologists, government, and/or nonprofits to engage the public or solve civic problems. Groups in Boston, St. Louis County, and Washington, D.C. organized partnerships to explore how to collaboratively develop data and tech tools to improve the lives of low-income residents in their cities. In addition, Cleveland, Pittsburgh, San Antonio, and Seattle/King County each assessed and cultivated their civic tech and data landscape by mapping the existing capacities and activities of local organizations. Collectively, our seven city teams and the three national nonprofit organizations called ourselves the Civic Tech and Data Collaborative (CTDC).

Despite many examples of solutions that effectively use technology and data to address civic issues, communities still don't routinely and fully leverage expertise, tools, or resources for daily problem-solving of complex challenges. There are two general reasons why. One is the lack of collaboration: people with different kinds of expertise are not working together because they are separated by sectors or departments and don't speak the same language. Secondly, problem-solvers who don't understand the root causes will only address symptoms. A city's low-income residents need to be engaged in defining the problems and solutions that affect them.

We have seen that when communities combine their technology and data expertise and resources, they can:

- **Unlock data** to shed light on issues and take action on what they reveal
- **Creatively incorporate technology** to enhance systems-level solutions
- **Build government's capacity** to pilot and spread the use of civic tech and data across departments and externally
- **Create solutions** that involve low-income residents and improve their lives



We offer this synthesis for other cities and regions exploring the intersection of data and technology in their own communities and intentionally leveraging their assets to accelerate and sustain collaborative problem-solving. Our ideas are informed both by the experiences of the Civic Tech and Data Collaborative's local teams and the work of our three national networks in nurturing other cross-sector collaborations throughout the country.

This synthesis is divided into five sections:

- 1 ingredients for civic tech and data collaboratives
- 2 engaging low-income residents
- 3 mobilizing for collective action
- 4 resourcing collaboratives
- 5 sustaining the gain

At the end of each section we offer a set of questions and/or resources for communities interested in forming collaboratives and strengthening the ecosystems in which they exist.

Why “Ecosystem”?

We borrow the biological term, ecosystem, as a metaphor for the dynamic network of civic tech and data actors that can exist in a geographic area. These self-regulating ecosystems are defined by the interactions between actors, each with varying functions and goals, within them. This perspective informs our approach to complex problem-solving. For communities in the early stages of understanding how to activate the civic data and tech assets in their area, we suggest creating an ecosystem map to illustrate the landscape. By looking at potential or existing relationships with the data, tech, government, philanthropic, and other related actors around them, individuals and groups can identify gaps in how they work and who they work with. With this information, groups can form collaboratives with shared priorities and take action to address systemic issues. Our experience shows that these activities can increase talent development and the flow of information and resources, resulting in more powerful solutions that top-down or unilateral approaches can't create and, ultimately, improved outcomes for low-income residents.

To view our Guide to Civic Tech & Data Ecosystem Mapping, visit
livingcities.org/CTDC ➔

2

Ingredients for Civic Tech & Data Collaboratives

A host of individuals and institutions in a community should participate in building their ecosystem's capacity to create solutions with data and technology. In the CTDC project, we mandated that the local partners assemble a collaborative that, at minimum, represented the following three groups. Without these sectors working together and engaging low-income residents, data and technology solutions will remain fragmented and siloed, forever in pilot phase, unsupported, and ineffectual.

Local government (e.g., city, county or school district) manages the systems that impact low-income residents most. They can contribute leadership, buy-in, and a stable source of funding, i.e., taxpayer dollars, to efforts by civic technologists and data organizations to improve services and programs. They can institutionalize solutions to drive lasting systems change. Furthermore, they can be held accountable through the democratic process to new uses of data and technology and the impact on the community.

Civic technologists, such as members of Code for America brigades, are people who work in service of local communities and have the skills to design, program, and develop software and online tools. Civic technologists bring new design perspectives and create software programs aimed at improving government services and communications. User experience research, a staple of modern web development, can uncover major challenges in program service delivery that can be solved by adjusting processes.

Local data intermediaries, such as NNIP Partners or other community data organizations, assemble and organize data to describe their communities and empower the communities to use data in their activities. Data intermediaries identify relevant data,

verify its reliability, and transform the raw data into actionable information. They often have knowledge on policy and neighborhood issues informed by trusted connections with community organizations and individuals.

Philanthropy (e.g., national and local foundations, corporate funders, and individuals) was not named as a core partner but is a significant contributor to our work and to the field of civic tech and data (and is discussed in the “Resourcing Collaboratives” section). Philanthropy can catalyze collaboration amongst separate entities in the ecosystem, provide flexible dollars for pilot projects, and validate the impact for continued public or foundation investment.

As we discuss further in the next section, these groups have a shared responsibility to build respectful and ongoing relationships with low-income residents in urban communities, who must be engaged in setting priorities and informing solutions that address the root causes of civic challenges.

Success In The Field - CTDC Projects

To provide real-world examples and lessons for the field, the Civic Tech and Data Collaborative funded teams in Boston, St. Louis, and Washington, DC to create products that use data and technology in new ways to improve services or programs in their cities. Each project included an NNIP organization, civic technologists, and local government staff.

Our CTDC cities were chosen because their government, tech, and data groups were willing, motivated, and equipped to engage with one another and make low-income communities their primary focus. For communities that first need to build capacity in any of these sectors before they can pursue collaboration, these resources developed through our experience as national networks may be valuable:

- **For the local government:** [Living Cities' Equip to Innovate](#) framework
- **For data groups:** [NNIP's Guide to Starting a Local Data Intermediary](#)
- **For tech groups:** Code for America's [Brigade Organizer's Playbook and Handbook](#)



Boston

In Boston, the Metropolitan Area Planning Council and the city's Division of Youth Engagement and Employment (DYEE) came together to redesign key program elements for SuccessLink, the city's youth employment program, including the application interface, how youth are assigned to jobs, and how the agency communicates with applicants. They were assisted by the Department of Innovation and Technology (DoIT), Code for Boston, and MIT education experts. The collaborative developed a creative algorithm for matching youth to desired jobs and a system to notify applicants of matches via email and text message. The new [Youth Jobs Platform](#) allowed staff real-time access to program operations data and enabled youth to monitor their status throughout the application process. The project demonstrated that tailoring services to meet the needs of youth results in higher participation and frees up staff for program enhancements.

St. Louis

CivTech St. Louis began as a partnership between Rise, the St. Louis Economic Development Partnership, GlobalHack, and LaunchCode. The CivTech St. Louis team recognized that data and technology could bridge the information gap and prevent people from going to jail for nonviolent, mostly traffic, offenses. The result was [YourSTLCourts](#), an open-source website and text tool that pulls real-time data on tickets from most St. Louis area courts into a single, easy to use interface. Residents can search by their citation number, their driver's license number, or the location where they received their ticket. Additionally, a short message service (SMS) tool enables residents to receive text messages with court updates. The website also helps residents navigate the court system by providing information about what to expect in court and community service options.

Washington, DC

The Coalition for Nonprofit Housing and Economic Development (CNHED), the DC Department of Housing and Community Development (DHCD), and Urban-Greater DC partnered with Code for DC to develop [Housing Insights](#), an open-source tool that uses data and technology to help government and community development staff make better investments in affordable housing. The tool compiles diverse data sources to help stakeholders identify projects that are at risk or difficult to replace, understand neighborhood trends, and access information on individual projects needed for action. The project grew out of work by the DC Preservation Network, a long-standing cross-sector initiative led by CNHED and Urban-Greater DC that works to preserve affordable housing in the District.

See case studies on each project available at livingcities.org/CTDC.



3

Engaging Low-Income Residents

Strong collaboration is often built on a foundation of shared principles and goals. The core value of improving opportunities for low-income people in urban communities, shared by our three national networks, was a central goal of our CTDC project. Without an intentional focus on including people with limited economic resources, it is easy for projects that incorporate technology and data to only address the issues that get raised by residents and stakeholders who already have a voice in decision-making, thereby reinforcing inequities.

Involving low-income people in civic tech and data initiatives is not only the right thing to do, but it will also help identify high-priority issues and result in better program or product design. For public sector agencies participating in collaboratives, this approach can facilitate a co-production process with residents who rely on government services most, yet may not have regular input into local policies and programs. For data organizations, low-income residents can identify which measures are important and contribute their local knowledge to interpret quantitative indicators. For civic technologists, connecting with residents aligns with the tenets of user-centered design—users should provide input throughout the proposal and development of any solution or tool to ensure it is meeting the users' need.

Determining how to engage low-income residents is a challenge for every city, and it will take time to get it right. Practical barriers to resident participation in civic tech and data initiatives are similar to those in other public decision-making opportunities: lack of transportation, work schedules covering multiple shifts, lack of childcare during meeting times, limited English proficiency, and more. Engagement efforts can be further stymied when power dynamics between low-income residents and paid staff at professional organizations, who may be

of a different class or race, are not acknowledged or addressed.

Collaboratives should always seek to understand the past experiences of low-income residents when external groups have offered help. Previous outsiders and the local government may have approached the neighborhood as a place with problems to be fixed, instead of a place with knowledgeable people and untapped assets. Researchers historically have extracted data from low-income residents without providing updates on how their data are being used, sharing insights derived from the study, or informing residents of improvements undertaken because of the data.

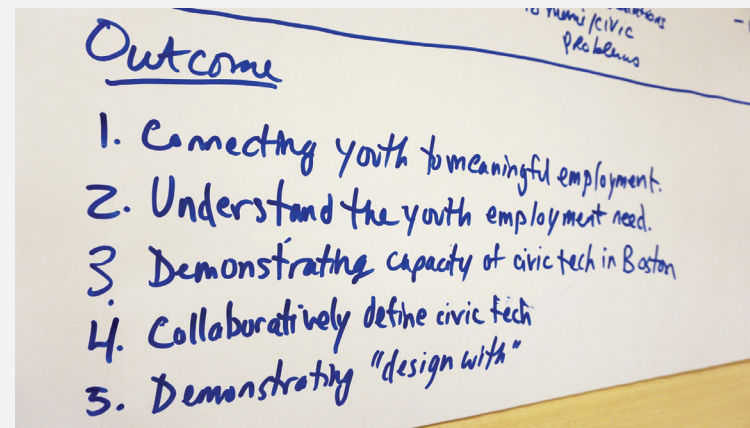


Meaningful engagement requires new ways of respectfully listening and responding to residents. Local collaboratives found that civic tech and data offered a new way to creatively involve people who were directly affected by their chosen topic.

In St. Louis, to guide the features and content on the YourSTLCourts website, CivTech St. Louis partnered with the University of Missouri–St. Louis School of Social Work to [better understand court users' information needs](#). The students and CivTech St. Louis team members surveyed more than 350 court users outside of the courthouse regarding their experiences with the courts and their use of technology. Once the team had a working prototype website, they tested its usability with people exiting the courthouses to refine the interface and navigation.

In Boston, youth were involved in [all stages of the YouthJobs project](#). The Division of Youth Employment and Engagement has experience engaging teens as full collaborators on projects. Youth were hired to consider how teen interests should be built into the matching process, design the language and format of notifications, help design the interfaces, and participate in a video to tell the story of the project to others.

In Seattle/King County, when our local partner [went to the community to discover their civic tech and data needs](#), they found that using the words “civic tech and data” was not helpful. “The question elicited enough blank stares and stammering ‘not-sure-what-you-mean’ responses.” It’s important to be flexible and use plain language that’s easily understood.



Not every organization in a collaborative may be positioned to directly engage with low-income residents, but we believe everyone shares the responsibility of ensuring that respectful engagement is happening. We recommend the following strategies based on our experience with the CTDC and beyond:

Begin with trusted community partners.

Reach out to community organizations or government agencies that have established working relationships with low-income residents, with the caution that any single organization will not reflect the perspectives of all residents. These trusted organizations will be aware of the barriers to participation residents face and can suggest ways to overcome them. Ecosystem mapping, as referenced in the introduction, can identify where a collaborative member already has relationships, and where they might leverage the trust built during past engagements.

Proactively reduce the barriers for resident participation.

Meet low-income residents where they are to understand the challenges they face when accessing services or interacting with their local government. This means geographically, such as having meetings in low-income neighborhoods

or in transit-accessible community centers. It also is true conceptually, making sure to use plain language and accessible formats in communications.

Involve people early and consistently throughout the process.

Low-income residents should have a role in all stages of a project or collaborative—whether identifying priority issues, brainstorming response options, testing a prototype, or advising on publicity and outreach for a finished product. Involving residents from the beginning ensures that teams are solving the right problem and will receive input in time to course correct. Always return to residents who have given input to let them know the result of the process.



Incorporate qualitative data from lived experience.

Analyzing quantitative data helps us to understand neighborhood conditions and resident challenges. Equally valuable are data from residents about their understanding of the root causes of the conditions that impact their lives. Residents can verify whether the results from administrative data reflect their first-hand experience. Their stories can also provide powerful motivation to get a project started, or to disseminate the benefits of a tool after its release.

Ensure results as well as process.

Regardless of the outreach method used, the most critical determinant of success (real and perceived) is whether the input gathered is reflected in decisions, actions, and outcomes. Quick implementation of on-the-ground changes, even small ones, can demonstrate responsiveness to community input and counter past negative experiences of other engagement efforts that failed to fulfill promises.

Key questions for engaging low-income residents with civic tech and data

- 1 What is the right structure and organizational roles for the collaborative that will respectfully allow for the authentic participation of low-income people?
- 2 What positive relationships do the members of the collaborative have with low-income residents (or community groups working with low-income residents) that can be built upon? What approaches have not been successful in the past?
- 3 Given that low-income people have historically had less input into public decision-making, how will the collaborative ensure that they are part of identifying the issues, planning activities, and implementing solutions?

Resources

[Accelerate Public Engagement: A Roadmap for Local Government](#) (*Living Cities*)

[CUTGroup Book: Civic User Testing Group as a New Model for UX Testing, Digital Skills Development, and Community Engagement in Civic Tech](#) (*City Tech Collaborative*)

[Data Walks: An Innovative Way to Share Data with Communities](#) (*Urban Institute*)

4 Mobilizing for Collective Action

Setting forth common principles, such as a commitment to including low-income residents, is a first step in activating organizations to work together to improve their communities. While civic tech and data collaboratives can build on similar principles as any other such partnership might, they are distinct in their capacity to improve broken government systems that make life harder for residents.



In the CTDC initiative, we did not impose on local teams a process for forming or operating the local civic tech and data collaboratives. However, some sites developed internal processes that reflected collective impact principles. Through the many community change initiatives, our national networks have initiated and supported over the years, we have a wealth of knowledge and experience around structuring successful in-depth partnerships.

Groups may choose to begin with smaller-scale activities such as consultations, events, or newsletters. [The Data Days held in Pittsburgh and Cleveland](#), two CTDC sites, demonstrate how individual events can spark new ways of working together.



Based on the national and project experiences, we recommend the following steps to help groups interested in collective action.

Identify and define a clearly articulated purpose that is accepted by all members.

CivTech St. Louis, staffed by the community development organization Rise, initially consisted of a diverse set of players from the government, the private sector, academia, nonprofits, and advocacy groups. Together, they adopted a vision to empower citizens with tools and data that led to more effective government, a more engaged community, and a more equitable society. This mission statement guided the selection and design of their first tool, YourSTLCourts.com.

Decide the roles that members will play and how activities will be resourced and implemented.

In Washington, DC, the institutional partners—the Coalition for Nonprofit Housing and Economic Development (CNHED), the DC Department of Housing and Community Development (DCHD), and Urban–Greater DC—had collaborated for the past decade on preserving affordable housing. In planning for the Housing Insights project, they had to negotiate the distribution

of grant funding and their roles in the project, including structuring the involvement of Code for DC as a new partner. CNHED provided subject matter expertise and the home for a paid part-time project manager to manage the website development and volunteers. Code for DC provided the volunteers to help with the user research and coding. Urban–Greater DC offered its knowledge of the data sources and housing preservation policy. The staff from DHCD participated in user interviews and testing the interface. Everyone participated in promotion of the tool once it was launched.

Create a shared language to define and measure progress.

The Metropolitan Area Planning Council of Boston, the Department of Innovation and Technology, and the Division of Youth Engagement and Employment each had clear outcomes that they wanted to achieve when redesigning the process for the city’s summer youth program, including increasing the quality of matches of youth to jobs and the number of teens ultimately enrolled. After designing the new matching process, they implemented it with a subset of applicants so they could compare results with the existing system and minimize risk of disruption to the program.

Develop a process for making decisions together.

The Alamo Regional Data Alliance in San Antonio has agreed on written criteria for prioritizing projects: power to change San Antonio's quality of life, community interest and momentum, political and technical feasibility, affordability, and opportunity for integration or collaboration. CI:Now, the NNIP Partner staffing ARDA, compiled the list of 40 potential projects that had emerged from member and public input over the past year. The steering committee's first effort in late 2017 at rating the projects proved too burdensome, so they are now determining new procedures for project selection. They are also determining a process to consider time-sensitive needs and opportunities that arise, as well as a policy to allocate ARDA work strategically, building on partners' strengths and capacity.

These steps describe the process for organizations coming together. Working alongside these communities, we also identified four areas of competencies that proved integral to a high-functioning collaborative. These competencies, detailed in the figure on the following page, are not exhaustive, but are meant as a guide for collaboratives

to assess whether they have the right capacities represented in the partnership across key areas. The first set of skills relates to *management and communications*. Having a [backbone organization](#) in the CTDC sites sped up implementation and ensured accountability. Local project managers served as the collaboratives' quarterbacks, playing the critical role of coordinating and translating across the sectors involved. *Domain and policy expertise* was critical for the three sites charged with implementing a project. Teams in Boston, St. Louis, and Washington, DC invested time to understand their issues—the youth employment program, the traffic court system, and affordable housing preservation—from the perspectives of professional staff and residents affected by the government systems. *Data analysis and translation* includes both technical expertise as well as skills to share findings from data with broad audiences. Lastly, collaboratives need people with the know-how in *technology design and development*, who can identify how and when technology can make a difference and bring experience in focusing design around user needs.

Competencies for Civic Tech & Data Collaboratives

Management & Communications

- Management skills to convene the collaborative and coordinate diverse partners.
- Communication skills to transmit information and facilitate discussions among diverse partners.
- Community organizing and engagement of the people affected by the problem identified.
- Fundraising to cultivate investors and obtain the resources to pay for time and expenses.

Domain & Policy Expertise

- Knowledge of the issue area, based on formal training, professional practice, or life experience.
- Experience in the design of innovative policy and effective programs.

Data Analysis & Translation

- Ability to collect, share and access data.
- Skills to assess data quality and analyze data.
- Capacity to communicate what data are saying to a broader audience.

Technology Design & Development

- Coding and programming skills to develop technology solutions.
- Knowledge of technology systems to maintain infrastructure over time.
- User-centered design capabilities to support the development of solutions.

Local collaboratives demonstrated a variety of ways to identify and integrate new technological expertise into their project teams. The Metropolitan Area Planning Council in Boston built internal capacity, creating a new job description and hiring a developer they met through Code for Boston to work on the YouthJobs project. The Washington, DC team hired a new project manager who not only brought software development skills to the group, but who could also harness the technological talents of Code for DC volunteers. In St. Louis, for the website content and development, the team tapped their hackathon winner for some pro bono work, paid individual developers, and partnered with a youth coding program run by Hands Up United, the local Black Lives Matter group.

Key questions for mobilizing for collective action

- 1 Which steps in the collective action process has the collaborative made progress on? Which ones haven't been tackled yet?
- 2 Which member or potential partner can serve as a coordinator and provide staffing and relationship management to drive the collaborative?
- 3 How are you identifying gaps in skill sets? What existing resources can you leverage to meet the collaborative's needs? Which new organizations or networks could be brought in to fill in the gaps?

Resources

[When to Apply Collective Impact](#) (*Living Cities*)

[Cross-sector Partnership Assessment Tool](#) (*Living Cities*)

[Cultivating Talent](#) (*Johns Hopkins University Center for Government Excellence*)

[Ten Hacks from Code for America to Help You Hire](#) (*Re:work*)

5

Resourcing Collaboratives

Collaboratives have employed various funding models to sustain innovations in civic tech and data, but it is still a daunting proposition for most. Responsibility to rally diverse players to work together in new ways isn't assigned to one organization, sector, or discipline. Often a new source of financial support is needed to create a coordinating role or provide funds for existing staff to increase capacity at a backbone organization. Some progress may also be possible through shifting existing resources, reducing redundant activities, and/or eliminating ineffective practices or programs across the organizations involved. Multiple organizations may be able to contribute in-kind by lending the time of their technologists, cleaning up datasets, hosting events, or coordinating organizational communications. However, sustaining the work of a collaborative and ensuring that the team can respond to ever-changing challenges will require ongoing investment.

National philanthropies have led the way in [funding civic tech and data initiatives](#) (adopting a variety of definitions for that term) as a means of advancing their own missions—whether promoting entrepreneurship, civic engagement, government transparency, or child wellbeing. Philanthropy shoulders the risk of initial investment and creates space for experimentation to generate success stories and attract long-term support for collaboratives. Beyond the John D. and Catherine T. MacArthur Foundation funding for CTDC, the Ewing Marion Kauffman Foundation, the Knight Foundation, Microsoft, Omidyar Network, the Annie E. Casey Foundation, and Bloomberg Philanthropies have all invested in innovative practice and research highlighting the use of data and technology to advance societal goals. These projects are both inspiration for local collaboratives and concrete examples to share with potential funders.

While national foundations play a critical role in supporting the civic tech movement, they should not be the only solution for resourcing local collaboratives. It is critical to cultivate local investment, and our CTDC project illustrates both the opportunities and difficulties of raising local funds. The national CTDC project provided the teams in Boston, St. Louis, and Washington, DC with a \$200,000 grant along with a charge to identify local matching funds. We hypothesized that if local investors were part of the initial successes, it would be easier to convince them and their peers to continue financial support for the projects and fund other solutions in the future. Of the three sites, only Boston raised matching grant funds. The St. Louis and Washington, DC teams supplemented the national grant with in-kind donations. The teams can maintain their products over the next couple of years, but need to identify funding for engaging users, enhancing features, or tackling new issues with civic tech and data.



Code for America's work has demonstrated that improvements to government services achieved through foundation-funded pilots can have major impact when scaled up. The California state government spent \$7 billion in FY2017 on the Supplemental Nutrition Assistance Program (SNAP), providing benefits to 4 million people. Thus, even a marginal increase in the efficiency of how SNAP benefits are administered, as illustrated through the [GetCalFresh service](#), can have a large effect. Investing in pilot projects bringing technology and data to bear on improving government services allows philanthropy to see their impact scale exponentially.

While easier said than done, collaboratives will need to diversify funding to sustain work over time. Strategies for accomplishing this include:

Communicate the value of working across sectors to leverage data and technology to create solutions that improve the lives of low-income people.

Funding civic tech and data is an unusual space for many traditional philanthropic organizations, so collaboratives should explicitly connect the dots between the need for innovative approaches and tools and the issues that foundations focus on (e.g., disconnected youth, racial inequities, or community health). Collaboratives should demonstrate how they developed a shared vision and will be held accountable to their community. This will require metrics of success, including interim ones that demonstrate increased capacity, which will lead to the ultimate community outcomes.

Cast a wide net for investors.

Present the case to a wide audience in a variety of forums and formats. Collaboratives should think beyond the usual suspects. A leader of a major city's community foundation suggests that civic tech and data collaboratives should

consider cultivating individual donors, including digital economy millionaires who will understand some of the parallels to funding for-profit startups. For organizations in the collaborative with governing or advisory boards, consider recruiting a member from the private sector who can serve as a connector to investors interested in funding public good organizations and initiatives.

Build relationships with current and potential funders to gather information and receive feedback.

Most philanthropic funding requires relationship-building before any direct ask for financial support. Early conversations will help clarify a funder's goals and constraints so the collaborative can refine any proposal. According to a representative from one major national foundation, "having someone ask what you are trying to achieve as a funder is powerful." It can shift the relationship dynamic from simply transactional to more of a partnership. By engaging philanthropic partners in early stage strategy development, collaboratives invite honest feedback about their work from people who work with grantees in multiple fields and sectors. What's more, any formal proposal will more likely meet those funders' expectations and require fewer rounds of revisions. Outside of direct funding, philanthropy can be an ally and act as conveners

on the collaboratives' behalf, promoting the work to their networks and grantees.

Consider how local governments can provide direct and indirect sources of support.

Traditionally, city government's technology procurement has been cumbersome and leaned towards large-scale systems without taking advantage of [lightweight approaches](#). However, things are [starting to change](#). More and more, we have observed cities and counties recognizing the value of innovation and [willing to create positions or invest](#) resources to engage with other sectors. When ideas are not yet proven to work, small pilots can provide the evidence needed to shift existing funds in local government.

In addition to direct funding, local government staff and elected officials can be effective spokespeople and connectors to funders. They can explain the value of supporting data and tech collaboration to advance the public good. And they can raise the profile of the work through social media and other communications channels. As with foundations, it can help to show examples from other places. NNIP's [series of briefs](#) on data intermediaries'

collaboration with local governments describe various ways to fund efforts to improve public policy with data and technology: local government contracts, federal grants, and local philanthropy.

Prepare to manage in-kind support for labor, space, data, or technology.

Volunteer time and expertise can be drawn from informal groups like Code for America brigades, other tech meetups, or university students and professors. Collaboratives should recognize that scoping work for and managing volunteers is a skill set in itself and can incur costs, as described in [a series of blogs](#) from the DC CTDC project manager. Private businesses or universities may be interested in volunteering staff or student time or donating data. Local institutions can provide physical spaces for collaboratives to meet and perhaps even food or swag to attract participants.

Local Smart Resourcing

Boston	Staff at BNY Mellon spotted an article in The Boston Globe mentioning the project to modernize the summer youth employment application process and the need for a \$200,000 matching grant. They called the city’s CIO, who was featured in the article, and, once they confirmed their investment would be aligned with the City of Boston’s priorities, committed to fund the work.
Cleveland	A city council member paid for a professional facilitator to help the stakeholders in Cleveland’s nascent collaborative come to a consensus on their mission, structure, and future activities. The result formed the core of a proposal to the local community foundation.
Washington, DC	In DC, under the management of a paid, skilled software developer, volunteers worked in donated spaces and contributed about one-half of the programming, estimated at \$84,000 of labor, to create the Housing Insights tool.
St. Louis	CivTech St. Louis matched their initial \$200,000 grant with another \$245,000 in donations. This included the prize money for the hackathon that produced the initial prototype and subsequent donated time from the start-up firm that developed their prototype website. The collaborative estimated the value of time from the University of Missouri-St. Louis professors and students for interviews outside the courthouse at \$20,000. A radio station provided free air time for public service announcements.

Key questions for resourcing civic tech and data collaboratives

- 1 What role can philanthropy or government play in supporting the collaborative? How well does the collaborative's story resonate with these funders?
- 2 What venues would provide opportunities to present the case to new funders, including individual donors?
- 3 How can the collaborative cover costs using existing sources of funding?

Resources

[Leveraging Data and Technology for Healthy, Equitable and Sustainable Communities](#) (*Foundation Center*)

[Creating Public Value by Exchanging Data](#) (*GovLab*)

[Brigades Workshop on Funding](#) (*Code for America*)

6 Sustaining the Gain

We believe that local government, data groups, and technology groups within an ecosystem can have mutually supportive relationships, shared values, shared goals, and a commitment to a shared strategy to work symbiotically. By assembling their competencies and resources to function as a civic tech and data collaborative, these actors will strengthen their role as “anchors” in their local ecosystem. The collaborative can then form other relationships in the ecosystem that will complement their work. By fostering active, intersecting relationships, communities will be better equipped to grapple with ever-changing, complex, large-scale civic problems.

As national and local partners, we admittedly struggled through the CTDC model. But we persisted because of its potential to generate real solutions, build lasting partnerships, and mobilize an ecosystem that delivers improved services and outcomes for low-income people. Here are some of the lessons we learned from the local teams about habits that strengthen collaboratives and, in turn, wider ecosystems.

Periodically review your structure and composition to determine how well it is

positioning the group to engage low-income people, mobilize for action, or generate the needed resources. Any group will need to adjust its arrangements over time as conditions evolve. This should include a regular review of who is missing from the table. There may be a lack of representation from certain sectors, for example, or not enough participation of low-income residents in decision-making and implementation.

By focusing on building connective tissue, collaboratives can create a structure that enables the group to effectively communicate amongst one another, build a pipeline of activities and projects, manage competing priorities, and spread awareness of the group's goals and activities to the public. Convening informally or using events as vehicles for information sharing can spark connections, but a more institutionalized arrangement is eventually required to sustain them. This may mean fundraising to pay a network coordinator or establishing a memorandum of understanding among organizations. Some places may choose a social enterprise model to develop revenue to cover ongoing costs or attract start-up capital, as described in the Knight Foundation's report on "[Scaling Civic Tech](#)."

The CTDC experienced unexpected changes in staff at the local and national levels and in all sectors during the project. Although change



CivTechSTL initially had a steering committee that met quarterly to review the progress and upcoming plans on YourSTLCourts. After the website launch, the committee determined that St. Louis community needed an independent nonprofit to coordinate similar cross-sector data and tech projects in the future, and is in the midst of launching the new organization.

is inevitable, collaboratives can mitigate the possible negative effects on individual projects and the connections in the ecosystem. **Planning for a changing cast of members** means developing good documentation on processes and decisions. Such documentation makes it easier to maintain momentum as current members change roles or level of involvement and helps orient new participants and groups as the members shift and expand.

Collaboratives should make use of personal relationships (which will always be important) to form institutional ties to better weather transitions. One way to do this is **cultivating relationships at multiple levels**. For example, if both the program staff and the executive directors know each other across organizations, there will be some continuity if one of the staff members leaves or gets promoted. Current members of a collaborative should also think ahead and begin to develop a pipeline of leaders in their organizations to contribute to the partnership.

The Western Pennsylvania Regional Data Center and others helped Carnegie Mellon's Students for Urban Data Systems and the University of Pittsburgh Computer Science Club develop a process for [identifying and mentoring new students](#) to replace the graduating leadership. Code for America's national brigade manager provided instrumental advice on designing a strategy to recruit and onboard new leadership.



Members of the collaborative should take the time to reflect on and document their impact. **Measuring impact** requires carving out time from program activities, but must be a core part of the collaborative's charge. Some impacts are indirect and hard to articulate or occur over a long stretch of time. This is particularly true if the intervention is about improving coordination or information, as opposed to a direct service such as providing jobs or housing. Members should not discount the impact of improved or new relationships or other interim steps, as long as they can express the link to ultimate community outcomes. Understanding and celebrating accomplishments internally will help energize a partnership, while externally sharing the progress will raise awareness of the collaborative among familiar and new audiences.

Narratives demonstrating the partnership's value can support fundraising efforts and are particularly powerful when they combine qualitative and quantitative data. When possible, go beyond numbers to include the perspectives of the low-income people affected by the group's efforts. These can be solicited from active participants in the collaborative or through other outreach.

Any collaborative should scan their composition to identify gaps across the four competency areas detailed earlier: management and communications, domain and policy expertise, data analysis and translation, and technology design and development. When necessary

and possible, bring on new talent to fill in competency gaps. For lasting results, organizations in a civic tech and data collaborative should also **invest in existing staff, volunteers, and residents** by training and mentoring them to use civic tech and data to improve performance in their current jobs and contribute to building their ecosystem. It is critical to expand the number of individuals in every sector with the capacity to leverage technology and data in developing solutions to civic challenges. We devote resources to building competencies in civic tech and data because we believe they are required for the 21st century.

Currently, Code for America is running a pilot of a community fellowship that builds on the lessons learned during the CTDC project. Building on the best of the original Code for America Fellowship, the Community Fellowship program aims to strengthen the relationship between local Code for America Network leaders and their governments to create conditions where change can “stick” and help transform government from the inside out. Code for America fellows will spend three to six months collaborating with government staff, researching user needs, meeting with key stakeholders, and improving service delivery to vulnerable populations. The product could be an early-stage application, improved procurement, open data release, or other project that improves the delivery of a government service or function at a fraction of



The DC project manager organized his onboarding process to enable volunteer coders to quickly learn the basics needed and contribute sooner. He arranged for more advanced volunteers to be given more responsibility and help manage the website development. This strategy enhanced the volunteers’ skills and motivated them to stay involved.

the typical cost. The process is one example of a vehicle for **driving cultural and structural change** inside of government and its partners—encouraging innovation, reducing risk by involving users early, and increasing capacity for serving the public.

The data and tech fields are fast-paced and require **continuous learning** to stay abreast of the frequently emerging new practices and resources. This entails meeting people outside of one's own community to engage in national conversations and learn from peers in other places. This can be done virtually by monitoring news from sources like Governing, Data-Smart Cities, or What Works Cities, or national networks like ours. We also value in-person gatherings that national organizations host such as PolicyLink's Equity Summits, Civic Analytics Network Summits, the Code for America Brigade Congress and Code for America Summit. While difficult to set aside time for continuous learning amidst the pressures of day-to-day work, doing so will improve the collaborative's ability to adapt to changes in the larger environment and offer innovative solutions locally.



Key questions for sustaining the gain

- 1 What kind of structure does the collaborative need to address emerging challenges and recognize new opportunities that require civic tech capacity?
- 2 How is the collaborative cultivating new formal and informal leadership in civic tech and data?
- 3 How is each group—data, tech, and government—training their staff to use data and tech solutions to help them perform their jobs more efficiently and effectively?
- 4 What online resources or peer networks are available to share your experiences and learn from others?

Resources

[Monitoring Impact: Performance Management for Local Data Intermediaries](#) (NNIP)

[Results Based Accountability](#) (Annie E. Casey Foundation)

[So You Want to Start a Data Academy](#) (Center for Government Excellence)

7

Conclusion

To solve today's seemingly intractable civic challenges, institutions and community groups should reflect on whether they are equipped with 21st century competencies. We observed a powerful combination of competencies empower groups, who didn't have a long history of working together, to effectively harness data and technology to improve the lives of residents with the least economic resources. Learning how to work across sectors and break down silos requires intention, time, resources, and a willingness to fail. But it will unlock different perspectives, practices, and expertise that can create novel solutions and more equitable outcomes.

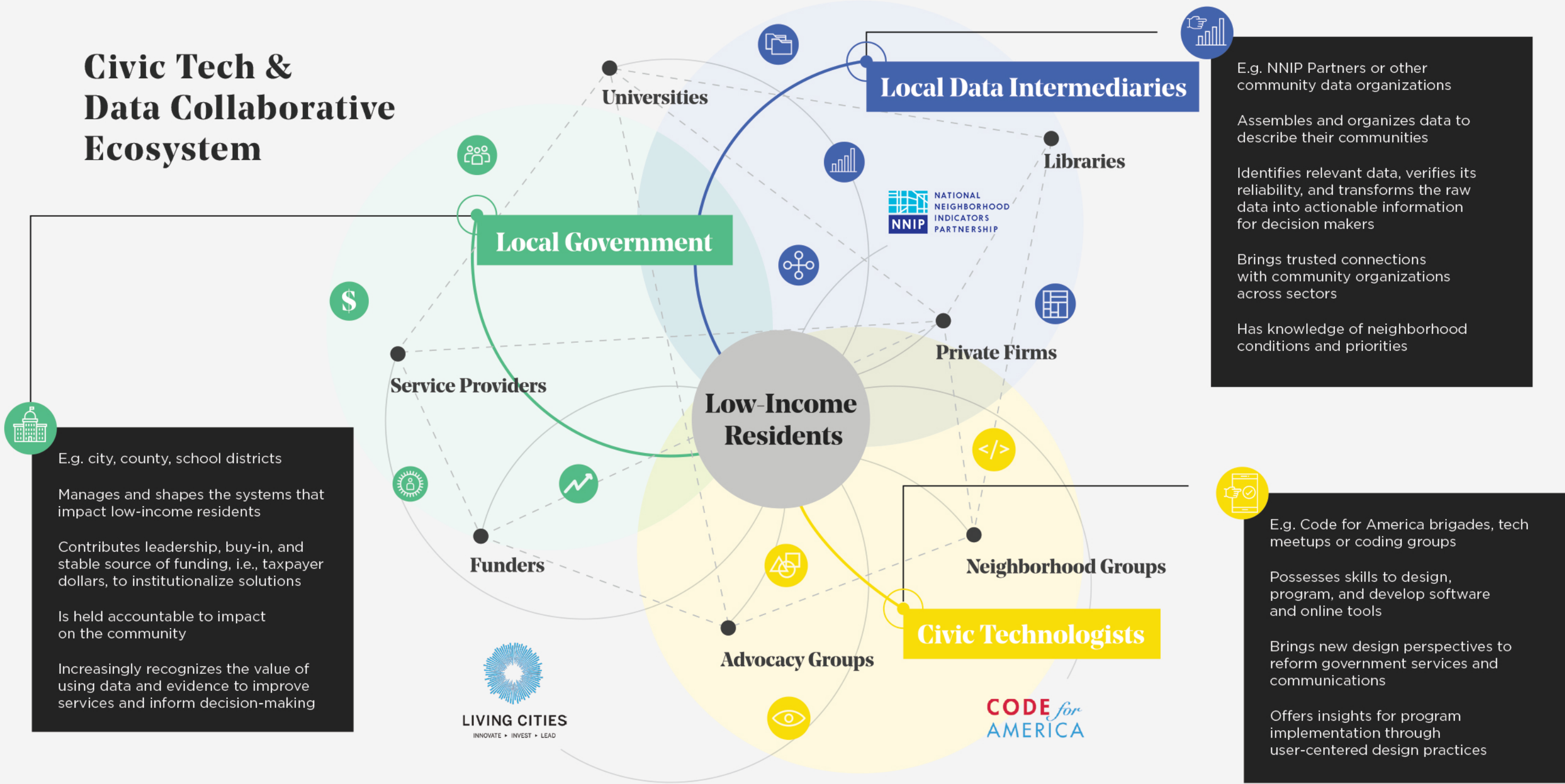
Creating tech tools, making data accessible, and hiring the people with the expertise to do so are all important milestones for the work of collaboratives and the strengthening of civic tech and data ecosystems. Ultimately, this work is about changing culture and requires an investment in people and relationships. We're proud that the field now has an incredible example of how technologists partnered with government to improve SuccessLink and Boston's capacity to serve its youth with access to economic opportunities. And in the wake of the Ferguson report documenting the racial inequities of the criminal justice system after the shooting of Michael Brown, we catalyzed a county collaboration to make traffic violation data more accessible to residents through user-centered design and technology with YourSTLCourts. For cities grappling with affordable housing preservation, the DC team of technologists, researchers, and policy-makers provided Housing Insights as an example of a tool that delivers key information drawn from multiple datasets to housing professionals and the advocates who hold policy-makers accountable.



We didn't write this document to promote these civic tech and data tools alone. We offer our stories and synthesis to prove that it is time for cities and regions to invest in upgrading our competencies, especially our ability to create solutions collaboratively. Our civic institutions need to support a culture of collective action to solve problems using all the tools at our disposal, including data and technology.

Living Cities, Code for America, and NNIP deepened our relationships with one another and between our networks through the CTDC. We see ourselves as part of a growing movement that uses data and technology to increase the efficiency, equity, and effectiveness of policies and programs that impact communities, especially low-income people. We hope you join us.

Civic Tech & Data Collaborative Ecosystem



Local Government

E.g. city, county, school districts

Manages and shapes the systems that impact low-income residents

Contributes leadership, buy-in, and stable source of funding, i.e., taxpayer dollars, to institutionalize solutions

Is held accountable to impact on the community

Increasingly recognizes the value of using data and evidence to improve services and inform decision-making

Local Data Intermediaries

E.g. NNIP Partners or other community data organizations

Assembles and organizes data to describe their communities

Identifies relevant data, verifies its reliability, and transforms the raw data into actionable information for decision makers

Brings trusted connections with community organizations across sectors

Has knowledge of neighborhood conditions and priorities

Civic Technologists

E.g. Code for America brigades, tech meetups or coding groups

Possesses skills to design, program, and develop software and online tools

Brings new design perspectives to reform government services and communications

Offers insights for program implementation through user-centered design practices

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