

## **Harnessing Technology and Data for Social Impact: A framework for local leaders**

### **DRAFT**

It's almost cliché now to talk about the impact that data and technology have had on society. From apps to help you find your car in a parking lot to analytics that help Starbucks figure out how much of what type of coffee to sell on a given day, data and tech have fundamentally changed the way we navigate the world, and the way we solve problems. But data and tech have yet to be fully utilized to improve the lives of low-income Americans living in cities.

Addressing the disparities that exist as a result of our history and our current systems requires better information, better technology, and deeper collaboration at the local level. People of color working to improve their lives and transcend the disparities they have inherited from centuries of policy and practice have to navigate a maze of systems, some of which remain stacked against them, in the process. Basic tasks that are inconvenient for everyone, like accessing government services or paying traffic tickets, can be so difficult and time-consuming for residents of historically marginalized communities that they can be a job unto itself. And elements of systems like criminal justice or social welfare that retain elements of institutional or even overt racism can inconvenience, strain, or even kill people of color. Low-income white people suffer as a result of some (though not all) of the same issues.

Technology and data can have powerful effects on these issues. Data in the hands of the people can empower them to advocate for policies and programs that address systemic barriers to opportunity and improve their lives. It can also help to better understand the drivers of disparities and predict and prevent problems from building fires to rodents to X. Technology can “improve the interface” between people and the world around them, helping them <find better schools>, connect to local officials and civic leaders and one another, and Y.

In cities across the country, committed leaders from the public, private and nonprofit sectors are building the blocks to harness these and other powers of data and technology to strengthen vulnerable communities. Together, we believe that local technologists, data specialists and officials pool represent an underutilized **ecosystem** of players, pooling their talents intentionally, in a sustained way, to deepen their collective impact on these issues.

The Civic Technology and Data Collaborative, an initiative of Living Cities, Code for America and the National Neighborhood Indicators Partnership funded by the MacArthur Foundation, seek to help local leaders weave these ecosystems together more intentionally. Toward this end, we are iterating on a framework that lays out what such an ecosystem looks like, what it can do and how it can be developed more effectively. We lay out below much of our thinking to date.

### **Guiding Beliefs and Values**

The work of local civic innovation ecosystems give expression to the beliefs that:

- Data and technology, paired with other “21st-century” approaches that they have popularized, are powerful tools to improving the lives of low-income people and people of color.
- Cities, and the innovations they develop, best serve the interests of their people when those affected are engaged in shaping them
- Civic data and technology are most effective when they are integrated into other local efforts (e.g., education, economic development, health)
- All sectors have important roles to play in this work

### **What Can Data and Technology Do To Benefit Low-Income People?**

While there are many ways in which data and tech can benefit low-income people, a few especially stand out for us.

- 1. Use and provide evidence to support better policy and practice.** Data and data-based techniques like predictive analytics can create a deeper evidence base to support more effective programs and policies that affect communities.
- 2. Improve access to public services.** Technology can be used to make public services simple, beautiful and easy to use. Examples of this include apps like Prompt.ly and ATLCourt, as well as efforts to streamline applications for public benefits.
- 3. Enhance people’s experience of public services and policies.** “21st-century” techniques like user research can help local governments better understand how public services and changes in policy and practice affect people’s daily lives. The [Danish Government, for example](#), deploys user researchers to rapidly assess the effects of policy changes and adjust policies to improve results.
- 4. Engage and empower communities.** Good data can make community action more powerful. NNIP members use data to provide deeper and more compelling accounts of inequities in their communities and to inform innovative solutions. Also, technology and data can also enhance engagement efforts between governments, communities and others. Many NNIP and Code for America affiliates dedicate much of their efforts to using data and technology to design solutions “[with, not for](#)” communities.

### **ESSENTIAL INGREDIENTS OF A CIVIC TECH AND DATA ECOSYSTEM**

We believe that the full power of civic data and technology can only be unleashed when cities have a robust ecosystem of players working together systematically towards better results.

Below we lay out what we believe to be key elements of such an ecosystem.’

- **Key Players at the Table:** From civic technologists to data wizards to city staff, a civic tech ecosystem works best when key players are all at the table together setting priorities, collaborating on projects, collecting and interpreting data, and assessing their collective progress.
- **Repeatable processes:** Civic tech and data efforts can be more powerful when collaboration goes beyond ad hoc, and there are effective processes around which local players can organize their efforts.

- **Skills and tools:** Local ecosystems need a full range of tools around technology development, data aggregation, analysis and visualization, community engagement, user-centered design -- as well as issue-based knowledge and the ability to apply an equity lens to their work -- in order to do the best possible work. And community members have to have access and training to participate meaningfully in technology and data work (in addition to using data and technology to access the many opportunities they afford of their own right)
- **Resources:** From in-kind donations of time to free software to cold hard cash, local teams need to be able to access resources to fuel their work, and to cultivate relationships with resource providers in order to make this possible.
- **Infrastructure:** Local ecosystems need multiple kinds of infrastructure to undergird their efforts, including: (1) Data infrastructure, including ways of collecting quality data, aggregating it, hosting it, publishing it, analyzing it, and integrating it for better analysis; (2) Community infrastructure, including relationships with community groups and members and the capacity to both engage communities and support community-driven efforts; (3) Project infrastructure, or the capacity to manage multiple, often-complex projects; (4) strong organizations and durable capacity to sustain the various activities of the ecosystem; and (5) Ways to share learnings, successes, challenges and innovations locally and nationally.
- **Governance:** We believe that data and technology can be used to greater effect when key players in the ecosystem have an effective and appropriate governance model through which to set goals, prioritize and coordinate actions, assess results towards their shared objectives, and more.
- **Culture and values:** The ecosystem should have a shared set of values that permeate the actions and interactions of its players.

Below, we outline a couple of elements of the framework for illustrative purposes.

## KEY PLAYERS

We believe that a local civic tech and data ecosystem works best when key players are all at the table together setting priorities, collaborating on projects, collecting and interpreting data, and assessing their collective progress, on a level playing field. Here are some of the players we believe to be vital to this work.

- **Civic technologists** -- These can be anyone who can build technology solutions or apps that address civic problems, including Code for America Brigade members, startups, independent individuals, and Fortune 500 tech companies. the key is that they can build these kinds of tools, participate in the process, and at a price point that is sustainable.
- **Data specialists** -- there has to be someone who can collect, aggregate and analyze the data. Again, these players can come from any number of places so long as they are able to participate on terms that work for the work.
- **Communities** -- People affected by the issues in question have to be at the table and have power to meaningfully influence work being undertaken in their name. They are at

a minimum necessary partners to reality-check assumptions about what they need, and at best both drivers of, and partners in developing, innovative solutions. And as end users of some of the work (e.g., apps), it's important for community member to trust and shape work that is being done on their behalf. Both community-based organizations and community residents play vital roles in this work.

- **Local government officials** -- Local government often has critical roles to play in addressing the issue at hand. At times, communities are actively seeking to change aspects of how local government is working. Local government leaders can bring expertise, relationships, resources (including data) and influence to the work, and the presence of a local government partner committed to collaboration can be a powerful driver for progress.
- **Issue area experts** -- Whether the issue is violent crime or bureaucratic process, it helps to have people at the table with knowledge of the problem and of best practices in resolving it. Many of the issues surfaced in the work will not be resolved with data and technology alone.
- **Service providers** -- Inside government and out, direct service providers have valuable knowledge of the people they serve. In some cases, their behavior or support system needs to change in order to get better results (for example, they might need better data to provide better service)
- **Resource providers** -- From owners of data to funders local and/ or national, it helps to have people at the table who can resource the work. Some might need to be at the table continuously, while others might need to be engaged on a case-by-case basis.
- **Backbone management** -- There has to be someone at the table who can facilitate discussions across these various players and drive implementation of the work across the partners.
- **Storytellers** -- From data journalists to poets, storytellers are powerful users of data and can reach the public and decision-makers in ways that the data itself sometimes cannot.
- **Network-Weavers** -- Local ecosystems need people who can make connections across actors, convene discussions and bring new people to the table.

A key issue that we will need to expound on further is how these players can be brought to the table. There are examples from Code for America and NNIP cities, as well as collective impact efforts, that we can draw from.

## REPEATABLE PROCESS

Civic tech and data efforts can be more powerful when collaboration goes beyond ad hoc, and there are effective processes around which local players can organize their efforts. Below we outline a basic process local ecosystems can use to bring greater structure and clarity to their efforts.

- **Identify an issue:** The issue should have a clear impact in the lives of low-income city residents, and it should be one that clearly matters to them. So much the better when the issue is raised by residents themselves, and when the problem is identified elsewhere, it should be explored in collaboration with communities as appropriate.

- **Define the problem:** Defining the problem can sometimes be the most important, and most difficult, part of the process. Doing it well requires multiple tools and approaches. Data can help the team understand what is happening in the lives of the people affected, and in the organizations that serve them. User research and community engagement can help the team understand the problem from the vantage point of those affected. Issue experts bring knowledge of the literature and practice on the issue that are both vitally important.
- **Identify and iterate solutions:** Local efforts can benefit from using tech-inspired processes like Lean Startup or agile development in order to iterate on solutions before committing to something more fully-formed.
- **Implement and embed solutions:** As the team is iterating on solutions, it should also be testing a set of hypotheses about how the solution will ultimately be implemented and used. For example, a civic app needs to have a sustainable way of being maintained, updated and promoted once it is launched lest it fall into disuse and disrepair. It's risky to wait until prototyping is done to start testing ideas about this.
- **Learn and Repeat:** No one solution or set of solutions is likely to move the needle on its first try. The team will need to evaluate its progress and identify new problems and solutions for the sake of greater progress.

#### **QUESTIONS FOR FURTHER EXPLORATION:**

- What localities have the strongest tech and data ecosystems and what have they learned from firsthand experience with this work?
- What examples do we have of these ecosystems in action and what do they teach us?
- What does it look like for communities to participate powerfully in the work of a civic tech and data ecosystem?
- How can local governments both lead and participate as equals in a civic tech and data ecosystem?
- What variations on, or totally different models from, the “repeatable process” described above, can work to produce compelling results?
- What infrastructure can be developed to accelerate the implementation of solutions within and across cities (e.g., technology tools, application programming interfaces, data standards, cross-city supports)?
- How can local ecosystems engage key players like local funders who may not already be at the table?