EMPOWERING THE PUBLIC AND NONPROFIT SECTORS WITH DATA AND TECHNOLOGY

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Local government and nonprofit staff need data and technology skills to regularly monitor local conditions and design programs that achieve more effective outcomes. Tailored training is essential to help them gain the knowledge and confidence to leverage these indispensable tools. A recent survey of organizations that provide data and technology training documented current practices and how such training should be expanded. Four recommendations are provided to assist government agencies, elected leaders, nonprofit executives, and local funders in empowering workers with the necessary training to use data and technology to benefit their communities. Specifically, community stakeholders should collectively work to

- expand the training available to government and nonprofit staff;
- foster opportunities for sharing training materials and lessons;
- identify allies who can enhance and support local training efforts; and
- assess the local landscape of data and technology training.

Imagine if a local Boys and Girls Club director had information about which neighborhoods had growing numbers of at-risk children to help focus their outreach to families in need. Or if a housing agency could identify a neighborhood's elderly homeowners to share information about home safety improvement programs. Such "what if" scenarios are possible when organizations can access and interpret relevant data to increase their impact.

The private sector routinely employs data and technology to understand market conditions, evaluate and execute current operations, and plan future actions. The same applications of data and technology are possible in local government agencies and nonprofit organizations that serve residents and improve neighborhoods. The local communities in which they work are facing a variety of challenges with increasingly limited resources. Whether a place is experiencing rapid growth in jobs and population or struggling to retain residents, knowing how to effectively use data and technology can assist public-sector and nonprofit leaders in identifying priorities and crafting solutions.

Currently, individuals working for the public good have limited opportunities to learn how the use of data and technology can help them work more effectively. We believe training in data and technology should be a critical part of the efforts to build these essential skills. To advance this idea, the National Neighborhood Indicators Partnership (NNIP) and Microsoft's

Civic Technology Engagement Group launched a project that focused on trainings developed for local government and nonprofit staff members who are not professional data analysts.

Many players, such as government agency and elected leaders, nonprofit executives, and local funders, have a role in ensuring that the people working to improve our communities have the skills they need to perform their jobs successfully. To inform these audiences, this brief reviews current community data and technology training and provides examples from the field. It concludes with four recommendations local actors should undertake to expand data and technology training and increase capacity to use data in their communities.

Through NNIP's and Microsoft's numerous on-the-ground connections, we could quickly scan the data and technology training being given across the country. Our summer 2016 survey included 32 local NNIP partners and 5 other organizations that provide training. The survey asked these civic institutions and public agencies about in-person training on data and technology for individuals who work professionally or personally to serve communities and improve neighborhood conditions. It excluded other types of training, such as commercial courses, formal degree programs, trainings for secondary students or workforce development, or special events.

WIDE RANGE OF TRAINING OFFERED, BUT GAPS REMAIN

Our survey captured 54 trainings from across the country that covered an array of goals for participants, including the following:

- Use a technology tool (e.g., GIS, Excel, Tableau) to manipulate or visualize data.
- Use a local data website (e.g., an NNIP partner's or city's open data site) to obtain data.
- Use a specific data source (e.g., the American Community Survey, local crime data).
- Use data and technology to complete a work-related task (e.g., gather indicators to support a grant application).
- Use data related to specific issues (e.g., housing, environment).
- Understand basic data concepts (e.g., median versus average, margin of error).
- Manipulate data and calculate statistics (e.g., create indicators or calculate statistical significance).
- Collect primary data (e.g., conduct a property conditions survey).

Most trainings described by survey respondents taught attendees how to use tools, such as Excel or Tableau, to manipulate and visualize data or how to apply data in tasks, such as grant writing, storytelling, or performance management. Other trainings were more advanced. For example, the US Department of Commerce offers training on programming

languages and an introduction to machine learning. Some trainings focused on a specific issue, such as the MIT Media Lab's training on measuring the outcomes from arts education and evaluating their impact. In general, trainings sought to achieve multiple goals to simultaneously address various aspects of data and technology literacy in their communities.

Box 1: Training Nonprofits to Better Manage Their Programs

Staff at Grand Valley State University's Community Research Institute, the NNIP partner in Grand Rapids, Michigan, noted that the staff in local nonprofits struggled with data and program evaluation. In response, they implemented a series of trainings to explain how nonprofit staff could think about collecting and analyzing data to assess whether their programs were achieving their desired outcomes. With funding from the W. K. Kellogg Foundation, the Community Research Institute expanded its work to offer a training series called "Nonprofit Evaluation" for foundation grantees and other nonprofits. After the training, participants were better equipped to identify the appropriate data to track their expected impacts, ultimately improving management of their own programs and the value of their reports to their funders.

The vast majority of our respondents aimed for an inclusive approach with low barriers for entry: most courses were described as appropriate for participants at the beginner level. Respondents reported this approach reflected the most common knowledge level of community groups and government agencies in their cities.

Most trainers who responded to the survey reached a mix of actors (nonprofit and government staff and leaders, elected officials, and resident leaders), but some offered sessions targeted to one audience:

- Seattle–King County Public Health reached out to nonprofit grant applicants who had *not* been chosen for an award to offer them data training so they could strengthen future proposals.
- The Nonprofit Technology Network, dedicated to building the capacity of nonprofit organizations, hosted a training called "Analytics for the Social Sector" before their annual conference that taught methods of analytics relevant to their organizations' needs.
- Chicago's Chief Data Officer partnered with Microsoft to train government staff members to visualize city data in "Civic Data and Excel."

Although the above illustrations demonstrate the breadth of trainings currently being offered, the survey results also highlighted the need for additional training opportunities. When asked to identify training needs from the above list of goals, partners noted the following most often:

- Understand basic data concepts
- Manipulate data and calculate statistics
- Collect primary data
- Use data related to specific issues

However, respondents saw gaps across all the training categories. At least one-third selected each of the remaining four goals as a training gap in their community.

ACTIONS NEEDED TO EXPAND EFFECTIVE COMMUNITY USE OF DATA AND TECHNOLOGY

Based on the survey responses and discussions in this study, we offer four recommendations for local actors seeking to empower local government and nonprofit workers with the necessary training to use data and technology tools in community improvement efforts.

1. Expand the training available to government and nonprofit staff

The respondents in our survey and other training efforts meet some of the need for training, but we know the opportunities need to be more widespread and cover a broader range of data and technology topics. A different set of institutions will take up this charge in each community. Providing training could fit into the missions of libraries, university centers, nonprofit support organizations, civic technologist volunteers, public agencies, and local data intermediaries like NNIP partners.

Training organizations should expand the scope of offerings in a variety of formats. Most of the courses in our survey represented condensed classes of two to eight hours designed to be approachable for people with varying levels of technical experience. The in-person classes enable participants gain skills to work with data and technology and connect with others interested in continuous learning. GovLab Academy's in-person interactive workshops, such as "Urban Analytics for Change," offer another approach: coaching city and government agency teams working on a specific challenge. The University of Chicago Civic Leadership Academy embeds a session called "Collecting and Analyzing Data" into their curriculum for emerging leaders in local government agencies and nonprofit organizations. Universities and colleges should also incorporate civic data and technology-related training into urban affairs or public administration programs. Such expansions will empower the next generation of civic leaders with the competencies they will need to face the challenges of their time.

2. Foster opportunities for sharing training materials and lessons

As each community progresses in expanding data and technology training for its particular needs, we also need to foster more regular exchange among trainers within a community and across the country. Through this project, the NNIP network has encouraged individual trainers to discuss their experiences with each other and post materials for external audiences. The providers will need to invest extra time to document and share their lessons and materials, but they will benefit internally from the improved resources as well as the ability to

access other organizations' insights and trainings.

As part of this project, we have created a catalog with descriptions and materials from selected trainings and a guide for organizations interested in providing training (see box 2). National organizations and networks should also publish other curated training resources tailored for their specific audiences. Finally, we need to identify and support in-person and virtual forums where organizations interested in advancing the field of training can exchange ideas.

3. Identify allies that can enhance and support local training efforts

Even organizations that do not provide training directly have critical roles to play in expanding training opportunities and participation. For example, foundations should provide financial support and encouragement for developing and attending training in their communities, including support for cross-community learning and curation. They should underscore the need for data and technology proficiency by giving constructive feedback on the use (or lack of use) of data in proposals and reporting and by inquiring how grantees are using data in improving their programs. They should also foster a culture safe for learning by adjusting their expectations to allow time and flexibility as organizations ramp up their capacities.

Elected officials and local agency leadership can set the tone by establishing work environments in which the data and technology capabilities are valued and by allocating time for staff development. "Changing Culture," a guidebook from the Johns Hopkins Center for Government Excellence (2016), shares ways to diagnose and influence a government agency's culture to have staff be more adept with using data, including through trainings like those provided by Bloomberg Philanthropies' What Works Cities initiative. The Nonprofit Technology Network (2014) offers guidance to nonprofits on building a culture of using data in *Collected Voices: Data-Informed Nonprofits*. The leaders of the Washington, DC, area nonprofits participating in Measure4Change, a program of the World Bank Group and the Urban Institute, have dedicated staff time to learn about performance management through trainings and peer exchange. The participants become ambassadors to their colleagues to share the message that data and technology can be leveraged to help fulfill their organizations' missions.

4. Assess the local landscape of data and technology training

More communities should undertake cross-sector efforts to understand their community's capacity to employ data and technology. The results will form the basis for identifying training needs and resources. Our guide mentioned earlier offers suggestions on how to assess training opportunities and needs (see box 2). As one local example, Connect Chicago is a cross-

sector collaboration that catalogs the many organizations delivering training on technology to improve referrals and identify gaps. Although it focuses on training for individual residents rather than institutional staff, the program offers a model for sharing lessons, materials, and program data on outputs and impacts. In San Antonio, Texas, the Alamo Regional Data Alliance (2016), which includes CI:Now (the NNIP partner), the mayor's office, the San Antonio Area Foundation, and other data-related organizations, offers another approach for collaboration among multiple sectors. The group's overarching goal is to establish and support a culture of data-driven action to improve the quality of life for people in their region. Together, they are charting a range of products and services needed to achieve their vision, including training and coaching for target groups on understanding and using data and analysis effectively.

MOVING FORWARD

Data and technology skills are needed now more than ever to help local government and nonprofit staff monitor community conditions, design responsive programs, and achieve better outcomes. Continuing to let our public and nonprofit sectors work at a disadvantage will impede progress in making social programs more effective and efficient. Progress can be made more quickly and in more places if we invest in training development and implementation and create opportunities to share promising practices from around the country.

Box 2: Resources from the Community Data and Technology Training Project

- *Project page: A hub with links to all the project resources at http://www.neighborhoodindicators.org/training.*
- *Guide: A document for organizations interested in providing community data and technology training, including advice on how to assess local needs, develop training content, and fund these efforts.*
- *Catalog: Example training descriptions and related materials collected from various cities for local adaptation.*
- *Fact sheet: A summary of results from a survey on current training content and practices.*

References

Alamo Regional Data Alliance. 2016. "Product Vision Board." San Antonio, TX. http://cinow.info/data-planning/.

Center for Government Excellence. 2016. "Changing Culture." Baltimore, MD: Johns Hopkins University. https://www.gitbook.com/book/centerforgov/changing-culture/details.

Nonprofit Technology Network. 2014. *Collected Voices: Data-Informed Nonprofits*. Portland, OR. http://nten.org/NTEN_images/reports/2014.CollectedVoices.DataInformedNonprofits.pdf.

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About the Networks

NNIP is a collaboration between the Urban Institute and partner organizations in more than 30 American cities. NNIP partners democratize data by making them accessible and easy to understand and then helping local stakeholders apply the data to solve problems in their communities. As the network's home, the Urban Institute conducts peer learning activities, documents how our partners are using data to improve communities, helps new partners get started, and develops cross-site projects to explore topics in depth.

The Microsoft Civic Technology Engagement Group (http://sumo.ly/yH4Q) works with local and national partners to help communities and governments leverage technology to tackle key societal challenges and make a sustainable and scalable impact on the lives of individuals. Microsoft works with civic leaders and the communities they serve to convene discussions, inform design, and build approaches that embrace the use of technology both for and by the people to improve our lives and our government.