CASE STUDY: OPEN DATA IN CHICAGO

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NATIONAL NEIGHBORHOOD INDICATORS PARTNERSHIP

NNIP

The National Neighborhood Indicators Partnership (NNIP) is a network of organizations in three dozen cities across the nation. Local partners work to make data about neighborhoods more accessible and help local stakeholders apply data to tackle issues in their communities. Over the past three years, with the support of the John D. and Catherine T. MacArthur Foundation, the NNIP network explored how its partners relate to the open data movement and the potential for the two communities to work more closely together in the future. The report, *Putting Open Data to Work for Communities,* documents the broader lessons from the project. This brief relates how established institutions in Chicago, Illinois that provided community data engaged with the open data movement in their community. Based on the interviews and research as of June 2013, it presents a rich picture of the information environment and how it is shaped by the local institutional and political context. We hope it provides lessons and inspiration for other localities interested in using open data to improve their communities.

CONTEXT FOR OPEN DATA

Chicago came to the national media stage as an open data leader after Mayor Rahm Emmanuel's election in 2011 and subsequent implementation of an open data system. However, many innovative organizations and civic developers had paved the way for the city's recent accomplishments. The Center for Neighborhood Technology launched Chicago NEWS (Neighborhood Early Warning System) in 1984, the first system of its kind to provide parcel-level data so neighborhoods could tackle blight and disinvestment. The system began as shared floppy disks of property-level data on code violations, housing court cases, tax delinquencies, fire records, and real estate sales, and was maintained with updated data until 2002 (Anderson et al. 2004; Snow, Pettit, and Turner 2003). The Metropolitan Chicago Information Center (MCIC) was founded in 1990 to provide city- and neighborhood-level data to support public policy and social program development. MCIC participated in the Illinois Data Exchange Affiliates (IDEA) created in 2006 by the Chicago Metropolitan Agency for Planning (CMAP), a coalition of government and nonprofit organizations. Funded by the John D. and Catherine T. MacArthur Foundation, IDEA promoted open data sharing and established Application Programming Interfaces (APIs) to link data from its member organizations. (MCIC was a member of NNIP from 2005 until its closing in 2012, and CMAP participated in NNIP from 2010 to 2013.)

Given this early leadership in the field, Chicago was a fitting location for the first CityCamp in January 2010, an unconference sponsored by The Rockefeller Foundation. The organizers' goals were to "bring together local government officials, municipal employees, coders, designers, and journalists to share perspectives and insights" and to "establish patterns that cities can use to add value to citizens' lives using the Web as a platform." The sessions proposed by participants illustrate the range of efforts related to open government data.

Dan O'Neil, founder of EveryBlock.com and vocal advocate for open data, and Harper Reed coordinated a session offering practical tips on freeing civic data and examples of civic data use in Chicago.

Justin Massa and Rebecca White shared their MoveSmart web site, which allowed households to look for neighborhoods and housing in the Chicagoland area in order to connect families to diversity and opportunity. Their session included broader issues, such as standardizing metadata to build longitudinal regional data networks.

Mike Trakan and Chirag Patel from Mapping for Justice shared their maps of Chicago correlating poverty with school performance, tutoring programs, and anchor institutions.

Susana Vasquez, director of LISC Chicago, moderated a panel of neighborhood activists on their work under the Smart Communities program to promote using technology to achieve community goals. The panelists also described Civic 2.0, which trains community leaders on using web tools to access public services information and advocate for community improvements. The Smart Communities program is a key part of the City of Chicago's Digital Excellence Initiative and is administered as a part of LISC Chicago's New Communities Program.

Virginia Carlson, president of MCIC, moderated a session on bridging the generational, linguistic, and skills gap between "legacy" organizations and new application developers.

PROGESS IN OPEN DATA

The mix of players and projects above presented fertile ground for the entry of Rahm Emanuel as mayor in 2011. Mayor Emanuel promoted open data before he even took office, with the initiative to "set high standards for open, participatory government to involve all Chicagoans." To implement his vision, he hired John Tolva, the former director of citizenship and technology at IBM, as the city's chief technology officer, and Brett Goldstein, who founded and directed the Chicago Police Department's predictive analytics group, as the city's first chief data officer. The precursor to the present city's data portal had been launched under Mayor Daley's administration in 2010, but had limited files, such as lists of Freedom of Information Act requests and GIS boundary files. The new regime

ramped up publication of a wide range of files, which now total just under 1,000.

Chicago's portal is not only a technological success; it also improves relationships between the city (as a data provider) and users. Tolva and Goldstein actively promote open government data through media interviews and participation in public events. The agencies have demonstrated they are receptive to listening to groups outside the government about which new datasets should be prioritized. Goldstein reported that in the past, outside groups that found errors in the data would publicly criticize the city; now, the city agencies and developers communicate constructively when quality issues are uncovered.

In December 2012, the mayor issued an executive order that in many ways institutionalizes the progress in open data that his administration had achieved in his first year. It mandates that city agencies publish public datasets under their control and regularly update them, confirms the permanent position of a chief data officer, and requires an annual open data compliance report. This executive order and broad base of support has strengthened the chances that the city's open data commitment will be institutionalized and live past Mayor Rahm's tenure.

The city is also moving forward on better internal use of its own data, including predictive models and analyzing social media for more effective service delivery and policymaking.

Cook County Board President Toni Preckwinkle took office in December 2010 and championed an open government ordinance designed to "increase transparency, accountability, and informed public participation" in the county. Passed unanimously by the county board in May 2011, the ordinance requires Cook County agencies and elected officials to prepare open government plans and to develop data catalogs with high-value datasets. They fulfilled the latter charge in September 2011 with the launch of the Cook County Open Data Portal. At launch, the website offered 75 datasets from various county agencies; by April 2013, the number had climbed to almost 400.

Regionally, CMAP launched the MetroPulse web site with The Chicago Community Trust in 2010 to track implementation of GO TO 2040 (metropolitan Chicago's comprehensive regional plan) and promote effective decisionmaking across the region. Among many other recommendations, GO TO 2040 calls for CMAP and its partners to make data available related to industry clusters publicly as a resource for the region. MetroPulse Jobs, a related site launched in 2013, links data on industries, occupations, and education and training providers to promote development of the region's workforce and economy. The MetroPulse data are also available for public use through an API. Beyond just the technology, CMAP published "Data Sharing Best Practices for Local Governments" to give practical advice for suburban cities interested in opening up their

data. CMAP leadership have since re-examined the agency's role as curator and distributor of regional data, shifting towards a focus on supporting its primary mission of regional planning.

Chicagoans also are fortunate to have state support for open data principles. The State of Illinois Data Portal launched in June 2011, starting with 48 datasets relating to the economy, the environment, and transportation and increasing over the next two years to more than 8,000 data files. In a remarkable demonstration of inter-governmental cooperation, the city, county, and state joined to create MetroChicagoData.org, a website that allows users to access the data from the three open data sites through one interface. This agreement was facilitated by the fact that all three sites use the Socrata platform.

In summer 2011, the State of Illinois, Cook County, and the City of Chicago announced an application development competition, in order to transform the wealth of open data into practical tools for the community. Managed by MCIC, the competition brought together software developers, nonprofits, and residents to create more than 50 web and mobile applications with a range of audiences and purposes.

Chicago's technology sector plays a huge role in the success of the city's open data community. The incredible progress on open data has energized civic developers interested in applying their talents to community improvement. Two example organizations are Open City, a volunteer group that creates apps to improve government transparency and citizen understanding, and Open Data Institute, a nonprofit with designers and software engineers who analyze and visualize data related to social issues. Applications from these types of groups cover a range of topics, from maps that explore Chicago's built environment to a site to help communities learn more about the public schools proposed for closure and what options may be available. In 2012, 1871 began as a coworking space to nurture tech startups, sponsored mainly by the corporate community. Goldstein would hold office hours there regularly to engage with the entrepreneurs. There are several open data-related meetups, including Data Science Chicago, the Chicago Innovation for Social Good, and the Urban Tech Biz startup network.

The Smart Chicago Collaborative, a civic organization started in 2011, is devoted to using technology to make lives better in Chicago and helps bridge the for-profit and nonprofit sectors. Smart Chicago facilitates the widespread use of civic data through a range of projects, including an online Health Atlas and digital skills training. In 2013, the organization launched the Illinois Open Technology Challenge (with several partners) to promote the use of public data and create digital tools that relate to civic needs and promote economic development. The collaborative has performed outreach to target

underserved areas of the state, including Chicago's south suburbs, for cultivation of new open data ecosystems. The nonprofit Woodstock Institute is also building a CKAN portal to share its own data as well as the legacy data of the MCIC. Woodstock represents one of many university-based and nonprofit institutions in Chicago that work with nonprofits, government agencies, and neighborhood groups to analyze and use data for planning and advocacy (Pettit and Kingsley 2013). The Urban Center for Computation and Data was launched in January 2013 as an interdisciplinary collaboration that will build complex computer models based on city data and sensors. The center's work will help move beyond descriptive indicators to sophisticated analytics and predictive capacity.

The robust nonprofit and academic involvement in data dissemination and application is thanks to dedicated local foundations that understand the importance of information for the community. The John D. and Catherine T. MacArthur Foundation and the Chicago Community Trust in particular funded many of the initiatives mentioned, including contributing to prize money for the apps contest.

FUTURE DIRECTIONS

There is still progress to be made in open data in the Chicago area, both in access and application. For example, property assessors' and transactions data are still proprietary; all the organizations interviewed purchase sales,

foreclosure, and property characteristic data from proprietary sources. Also, the most visible payoffs to date have concentrated on improving government transparency and citizen services (such as bus trackers), not neighborhood planning or policy analysis. However, the Chicago open data environment is evolving quickly. The city hired Chapin Hall at the University of Chicago to catalog and document all municipal data, whether open or not. Knowing what is available will help identify high-value datasets for external and internal use.

To move beyond data access alone, the technology community and organizations dedicated to neighborhood organizing and improvement are forming path-breaking new partnerships. Drawing on the strengths of both groups, they are exploring ways to have neighborhood development goals to drive data and technology efforts. One example is the University of Chicago–based Eric and Wendy Schmidt Data Science for Social Good fellowship for aspiring data scientists to work on machine learning, big data, and projects with social impact. The fellows work with governments and nonprofits across a range of real-world issues. The program is a promising strategy for leveraging cutting-edge coding and analytic skills to address social problems.

Just as Chicago was a model in freeing data from local government coffers, it is proving to be a leader in translating data access to concrete actions to improve the quality of life for the area's residents.

REFERENCES

Anderson, Tanisha, Nellie Becker, Julie Darnton, and Yong-Jun Shin. 2004. "Neighborhood Early Warning System (NEWS)." Community and Economic Development Program Policy Report. Lansing: Michigan State University.

Chicago Metropolitan Agency for Planning (CMAP). 2011. "Data Sharing Best Practices for Local Governments." Chicago: CMAP.

Pettit, Kathryn L.S., and G. Thomas Kingsley. 2013. An Assessment of the Community Information Infrastructure in the Chicago Metropolitan Area. Washington, DC: The Urban Institute.

Snow, Christopher, Kathryn L.S. Pettit, and Margery Austin Turner. 2003. Neighborhood Early Warning Systems: Four Cities' Experience and Implications for the District of Columbia. Washington, DC: The Urban Institute.

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