

## EXECUTIVE SUMMARY

### **Measuring Change in Internet Use and Broadband Adoption: Comparing BTOP Smart Communities and Other Chicago Neighborhoods**

This report examines change in Chicago neighborhoods that received federal stimulus funding to encourage broadband adoption. Using data from 2008 and 2011 to measure change, do the neighborhoods that participated in the program look different from other Chicago community areas? Have they experienced a higher rate of change in Internet use, broadband adoption at home, or activities online than other similar neighborhoods that did not receive the program? Our findings indicate that there is a significant difference in Internet use for the neighborhoods participating in the Smart Communities program – a 15 percentage point higher rate of change than in other similar community areas.

The City of Chicago Smart Communities program received \$7 million of federal funding in 2010 to deliver a number of training and outreach initiatives in 9 low and moderate-income neighborhoods.<sup>1</sup> This program continued some initial efforts in the same neighborhoods, the Digital Excellence Demonstration Communities, which were begun in 2009 with the support of the John D. and Catherine T. MacArthur Foundation.

What are the Smart Communities? The City has worked with the Chicago Local Initiative Support Corporation (LISC) and a number of community organizations to provide basic Internet training in English and Spanish, digital summer jobs, training and technical assistance for small businesses, and classes for neighborhood groups researching services and issues online. Digital media programs for youth have been offered by the Digital Youth Network and the Chicago Public Library. Centers also provide some public access. Outreach has encouraged broadband adoption (whether or not neighborhood residents participated in programs) and has been conducted through Tech Organizers, neighborhood portals, and advertising on buses and transit shelters. Additionally, program partners hope that community organizations and word-of-mouth among neighborhood residents will further encourage Internet use and broadband adoption at home.

One of the aims of the Smart Communities is to create a culture of digital excellence, or information technology use, throughout the participating neighborhoods. **To evaluate the effectiveness of the program, we measure change in Internet access, use and online activities across the Smart Communities, comparing them to other neighborhoods in Chicago.**

Using unique neighborhood-level data from two citywide studies of Internet use in Chicago that were conducted in 2008 and 2011, we are able to track these changes for the official community areas of Chicago. Each of the citywide studies estimated Internet use, broadband adoption, and activities online for the 77 community areas, based on citywide surveys and multilevel statistical models. Changes in these estimates for all community areas were then

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<sup>1</sup> The neighborhoods are: Humboldt Park, Lower West Side (Pilsen), Englewood, West Englewood, Auburn Gresham, Chicago Lawn, West Lawn, Gage Park, and West Elsdon.

compared across both time periods, controlling for other factors, such as changes in the poverty, educational attainment, race, ethnicity, and age of the population in the community areas.

- The analysis shows that between 2008 and 2011, the Smart Communities had a statistically significant 15 percentage-point increase in Internet use, compared to other Chicago community areas, and controlling for demographic change (such as gentrification).
- This increase was for residents who used the Internet in any location, including many who do not have broadband at home. It included Internet users who are able to use the Internet only on smartphones, or at libraries, community centers, coffee shops, the homes of friends and relatives, and other places outside the home.
- Home broadband adoption and activities online (for job search, health information, education, or government services) were not significantly different in the Smart Communities compared to other Chicago neighborhoods.
- While it is impossible to rule out all explanations for this change other than the Smart Communities programs, the 15 percentage-point difference in Internet use is substantively large and indicates that changes for these community areas are indeed different than for other Chicago neighborhoods with similar populations. That is, such a large change would not have occurred by chance.
- Given that the treatment (or program) consisted of training and outreach rather than lower cost broadband, it could be expected to influence Internet use in any location to a greater extent than home broadband subscriptions. While outreach and training may create greater awareness of the benefits of broadband use and offer residents the skills needed to go online, home broadband adoption may still be difficult for those who cannot afford the monthly bill or a computer.
- Although the higher increase in residents who are Internet users within the Smart Communities is an important first step toward greater broadband use, research shows that individuals who have broadband at home are more likely to engage in activities online that are related to health, education, government services and more. They are also more likely to have the skills to use the Internet, including skills that are valuable for jobs (Mossberger, Tolbert and Hamilton 2012; DiMaggio and Bonikowski 2008).
- Prior research on barriers to broadband adoption in Chicago indicates that the cost of broadband is a problem for low-income residents, and that for those who live in high-poverty communities, the problem of affordability is even more pronounced (Mossberger, Tolbert, Bowen and Jimenez 2012; Mossberger, Tolbert and Franko 2012).

These findings suggest that the cost of broadband at home is still a barrier for many residents in the Smart Communities. One of the issues for public policy going forward is whether or how to address the affordability of broadband. The Smart Communities initiatives were funded by the Broadband Technology Opportunities Program (BTOP), which invested over \$7 billion in federal stimulus funding to increase broadband adoption in communities around the nation. In urban areas, however, the BTOP program mostly funded training and outreach. The

Comcast Internet Essentials program, which began in Fall 2009, offers discounted broadband at \$9.95 a month to households with children enrolled in the free or reduced-price school lunch program. This is an important resource, but not all households in need are eligible for Internet Essentials. The Federal Communications Commission is considering reforms to the Universal Service Fund that would subsidize broadband access for low-income individuals (rather than subsidizing phone service, as the current program does). Some experts have called for greater competition in the broadband market in order to lower prices overall, and to make broadband more affordable (Crawford 2013, Berkman Center 2010). The recent Federal Communications Commission proposal for powerful and free public wireless networks would be an important step in addressing the cost barrier for broadband connectivity (Kang 2013).

This study is part of a continuing effort to evaluate the Smart Communities and to track broadband use in Chicago over time. The citywide survey is being repeated in 2013 and will provide more information about trends over time. For example, the survey used in the 2011 study was conducted in summer 2011, prior to the introduction of the Internet Essential program. The 2013 survey will provide an opportunity to examine whether broadband adoption at home increased in the Smart Communities, or whether activities online related to jobs, health, education, and government services increased as new Internet users gained more experience. In 2013, a program evaluation of the participants in the Smart Communities training programs will also provide more information about the direct effects of these programs.

The methods and findings discussed in this report have, we believe, wider significance for the evaluation of federal broadband programs undertaken as part of the stimulus efforts, and for methods to evaluate community-level impacts. Policy interventions are often place-based, and geographic measures of change offer community residents and policymakers useful data for targeting and investing scarce resources going forward. Inequalities in technology use affect the potential for community development and vitality, as well as the opportunities for residents to be digital citizens who are able to participate fully in society online, with access to critical information and services (Mossberger, Tolbert and McNeal 2008).

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