Finding Place in *Making Connections* Communities

Applying GIS to Residents' Perceptions of Their Neighborhoods

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Making Connections (*MC*) is a decade-long initiative of the Annie E. Casey Foundation, operating on the belief that the best way to improve outcomes for vulnerable children living in tough neighborhoods is to strengthen their families' connections to economic opportunity, positive social networks, and effective services and supports. Launched in 1999, the initiative was implemented in selected low-income neighborhoods in 10 metropolitan areas across the country: Denver, Des Moines, Hartford, Indianapolis, Louisville, Milwaukee, Oakland, Providence, San Antonio, and Seattle.

This paper (see abstract below) is one of a series produced under a program of research on the 10 sites, also sponsored by the Annie E. Casey Foundation. The program has included major surveys along with analyses of a wide range of relevant census and administrative data files. The program has developed an unusually rich database that permits researchers to examine aspects of neighborhood change that have never been studied (with quantification) in as much depth before. Data about resident families include standard demographic, employment, and income variables, but also a host of other measures seldom available at this level (for example, on asset holdings and debts, public assistance patterns, social linkages, and attitudes about neighborhood conditions and services).

The 10 *MC* sites are both important (all but one are among the 50 largest U.S. metropolitan areas) and diverse. Their diversity means they offer good examples of the wide range of challenges being faced by local leaders as they try to make headway in improving poor communities today. The stereotypical declining neighborhoods of our older industrial cities (e.g., Louisville, Milwaukee, Indianapolis) remain among the most critical, but they can no longer be said to fully represent America's "urban problem." There are other poor neighborhoods in the East and Midwest that have many similar challenges but where, in addition, expanding immigrant populations (e.g., Des Moines, Hartford, Providence) are shifting the traditional dynamic. And yet other troubled neighborhoods in other regions operate differently, ranging from fairly stable Hispanic communities with severe persistent poverty (e.g., San Antonio) to rapidly growing, racially diverse neighborhoods where extraordinary housing affordability pressures are overlaid on the more traditional barriers to family stability (e.g., Denver, Oakland, Seattle).

Abstract

The growing recognition that place matters has led to numerous foundation- and government-sponsored initiatives that address the needs of disadvantaged neighborhoods and families in tandem. Fundamental to these people-based and place-based strategies is the assumption that residents are both the beneficiaries and the cocreators of improvements in their neighborhoods and the systems that serve them. However, despite the centrality of place in these community initiatives, defining neighborhoods as they are experienced by residents has proven challenging. This paper demonstrates how a household survey can be used to ascertain residents' views of the place they refer to as their neighborhood. The study uses data from the *Making Connections* (*MC*) target areas in 10 cities. A representative sample of households were asked the name of their neighborhoods and instructed on how to draw maps of their neighborhoods as they viewed them. GIS tools were used to uncover spaces within the *MC* target areas that residents included in their definitions of neighborhood as well as spaces that seemed to fall outside their collective definitions. The study revealed several overlapping areas that constituted resident-defined neighborhoods within most *Making Connections* target areas. The paper discusses the implications of this diversity of resident neighborhood perceptions for community change initiatives.

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Foreword

Neighborhoods have long provided the focus and the organizing framework for efforts to improve results for disadvantaged populations concentrated in low-income blocks and tracts. Some of these efforts focus on a single place, such as Boston's Dudley Street Initiative and the Harlem Children's Zone. Some are multisite initiatives developed as partnerships between local stakeholders and national sponsors, such as the Annie E. Casey Foundation *Making Connections* initiative or the LISC Sustainable Communities initiative. Most recently, the federal government has tapped into the energy and potential of the place-based approach to social change through initiatives such as Promise Neighborhoods and Choice Neighborhoods.

Underlying all these efforts is the view that a "neighborhood" provides not only a tangible, manageable target for intervention, but also a meaningful entry point and frame for engaging residents who share common aspirations and needs with others they define as "neighbors." For policymakers, practitioners, and funders committed to developing place-based initiatives in partnership with residents, the identification of a locally meaningful "neighborhood" is a fundamental issue. But efforts to identify such a unit are often stymied by the lack of pertinent data and credible methods. This report contributes to the community change field by using a unique body of data and innovative techniques to describe and analyze how residents themselves define their neighborhoods, and discusses the implications of these findings for the community change field.

The data come from the *Making Connections* initiative, the Annie E. Casey Foundation's 10-year, 10-city effort to improve outcomes for vulnerable families in tough neighborhoods. Key to the initiative's approach has been engagement of local families in the development and implementation of strategies to strengthen residents' connections to economic opportunity and promote children's well-being and success in school. An important component of Casey's *Making Connections* initiative is a strong emphasis on collecting and using data on families and neighborhoods for planning, management, and self-assessment. To obtain relevant data unavailable from other sources, the foundation commissioned a household survey in the *Making Connections* neighborhoods, conducted by the National Opinion Research Center (NORC) and analyzed by a team of researchers from NORC, the Urban Institute, the Chapin Hall Center for Children, and Case Western Reserve University (CWRU).

Using this unique data source, report author Claudia Coulton of CWRU has produced a rich and innovative analysis of how residents perceive and define "neighborhood" in the 10 *Making Connections* sites. In so doing, she demonstrates new methods and provides new insights that will help all of us—policymakers, practitioners, and funders—do a better job of developing community change initiatives that more effectively engage residents as committed, empowered partners. For this contribution to the field, the author and the whole *Making Connections* research team have our thanks.

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Executive Summary

The growing recognition that place matters has led to numerous foundation- and government-sponsored initiatives that address the needs of disadvantaged communities and families in tandem. Fundamental to these people-based and place-based strategies is the assumption that residents are both the beneficiaries and the cocreators of improvements in their neighborhoods and the systems that serve them. However, despite the centrality of place in these community initiatives, defining neighborhoods as they are experienced by residents has proven challenging. Various evaluations and critiques have found disappointing results with respect to community-engagement aspects of the work, which may relate in part to failure to properly understand the complexities of place and space. Without the ability to relate these initiatives to the neighborhood as they see it, residents can become disconnected or even resistant to the process.

This paper demonstrates how a household survey can be used to ascertain residents' views of the place they refer to as their neighborhood. The study used data from the *Making Connections* target areas in 10 cities. As part of a larger survey, a representative sample of households were asked the name of their neighborhoods and instructed on how to draw maps of their neighborhoods as they viewed them. The maps were digitized and subjected to spatial analyses using geographic information systems (GIS) tools. The analyses sought to determine those spaces that were identified in common by residents and those that were in dispute or excluded by residents' neighborhood definitions.

The study revealed a disjuncture between resident neighborhood perceptions and target-area boundaries. Although 69 percent of respondents provided a name for their neighborhoods, only 25 percent of them identified with the official target-area name used by the initiative. Despite using a variety of names, 83 percent of respondents were able to draw a map of their neighborhoods. The median size of residents' maps was 0.35 square miles, but their space was much smaller than the typical initiative target area (2.23 square miles). Indeed, the residents of the target areas showed considerable agreement about the boundaries of 6 to 12 neighborhoods within each *Making Connections* target area. Although residents' race/ethnicity and whether they were homeowners tended to influence their neighborhood perceptions, there was also considerable overlap in the spaces that residents viewed as inside their personal neighborhood conceptions.

The residents' perceived boundaries ascertained through GIS analysis were used to draw maps that showed residents' perceived neighborhoods for each *Making Connections* target area and suggested a highly complex and nuanced view. Local experts confirmed that the resident-defined neighborhoods revealed through this method were understandable based on a variety of historical, physical, and organizational factors. Moreover, they concluded that the spaces and names that showed resident consensus had already been serving or could serve in the future as the basis for resident-engagement efforts.

The findings from this analysis suggest that the adoption of externally imposed or arbitrary neighborhood boundaries may be problematic for community initiatives. The lack of fit with place as experienced by residents is apt to be a barrier to authentic resident engagement. If successful community work requires collective action, then arbitrary neighborhood units are unlikely to bring together residents who share

the common purpose that comes from identification with a place and a sense of its possibilities. The failure to recognize resident viewpoints can also mask the fact that some spaces are contested, such as when neighbors of varying ethnic groups or housing tenure have conflicting aspirations for overlapping places that are part of their divergent neighborhood identities. Similarly, the lack of awareness of resident perceptions may cause inadvertent incorporation of spaces into target areas that are excluded by many residents from their neighborhood conceptions, thereby either diluting or undermining collective action in those areas.

Externally imposed or arbitrary neighborhood boundaries may undermine the ability to evaluate community initiatives. Community initiatives often assert that they will exert a positive influence on residents' lives, but the power of this influence is likely to depend on exposure. If residents have no awareness or contact with a place, the potential benefit can be questioned. In fact, this study raises questions about the role of neighborhood as a unit of measure in the evaluation of community initiatives, especially when the success of the initiative is judged by whether neighborhood indicators change. Data collection for evaluation is often dictated by administrative boundaries such as census tracts or zip codes, but these may not match the areas that residents see as relevant to them. Such concerns suggest that evaluators should collect neighborhood data at the smallest geographic unit possible and calculate indicators by aggregating data to neighborhood units that are guided by resident perceptions.

Finally, the study suggests that resident perceptions of neighborhoods may themselves be important targets for community initiatives. Community building can change the way residents identify with neighborhoods and their mental images of the place they live. The boundaries residents draw on a map may shift, and residents may be more influenced in these perceptions by neighbors and local organizations they have worked with through community-building activities. The collective identity of place may have been strengthened and extended by deliberate place-making activities. The survey and GIS tools used here to uncover residents' neighborhood perceptions could be used for tracking whether place-making strategies are working to change neighborhood identity and the relationships of the people to the places they live.

Finding Place in *Making Connections* Communities

THE *MAKING CONNECTIONS* (*MC*) INItiative, a program of the Annie E. Casey Foundation (AECF), seeks to improve outcomes for disadvantaged children by strengthening their families, improving their neighborhoods, and raising the quality of local services. *MC* is focused on selected neighborhoods in 10 cities and is an example of a comprehensive community initiative (CCI) that is place-based and people-based at the same time.[1] Indeed, residents are both the beneficiaries and the cocreators of improvements that are sought in their neighborhoods and in the systems that serve them. Such work rests on a number of assumptions about how residents see themselves within the context of place and, in particular, the identifiable physical and social boundaries that contribute to the way that neighborhoods are perceived and defined. Indeed, if residents are to be engaged in action to strengthen their neighborhoods or to benefit from neighborhood improvements, this arguably will be mediated in part by their sense of place and their relationship to that context. Thus, an understanding of neighborhood as place is a prerequisite for fostering collective action, seeing that action translate into family and individual benefits, and assessing the results of CCI efforts.

Despite the centrality of place in CCIs, defining neighborhoods as they are experienced by residents has proven challenging. However, for CCIs to work effectively and to know whether they are having an impact, they require a better understanding of the places targeted in their efforts and the people and institutions involved in neighborhood change. This paper demonstrates how a household survey can be used to ascertain residents' views of the place they refer to as their neighborhood. Specifically, by applying geographic information systems (GIS) tools to resident-generated neighborhood maps and names, CCIs' target areas are shown to consist of several unique and overlapping places as viewed by collections of residents. These differentiated spaces reflect to some degree variation in demographic characteristics of the residents and their levels of social participation and may also relate to historical and current aspects of the built environment. Such mapping, which reveals a more nuanced understanding of CCIs' target areas as a collection of places that have various constituencies and overlapping, possibly contested boundaries, can be a basis for the development of strategies built on the complex reality of place as perceived by residents.

Background

Why is Place Important in CCIs?

Much of the impetus for CCIs is based on the assumption that place matters. In particular, CCIs' neighborhood focus is motivated by the ever-growing evidence that living in distressed, disinvested, and deteriorated places has adverse effects on families and children (Ellen and Turner 1997; Sampson 2003; Wilson 1987). While researchers continue to debate about the magnitude and mechanisms of these effects (Kling, Liebman, and Katz 2007; Leventhal and Brooks-Gunn 2000; Sampson, Morenoff, and Gannon-Rowley 2002), CCIs have moved ahead with efforts to strengthen their target neighborhoods from the outside in and the inside out. However, even though

place is central to CCIs, the concept is seldom examined in practice.

CCIs tend to view place through the lens of their strategies. They select target areas that are thought to have serious problems but also some of the preconditions for change. CCI target areas vary in size and location, but are usually specified by geographic boundaries. Variously referred to as neighborhoods, communities, sites, subdivisions, or some other nomenclature, the assumptions about these locations' meaning to local residents and institutions often go unexamined during their selection. Although the exact role of the place may differ depending on the initiative's goals and strategies, there is usually an expectation that residents of the target areas will be involved in and affected by the ensuing action.

Implicit in many CCIs' theories of change are assumptions about the value of residents' engagement with one another and the places they live (Kubisch et al. 2002). Such assumptions are consistent with social science literature pointing to the benefits of involvement for families, children, and neighborhoods. Studies show that individuals who contribute to their communities through civic action, volunteer work, or memberships in associations and organizations have higher levels of social trust and access to resources than those who lack such connections (Paxton 1999; Putnam 2000). Research also finds that individuals who participate in civic affairs, volunteer work, and community associations have more positive attitudes toward working with children and youth in their communities (Scales et al. 2001). Additionally, social involvement in the community shows positive effects on parenting (Hill and Herman-Stahl 2002).

CCIs have reason to be concerned about insufficient levels of community engagement in the neighborhoods they target. Low-income neighborhoods have lower levels of resident participation in community affairs than middle- and upper-income areas (Stoll 2001). Neighborhoods with predominately rental housing and a high residential turnover are weaker on community connectedness among families and children (Aneshensel and Sucoff 1996; Cantillon 2006). For these reasons, promoting increased social-network connections and social participation within target neighborhoods is often an important outcome for CCIs.

Another source of CCIs' interest in community involvement is that they typically employ participatory strategies as a preferred method of producing neighborhood change. These initiatives often begin with engagement of residents, along with other stakeholders, in visioning exercises that draw on community knowledge and assessment (Auspos et al. 2008). Implicit in such visioning is the idea that the participants have some shared recognition of and involvement in the place. The expectation that resident interests may converge into an agenda, albeit not without conflict or controversy, presumes some commonality of understanding regarding the place they live. CCIs' empowerment strategies also anticipate benefits for both individuals and neighborhoods by undertaking collective action for community change (Chaskin 2001). Local civic involvement is, in fact, a goal of many CCIs, but such community participation requires (and perhaps fosters) some degree of local identity with place (Uzzell, Pol, and Badenas 2002).

Community building is an explicit goal of much of the work CCIs do within their designated neighborhoods. CCIs make investments in the human and social capital of local residents and organizations. In part, the building is of the community's capacity to achieve common goods—changes that will benefit the community (Chaskin 2001; Chaskin, Joseph, and Chipenda-Dansokho 1997). The approach is grounded in thinking about social relationships as a resource that can be drawn upon when the community needs to act collectively. Although community-building efforts differ in whether they start with individual residents, local organizations, or informal social networks, they all engage a breadth of community partners (Saegert 2006). Yet, without a sense of how these entities identify with the place and distribute themselves in it, CCIs cannot be sure whether they have covered the area sufficiently to have an impact.

The centrality of the neighborhood to many community-building efforts is reflected in the following description: "it works by building community in individual neighborhoods: neighbors learning to rely on each other, working together on concrete tasks that take advantage of new self-awareness of their collective and individual assets and in the process creating human, family, and social capital that provides a new base for a more promising future" (McNeely 1999, 742). Indeed, based on a review of a number of successful community-building projects, experts have concluded that the neighborhood

is the most effective scale for this work. Acknowledging that some problems can only be addressed with larger-scale action, they caution that "institutions that cover larger areas . . . need to keep the differences between their component neighborhoods in mind . . . and recognize that those components need to develop their own sense of identity if social and human capital is to be built successfully" (Kingsley, McNeely, and Gibson 1997, 7).

Various evaluations and critiques of CCIs have found disappointing results with respect to community-engagement aspects, and these poor outcomes may relate to failure to properly understand the complexities of place and space (Kadushin et al. 2005 257). Often CCIs do not recognize that residents have different experiences of the spatial aspects of their neighborhood than do outside stakeholders who are typically brought into the community-building process (Lepofsky and Fraser 2003). Without the ability to relate to the place as they see it, residents can become disconnected or even resistant to the process (Fraser et al. 2003). This is not to say that the space as defined by residents is the only scale for CCIs' action. Indeed, an adept CCI will scale up or down as needed to achieve community goals (Sites, Chaskin, and Parks 2007). However, CCIs that rely on fuzzy or arbitrary boundaries, rather than a deeper understanding of how people and institutions construct meaningful relationships to place, are apt to inadvertently undermine authentic resident involvement and control.

The Complexity of Neighborhood as Place

Although CCIs typically establish geographic boundaries for target areas, many do not raise the question of whether these actually comprise neighborhoods from an individual or collective point of view. However, neighborhoods are not merely territory, but "social constructions named and bounded differently by different individuals" (Burton, Price-Spratlen, and Spencer 1997; Lee, Oropesa, and Kanan 1994). Yet CCIs are not alone in being challenged by the complexity of taking into account the lived experience of neighborhoods. The tendency of researchers to treat arbitrary demarcations of space as if they were meaningful units of context, socially and psychologically, has run up against a number of criticisms within sociology (Downey 2006; Gieryn 2000), social psychology (Stedman 2002), and demography (Entwisle 2007). In particular, the research on neighborhood effects has been attacked because the predominant statistical paradigm treats neighborhoods as "buckets" divorced from spatial location, filled with residents who are passive recipients of their influences. While CCIs on the ground are more in touch with the reality than researchers, there are still pressures to reduce complexity by assuming that their designated neighborhood units are valid for the residents.

However, the reality is that people have agency with respect to neighborhoods. As they move through their residential surroundings, they carve their own activity space, which does not map onto arbitrary geographic boundaries (Sherman et al. 2005). Moreover, individuals construct their sense of place and how place fits into their social identity (Stedman 2002). Neighborhood boundaries as lived are not static but often dynamic and contested, and social interaction shapes the meaning of places for individuals and groups (Gotham 2003). Residents can either embrace surrounding space or disavow parts of it (Gotham and Brumley 2002). The actions of people shape places, including the fact that their collective residential choices can transform a neighborhood (Entwisle 2007) or that they may co-construct meanings that challenge stigmatized identities or neighborhood definitions imposed from the outside (Gotham and Brumley 2002).

Even when they live in geographic proximity, it cannot be assumed that all residents experience the place similarly. In particular, relative position in the social structure, often dictated by age, race, class, or gender, may affect neighborhood evaluations. For example, whites as compared to African Americans tend to evaluate signs of disorder in their neighborhoods (such as graffiti and vacant housing) more negatively (Charles 2000; Krysan 2002; Sampson and Raudenbush 2004). Assumptions about neighborhood residents' race also influence perceptions, as suggested by the fact that individuals judged Chicago neighborhoods with a predominately African American population to have more disorder than predominantly white neighborhoods, even after controlling for objective signs of disorder (Sampson and Raudenbush 2004). Gender is another attribute that influences neighborhood perceptions. Gender differences have been found, for example, in the scale

at which individuals view and use space (Hanson and Pratt 1995). In fact, many differentials associated with structural inequalities are glossed over when researchers treat space as arbitrary geographic units into which people are put (Tickamyer 2000).

Discovering Place Identity in CCIs

Recognizing the complexity of neighborhoods as places is only the beginning. If existing definitions of neighborhood boundaries are inadequate for CCIs' engagement with residents, what are the alternatives? For CCIs to appreciate residents' neighborhood identities it is necessary to develop tools for uncovering residents' perceptions. Although neighborhoods operate at different scales depending on the quality or process of interest (Galster 2001), with respect to the concept's meaning for residents, the scale may be smaller than most CCIs would presume (Cuba and Hummon 1993).

One method of uncovering more authentic neighborhood definitions has been to query residents about scale and boundaries. When residents of Los Angeles were asked to select from four possible definitions of what neighborhood meant to them (i.e., immediate block or street, several blocks in each direction, an area that was a 15-minute walk in any direction, or an even larger area) the largest group (39 percent) selected the smallest definition (Sastry, Pebley, and Zonta 2002). Another Los Angeles study, in which researchers walked along with residents to determine how they viewed their neighborhood, concluded that individuals held nested definitions—the block for some things, the walking distance for others, an even larger area for others (Kusenbach 2008). In making these nested definitions individuals were influenced by factors such as place names, landmarks, areas where they walked their dogs or allowed their children to play, and ethnic enclaves. The study also noted that individuals tended to be highly invested in only one of the layers of identity—those who were preoccupied with their street were not very interested in the larger area, for example.

Because CCIs engage in place-based work, they can benefit from understanding how residents' perceptions of their neighborhoods map onto the space within their target areas. The relationship of individuals' mental imagery of a place to actual space is not a simple matter, though (Lynch 1960). Individuals' mental and cognitive maps may bear little resemblance to cartographic maps. Studies show that many factors are involved in individuals' knowledge of their environments and their ability to represent it spatially (Downs and Stea 1973). For example, cognitive-mapping exercises show that both physical and social characteristics are aspects of spatial knowledge that influence how places are recognized, categorized, and located (Lloyd and Hooper 1991). Moreover, individuals differ in how they approach and work with such information. Nevertheless, despite individual differences in cognitive maps of a place, community mapping projects have been successful at revealing conflicting perspectives as well common ground in place identity (Crouch and Matless 1996).

Although sense of place and mental maps are phenomenological as experienced by individuals, residents' work in CCIs is collective. Community engagement often centers on shared space associated with the concept of neighborhood. To be informed about collective perceptions, CCIs require a method of determining whether residents have any commonly held views of the space in their neighborhood and how that space may be in dispute. A methodology for using resident-drawn cartographic maps to identify the common spaces that residents include in neighborhood definitions was tested in Cleveland. The resulting resident-defined neighborhood units differed markedly from arbitrary units such as census tracts and zip codes (Coulton et al. 2001). This method developed in the Cleveland study is applied in this study of perceived neighborhoods in *Making Connections*.

The Study

The *MC* work takes place in 10 cities, within target areas selected through a deliberative process involving the AECF and local representatives. The target areas vary in size and in whether the initiative views them as being made up of single or multiple neighborhoods. Nevertheless, the question of how these places were perceived was pertinent to the resident-engagement and social-network agenda set in all of the sites. Therefore, the following questions are examined in this paper: What neighborhoods comprise the target areas from the residents' viewpoints? How do these resident-perceived neighborhoods differ from one another and from the target area as a whole?

How can resident-defined neighborhoods inform the work of CCIs?

Data Source: *Making Connections* Survey

Data for this analysis come from the first wave (2002–2003) of household surveys conducted as part of *Making Connections* in low-income neighborhoods in 10 cities (Denver, Des Moines, Hartford, Indianapolis, Louisville, Milwaukee, Oakland, Providence, San Antonio, and Seattle/White Center). Local stakeholders and AECF partners defined the *MC* target sites in each city. They were guided by the parameters of the *MC* initiative, which is directed at neighborhoods in which a large portion of the population faces barriers to connecting with social and economic opportunities and other resources in the region. Survey data in these cities were collected jointly by the National Opinion Research Center (NORC) at the University of Chicago and the Urban Institute. These in-person interviews were conducted in residents' homes, in English, Spanish, and additional languages that were prevalent in the site.

The samples for the *MC* survey were designed to give equal probabilities of selection to all households within each target site. In some communities, a number of separate subareas were identified; in those cases, a separate (equal probability) subsample was selected from each subarea. The sample size for each of these subsamples was determined in consultation with the neighborhood researchers and the AECF. In each of three cities, San Antonio, Louisville, and Oakland, there was a single overall equal probability sample of households. In five cities, there were designated subareas that had separate samples: Denver had four subarea samples; Des Moines had two; Indianapolis, two; Hartford, three; and Providence, three. In the remaining two cities, Seattle/White Center and Milwaukee, there was oversampling in pre-specified blocks.

At the outset of the sample design, NORC—in consultation with the AECF, the neighborhoods, and the Urban Institute—designated the census tracts and blocks that comprised each site, and households within the designated target areas comprised the population for the survey. In designing and selecting the samples, NORC used the procedures it developed for list-assisted probability sampling of households. These procedures use as a basis the U.S. Postal Service (USPS) master list of delivery addresses. The USPS maintains an up-to-date list frame of all residential delivery points in the Unites States; this frame is the basis for the Master Address File used by the U.S. Bureau of the Census for the decennial census of population. NORC acquired, through designated licensees, all the zip codes in the frame that overlapped with any part of the *MC* areas. Geocoding software was used to identify and map all those addresses that were within the sites. As this was pioneering work in the use of the USPS list for probability sampling of households, a field check, using senior NORC field staff, was made of blocks containing some 4,000 to 5,000 addresses in each site. These investigations gave strong validation to this sampling methodology (Iannacchione, Staab, and Redden 2003; O'Muircheartaigh, Eckman, and Weiss 2002).

The sample design was directed at obtaining a representative sample of households and children. In households with children, a roster of all children in the household was compiled, and one child was selected at random; this child was designated the focal child. The selected respondent was the adult most knowledgeable about the selected focal child. In households without children, an adult was chosen at random.

Households in this study represent probability samples in the *MC* target sites in the 10 cities. A total of 7,498 households was interviewed. The average sample was approximately 750 in each city and the response rate was 69 percent. Because the selection process was driven by local considerations, the sites vary in size and demographic composition. The population of the *MC* sites (as of the 2000 census), from smallest to largest, is as follows: Louisville, 18,746; Denver, 19,557; Oakland, 25,721; Seattle/White Center, 28,373; Milwaukee, 29,493; Des Moines, 31,702; Providence, 38,718; Indianapolis, 39,374; Hartford, 39,698; and San Antonio, 133,646.

Mapping Task and Measures

The *MC* survey asked each respondent to draw a map of his or her neighborhood and to provide the neighborhood name. For the mapping task, the respondent was given a GIS-generated map that covered an area somewhat larger than the *MC* target area. The maps displayed selected streets to orient the respondent and the interviewer pointed to the

location of the respondent's home. The interviewer read the following statement prior to giving the mapping task:

> By neighborhood, I mean the area around where you live and around your house. It may include places you shop, religious or public institutions, or a local business district. It is the general area around your house where you might perform routine tasks, such as shopping, going to the park, or visiting with neighbors. Please take a look at this map of the area. Study it for a moment and use this pencil to draw the boundaries of what you consider your neighborhood.

If necessary, interviewers prompted respondents to mark the boundaries of their neighborhoods as they saw them and to make a closed polygon. Later, the paper maps drawn by respondents were digitized by tracing the boundaries using GIS tools. Each resident-drawn (RD) map was reviewed during the digitizing process to be sure that it represented a closed polygon and that the map was wholly contained on the paper map provided to the respondent.[2] The digitized maps were then overlaid with a block layer to determine which blocks (or parts thereof) were included within each respondent's map.

Table 1 provides information on the mapping data for all of the *MC* sites and project designated subareas within the sites.[3] Eighty-three percent of the respondents completed maps. The median area of the RD maps was 0.35 square miles, but there was considerable variation in RD map sizes among sites, from a high of 1.2 square miles in San Antonio to a low of .09 square miles in Hartford. The variation in RD map sizes to some degree mirrored the differences in the sizes of the *MC* sites' designated target areas. (The correlation between the median area of and the area of official *MC* sites and designated subareas was .55.) This pattern might suggest that there is a tendency for the scale of neighborhoods to differ by city, perhaps due to built environment, historical traditions, or cultural practices. Furthermore, it would suggest that the boundaries of the sites' designated target areas partially reflected prevailing local views that are more or less expansive when it comes to neighborhood scale.

However, a methodological concern developed after the fact because the square miles represented in the maps given to the respondents were not the same in all sites. Practically, the maps had to fit onto paper that could be given by interviewers to respondents, but because target areas differed markedly in size,[4] the paper maps were of varying scales. Moreover, in some cities, an attempt was made to show the entire site on a single relatively zoomed-out map that was given to all respondents (e.g., Louisville). In other cities, a set of relatively zoomed-in maps was created and respondents were shown the map that best corresponded to the location of their residence. As shown in table 1, the median area covered in the paper maps presented in each site ranged from 2.65 square miles in Denver to 18.91 square miles in San Antonio.

These disparities raise the possibility that the dissimilarity across sites in size and scale of the paper maps influenced the way the respondents drew their neighborhood boundaries. We explored this possibility in several ways. First, we reasoned that if the RD map sizes were highly influenced by the scale of the paper map, there would be a strong, positive correlation between RD map size and the paper map size. We found the correlation to be positive but somewhat weak ($r = .34$). Second, we considered whether respondents may have been constrained in the size of their drawing by the size of the area on their paper map. We found that most respondents included only a small percentage of the paper map in their own drawing (median = 5.32 percent), suggesting that few were constrained in this way. However, if the scale of the map made no difference at all, we would have expected an inverse relationship between the square miles on the paper map and the portion included in the drawing. We found the correlation to be negative, but extremely weak ($r = -.06$). While these patterns are not conclusive, they seem to indicate that variation across sites in the scale and size of the paper maps may have had a modest influence on the RD maps. Therefore, we determined that it would be prudent to avoid making cross-site comparisons of the RD maps and to instead focus on how the maps are distributed spatially within the sites, as will be done in the rest of this report.

Neighborhood Names and Coding

Another way that people may identify and demarcate their neighborhood is with a name. Therefore, the *MC* survey asked respondents, "Does your neighborhood have a name?" If they answered yes, they were asked to provide the neighborhood name and

TABLE 1

Resident-Drawn Maps Compared to Paper Maps Provided

MC site	% with RD map	Median RD map (sq. mi.)	Official area (sq. mi.)	Median paper map (sq. mi.)	Median % paper map in RD map
Denver	69.32	0.32	4.55	2.65	10.95
Baker	58.10	0.56	1.47	4.28	12.80
Cole	68.95	0.23	0.51	1.24	18.21
Lincoln Park	73.94	0.49	1.93	4.59	10.77
Sun Valley	74.77	0.22	0.64	2.65	8.07
Des Moines	88.42	0.43	7.10	6.17	5.80
Central East	88.69	0.35	4.15	5.32	5.87
Central West	88.14	0.54	2.95	9.29	5.80
Hartford	81.46	0.09	5.28	2.90	3.02
Asylum Hill	79.13	0.03	0.86	2.85	1.10
Clay Arsenal	85.53	0.08	0.51	2.90	2.77
Frog Hollow	77.54	0.09	0.64	1.70	4.94
Northeast	84.48	0.14	2.13	5.71	2.40
Sheldon-Charter Oak	74.36	0.04	0.47	1.18	3.10
South Green	91.18	0.04	0.23	1.70	2.62
Upper Albany	80.80	0.12	0.44	2.90	4.22
Indianapolis	77.83	0.42	9.04	9.45	4.90
Martindale-Brightwood	70.47	0.30	2.73	7.27	4.09
Southeast	85.60	0.50	6.31	9.45	5.13
Louisville	92.60	0.60	2.65	15.08	3.98
California	90.91	0.58	1.24	15.08	3.88
Phoenix Hill	93.28	0.60	0.59	15.08	3.95
Shelby Park	93.13	0.60	0.42	15.08	3.96
Smoketown	94.32	0.61	0.40	15.08	4.07
Milwaukee	89.24	0.21	2.42	6.06	3.49
Washington Park	89.24	0.21	2.42	6.06	3.49
Oakland	81.92	0.23	1.95	6.66	3.42
Lower San Antonio	81.92	0.23	1.95	6.66	3.42
Providence	82.18	0.17	3.38	4.47	4.17
Elmwood	84.96	0.18	0.86	4.47	4.01
South Providence	80.50	0.20	1.75	5.20	3.84
West End	81.05	0.13	0.77	2.80	4.48
San Antonio	85.75	1.20	24.37	18.91	6.99
West Side, Quad 1	86.47	1.32	9.37	26.38	6.37
West Side, Quad 2	87.95	0.85	5.39	18.91	5.30
West Side, Quad 3	82.35	1.43	3.96	18.91	8.72
West Side, Quad 4	85.71	1.34	5.65	13.08	8.74
Seattle/White Center	82.70	0.65	6.16	3.47	17.39
Boulevard Park	83.16	0.64	2.77	2.94	18.47
White Center	82.45	0.66	3.39	3.71	16.51
Total	83.03	0.35	2.23	5.51	5.32

Source: Authors' calculations.

MC = Making Connections

RD = resident drawn

the interviewer recorded the answer verbatim. The names provided by respondents were clerically reviewed to correct misspellings, minor variations, and situations in which the respondent provided more than one name. A standardized table of names was created and name codes were appended to the respondent data file. The names were also linked to the respondents' geocoded home addresses.

Table 2 presents descriptive information on neighborhood names obtained in the baseline survey.

TABLE 2
Description of Neighborhood Names Provided by Respondents

MC site	% providing name	% giving official name	Total # of names	# names ($n \geq 10$)
Denver	77.15	58.28	49	6
Baker	88.83	80.45	11	1
Cole	70.00	46.84	18	2
Lincoln Park	61.17	19.68	25	2
Sun Valley	87.39	82.88	5	1
Des Moines	63.23	3.82	99	10
Central East	63.82	7.54	51	7
Central West	62.63	0.00	55	3
Hartford	65.76	26.39	87	6
Asylum Hill	61.74	41.74	12	1
Clay Arsenal	69.74	5.26	22	1
Frog Hollow	61.59	44.20	14	1
Northeast	62.07	1.72	26	1
Sheldon-Charter Oak	56.41	15.38	13	0
South Green	41.18	14.71	7	0
Upper Albany	86.40	46.40	23	2
Indianapolis	73.50	9.94	63	8
Martindale-Brightwood	89.08	18.61	19	4
Southeast	57.07	0.79	43	4
Louisville	89.19	40.40	55	12
California	82.25	41.13	27	4
Phoenix Hill	93.68	35.97	18	4
Shelby Park	90.08	33.59	15	2
Smoketown	93.18	61.36	6	2
Milwaukee	48.35	8.75	45	7
Washington Park	48.35	8.75	45	7
Oakland	57.68	13.34	82	9
Lower San Antonio	57.68	13.34	82	9
Providence	72.11	33.06	81	6
Elmwood	70.33	31.30	28	4
South Providence	75.52	36.10	35	3
West End	70.56	31.85	37	3
San Antonio	48.96	12.18	108	10
West Side, Quad 1	48.79	11.11	32	2
West Side, Quad 2	52.68	14.73	30	4
West Side, Quad 3	39.57	17.11	28	1
West Side, Quad 4	53.69	5.91	33	3
Seattle/White Center	89.02	47.22	57	11
Boulevard Park	92.63	72.28	22	2
White Center	86.98	33.14	40	10
Total	68.56	25.37	726	85

Source: Authors' calculations.

MC = Making Connections

Overall, 68.56 percent of respondents provided a neighborhood name, but there was considerable variation across sites (from a high of about 89 percent in Louisville and Seattle/White Center to a low of around 48 percent in Milwaukee and San Antonio).

Also shown in table 2 is a comparison of the names given by respondents with the *official neighborhood name* of the *MC* target area (or subarea) used by the site at the time of the survey. Across all of the sites, only 25.37 percent of survey respondents offered the official neighborhood name. However, the percentage using the official neighborhood name differed markedly by site, as well as showing variation by subarea within sites. For example, Denver, which had the highest name recognition for its official neighborhoods (58.28 percent), also showed variation depending on which subarea the respondent lived in. The Sun Valley neighborhood in Denver had strong name recognition (82.88 percent), while Lincoln Park in the same city had relatively low name identity (19.68 percent). In other sites, such as Providence, about one-third of residents gave the official neighborhood name and the rate was similar across all subareas.[5]

Low name identity for the official neighborhood name did not preclude other names being mentioned by numerous survey respondents. As shown in the third column of table 2, the total number of names provided by survey respondents was generally high (726). However, only about 12 percent of these names (85) were mentioned by at least 10 respondents (see column 4), and these were the names that were used in the subsequent analyses.[6]

Finding Residents' Perceived Neighborhoods

The ultimate goal of this analysis was to use the maps and names provided by residents to uncover how residents in the sites perceived their neighborhood space and identity. This research rested on an assumption that a collective definition would emerge from the views of households that lived in proximity to one another. We did not expect total consensus, recognizing that residents vary in where they are situated and how they traverse and interact with a place. However, given that CCIs attempt to benefit people through improving aspects of the places they live, uncovering what is collective about that perception would be potentially valuable information. In the following section, we will refer to these places that residents perceive in common as *endorsed neighborhoods*.

We began the search for endorsed neighborhoods by assuming that we would find consensus spaces among residents who were located within the same *official neighborhoods*. To search for these, we applied GIS tools that had been successful in identifying the core space of Cleveland neighborhoods cited in the methodology section above (Coulton et al. 2001) and had been replicated using the *MC* site in Denver. Louisville was the only other site where the core spaces could be identified using the methodology employed in Denver. The other eight sites were too large and heterogeneous, and no consensus about space or name could be identified using the method based on official neighborhoods.

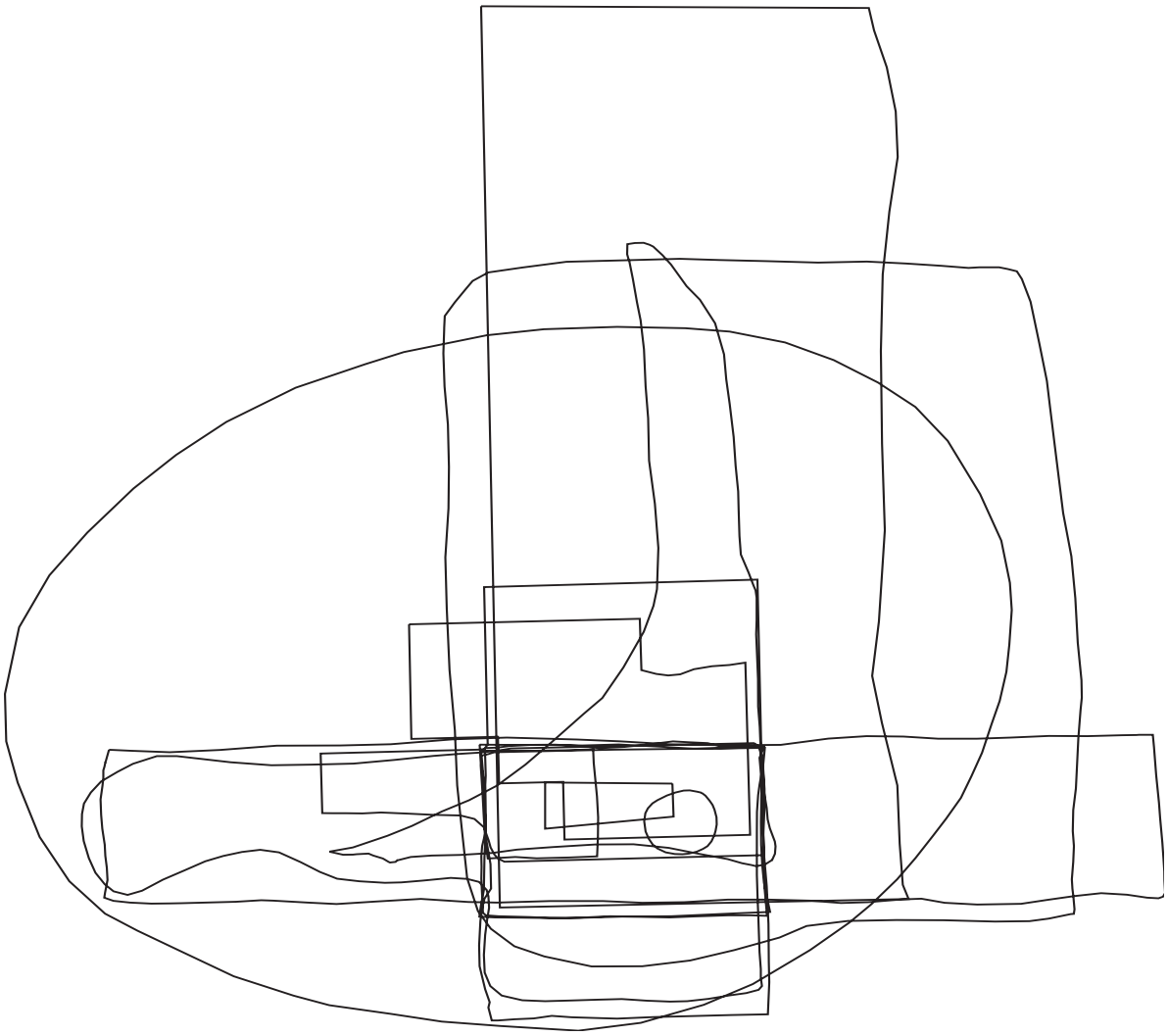
After several iterations, we decided to group the maps of residents who shared the same neighborhood name, whether or not it was the official one, and examine whether they agreed about the spaces in their neighborhoods. We also identified some additional groupings of residents whose maps clustered together spatially, even though they did not provide a neighborhood name or they offered an idiosyncratic name for their neighborhood. (See appendix A for details on the spatial clustering method used here.) The specific steps in the analysis are illustrated below for the Milwaukee site and pictured in figures 1 through 5 below.

Step 1 was to overlay the digitized maps of all respondents who gave the same neighborhood name. Figure 1 illustrates this step by showing all of the map outlines for one of Milwaukee's neighborhood names (Cold Spring Park). The step was carried our for all neighborhood names given by 10 or more respondents.

Step 2 was to determine what percentage of respondents had included each block in their map. Blocks that were included by at least 50 percent of the respondents were labeled *consensus* areas. Blocks endorsed by at least 33 percent of the respondents were labeled *secondary* areas. Blocks at least 10 percent of the residents included in their maps were labeled *tertiary* areas. In figure 2, these distinctions are illustrated for Cold Spring Park.

Step 3 was to identify the common area associated with the neighborhood name. We defined that grouping of blocks included by at least 33 percent of the respondents as an *endorsed neighborhood*. The threshold of 33 percent was arbitrary, with higher thresholds

FIGURE 1
Step 1. Overlay Individual Digitized Maps



generally yielding a smaller common area. In figure 3, this endorsed area is plotted for Cold Spring Park.

Step 4 was to repeat steps 1 through 3 for each of the other neighborhood names offered by at least 10 respondents. These areas were added to the map shown in figure 4.

Step 5 was to add any additional endorsed neighborhoods identified through the clustering results. This was accomplished by carrying out steps 1 through 3 for maps that could not be grouped by name but were determined through a clustering procedure to be in the same cluster. The identified cluster-based areas were also added to the map as shown in figure 5. The final mapping results were reviewed by local initiative representatives.

Endorsed-Neighborhood Illustrations

The above steps were repeated for each of the 10 *MC* sites. A map showing the endorsed neighborhood boundaries was prepared for each of the sites, adding key landmarks and roads to help with interpretation. A cross-site summary of the results of the endorsed-neighborhood analysis appears in table 3. It can be seen that the sites vary in the number of endorsed

FIGURE 2
Step 2. Determine Blocks in Maps

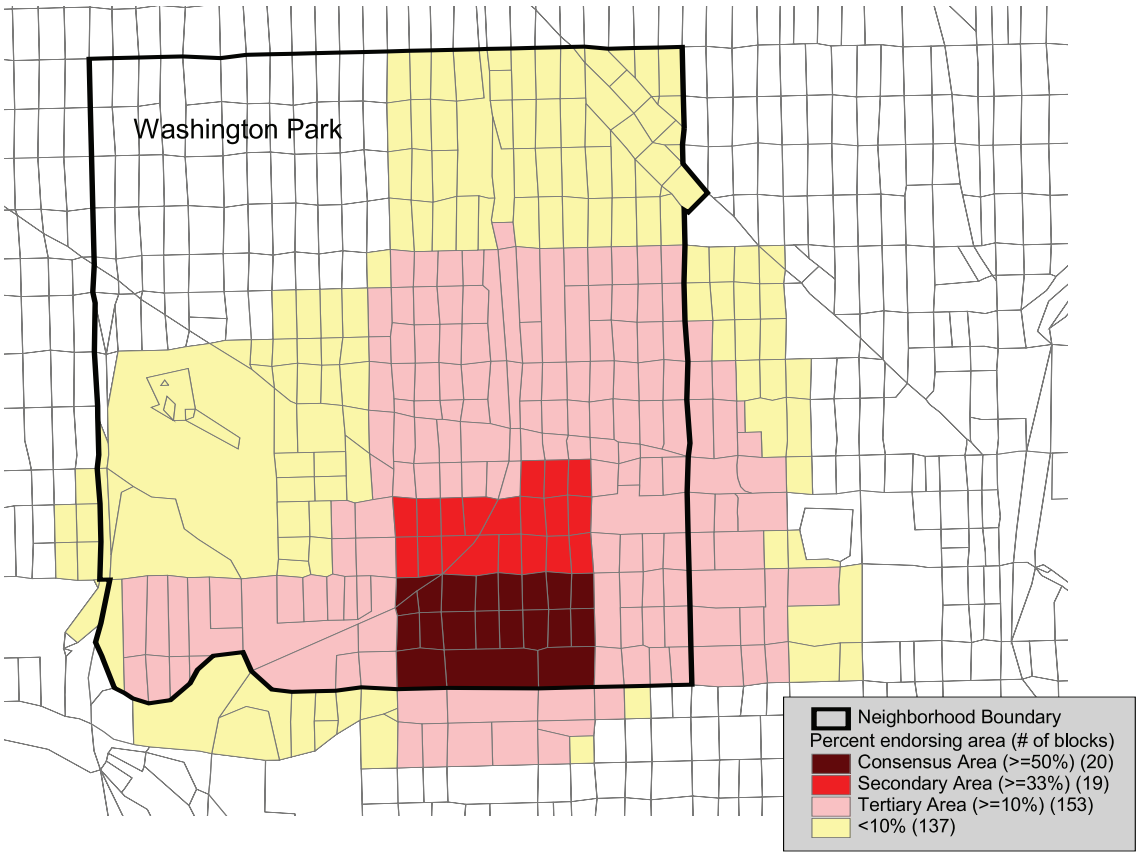


FIGURE 3
Step 3. Identify Endorsed Area

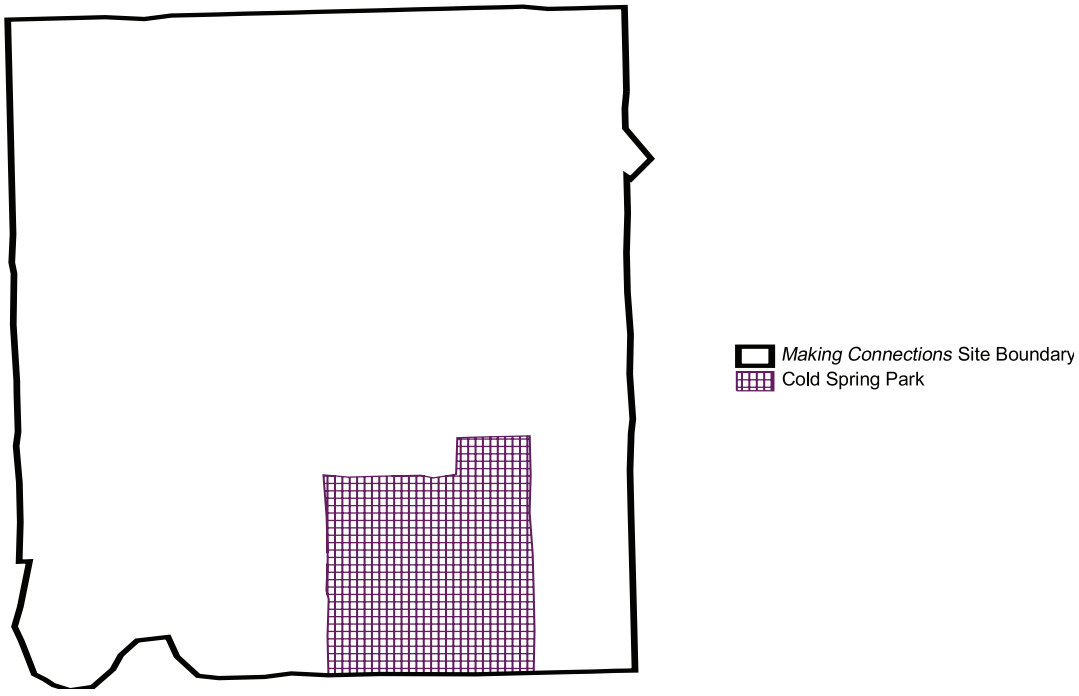


FIGURE 4
Step 4. Multiple Endorsed Areas by Name

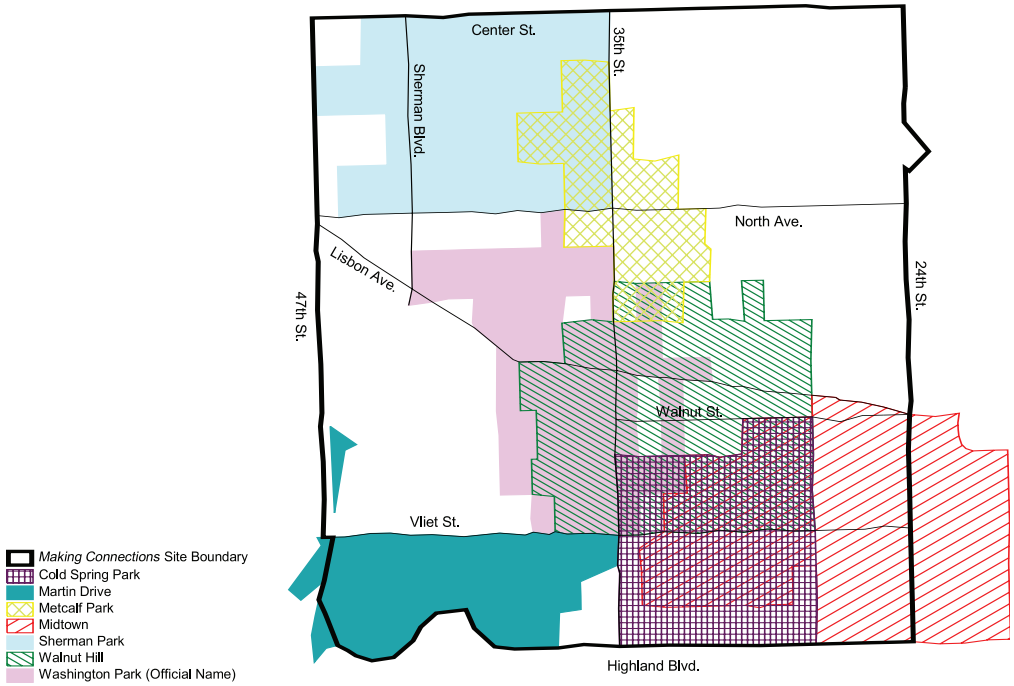


FIGURE 5
Step 5. Addition of Endorsed Areas by Clusters

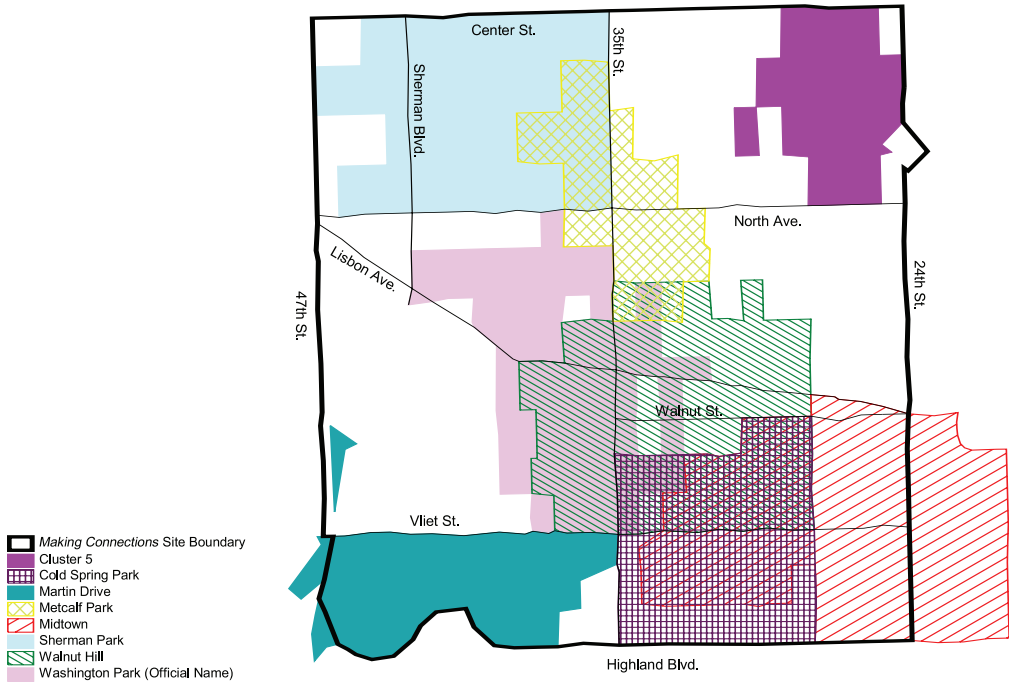


TABLE 3
Endorsed Neighborhoods by *Making Connections* Site

MC site	# of endorsed neighborhoods	Average % overlap among endorsed neighborhoods	% official area not endorsed
Denver	7	11.8	52.3
Des Moines	9	7.9	23.2
Hartford	10	1.3	63.8
Indianapolis	11	4.7	13.7
Louisville	11	24.4	0.4
Milwaukee	8	7.2	3.0
Oakland	7	18.8	20.4
Providence	6	3.5	20.8
San Antonio	9	1.5	33.9
Seattle/White Center	9	14.8	2.5

Source: Authors' calculations.
MC = Making Connections

neighborhoods, but in all cases there were more endorsed neighborhoods than *official neighborhoods* in the target areas. The sites also differ in the degree to which there was spatial overlap among the endorsed neighborhoods, ranging from a high of 24.4 percent overlap in Louisville to a low of only 1.3 percent overlap in Hartford. The proportion of the target area that did not fall into any endorsed neighborhood also varies by site, and again, Louisville and Hartford represent the extremes.

Comments from a Local Expert on Milwaukee Endorsed Neighborhoods

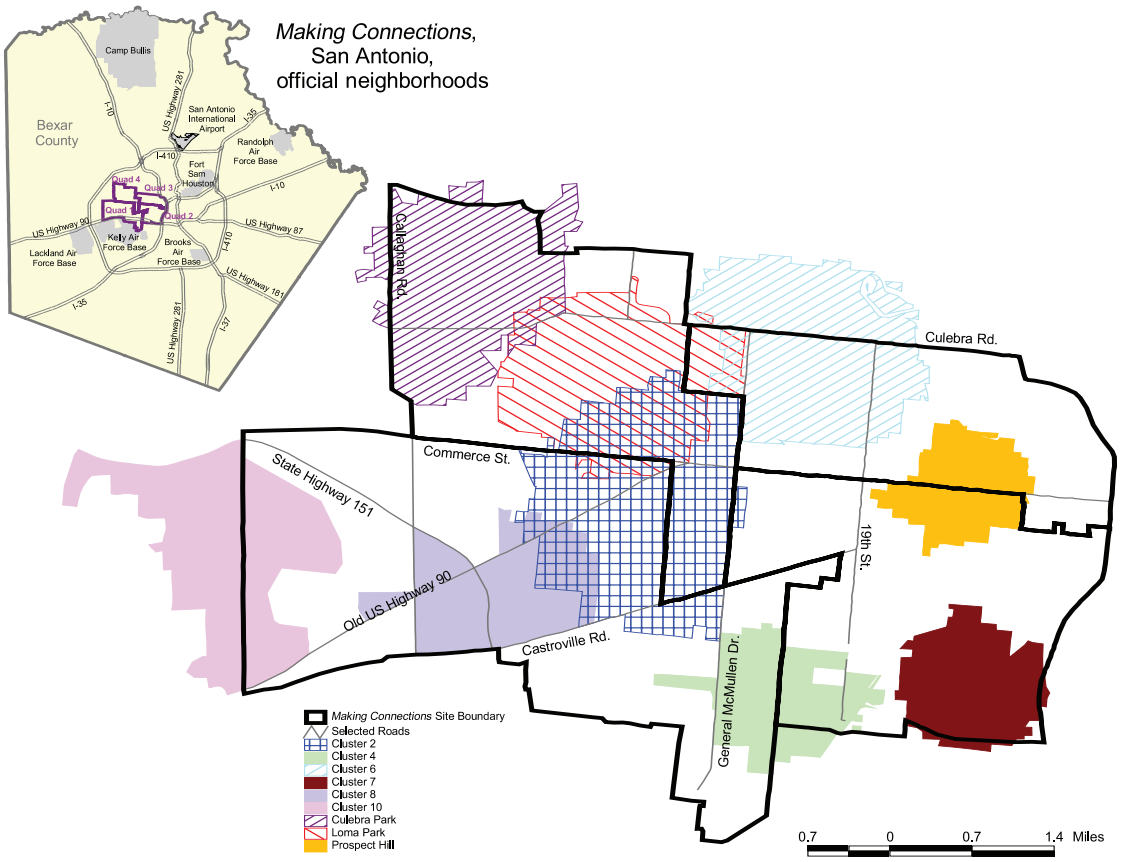
Cluster 5 is indeed an area that has had little organizing over the years and has been mixed use. Many of the other named areas correspond to neighborhood organizations and school-zone boundaries. Some of the overlapping areas are due to ethnic differences in neighborhood names and where one or another ethnic group has businesses and institutions.

We present several of the site maps below to illustrate some of these patterns. San Antonio (See figure 6) is the largest target area (24.37 square miles) of all of the sites and had, therefore, the lowest density of respondents per square mile of any of the 10 sites. In the San Antonio target area there was one official neighborhood name, West Side. Even though the typical resident map in San Antonio was the largest of any of the 10 sites (1.2 square miles), there is relatively little overlap among endorsed neighborhoods. Moreover, endorsed neighborhoods cover only about two-thirds of the target area in San Antonio. Other factors were the relatively low number of respondents that knew the name of their neighborhood (48.96 percent) and only 10 neighborhood names being agreed upon by at least 10 respondents. Therefore, San Antonio's endorsed neighborhoods were uncovered more often by clustering of maps rather than relying on named neighborhoods as a methodology for grouping resident maps together.

Comments from a Local Expert on Providence Endorsed Neighborhoods

Residents seem to distinguish the Armory district from the rest of the West End, and the line they draw reflects the gentrification north of the boundary. South of the boundary is primarily a Latino neighborhood, and the mapping results suggest these residents identify with a section named West End. It also appears that residents are beginning to identify a growing area of employment opportunity and personal identity with the hospital district, labeled Cluster 8 in the map. This is an area where we are making concerted efforts to link people with job opportunities, so it is a positive sign that some residents' neighborhood perceptions are clustering in this area.

FIGURE 6
San Antonio, Resident-Endorsed Neighborhood Boundaries

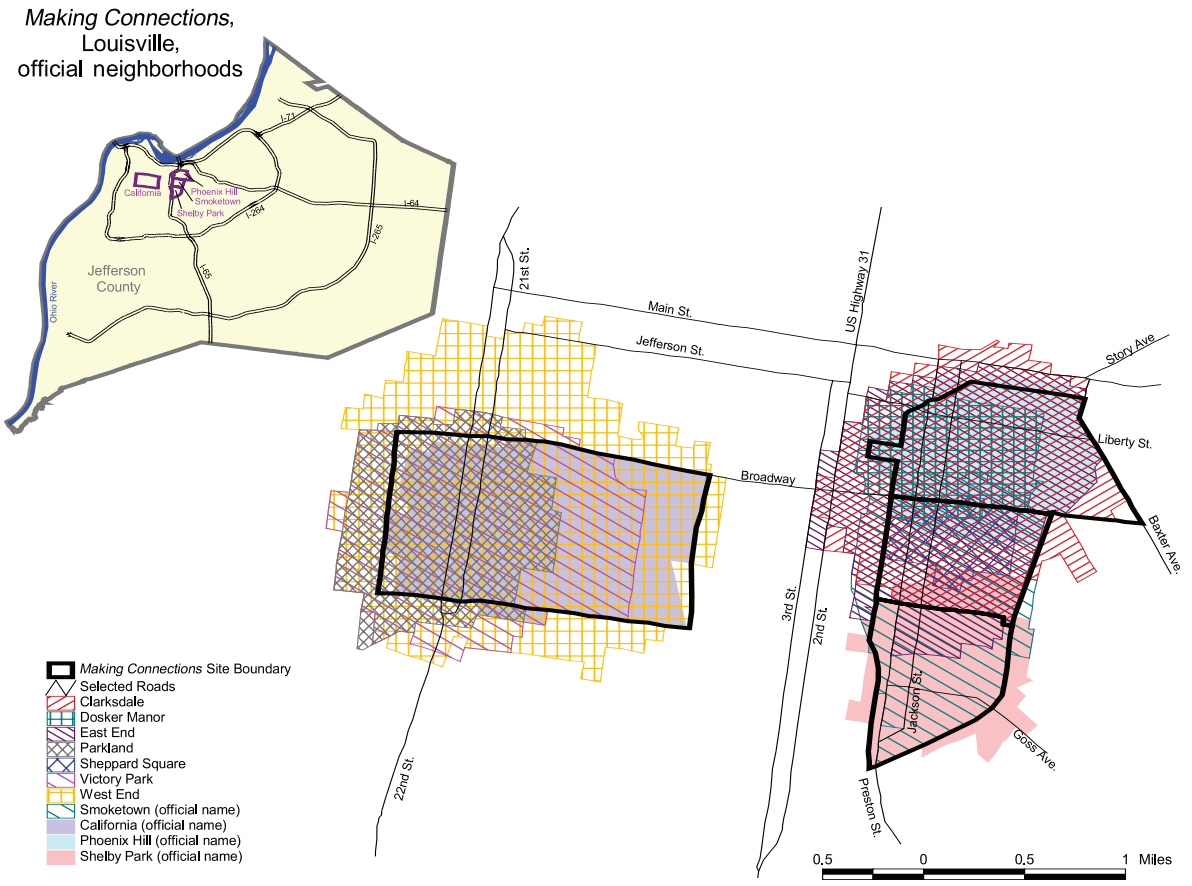


Another illustrative map comes from Louisville (See figure 7). The official target area in Louisville is relatively small (2.65 square miles) and the median resident-drawn map was of moderate size (0.6 square miles). The Louisville target area had four official neighborhood names. A very high proportion of residents in the Louisville target area supplied a neighborhood name (89.19 percent) and relative to the other sites, a high proportion of those names were shared with their neighbors. The result is that the endorsed areas within Louisville are highly overlapping, and almost the entire target area is covered by resident consensus about named neighborhoods.

A third illustration is the map of Oakland (figure 8), where the target area is quite small (1.95 square miles) as is the median resident-drawn map (0.23 square miles). Sample density in Oakland was the highest of the 10 sites (292.82 respondents per square mile). The Oakland target area had only one official neighborhood within it, but this name was given by only 13.34 percent of residents responding to the survey. Nevertheless, the official name of San Antonio seems to constitute an endorsed space near the center of the *MC* target area in Oakland. Seven endorsed neighborhoods were identified in Oakland, and they share a considerable amount of overlap (18.8 percent) Moreover, a relatively small proportion of the target area is not endorsed (20.4 percent), according to the methodology used here.

Finally, the map generated from the Providence survey is shown (figure 9). The Providence target area was relatively small at 3.38 square miles, and residents there drew among the smallest maps of any site (0.17 square miles); only Hartford had a smaller median RD map size. The Providence site had three official neighborhood names, and each was

FIGURE 7
Louisville, Resident-Endorsed Neighborhood Boundaries



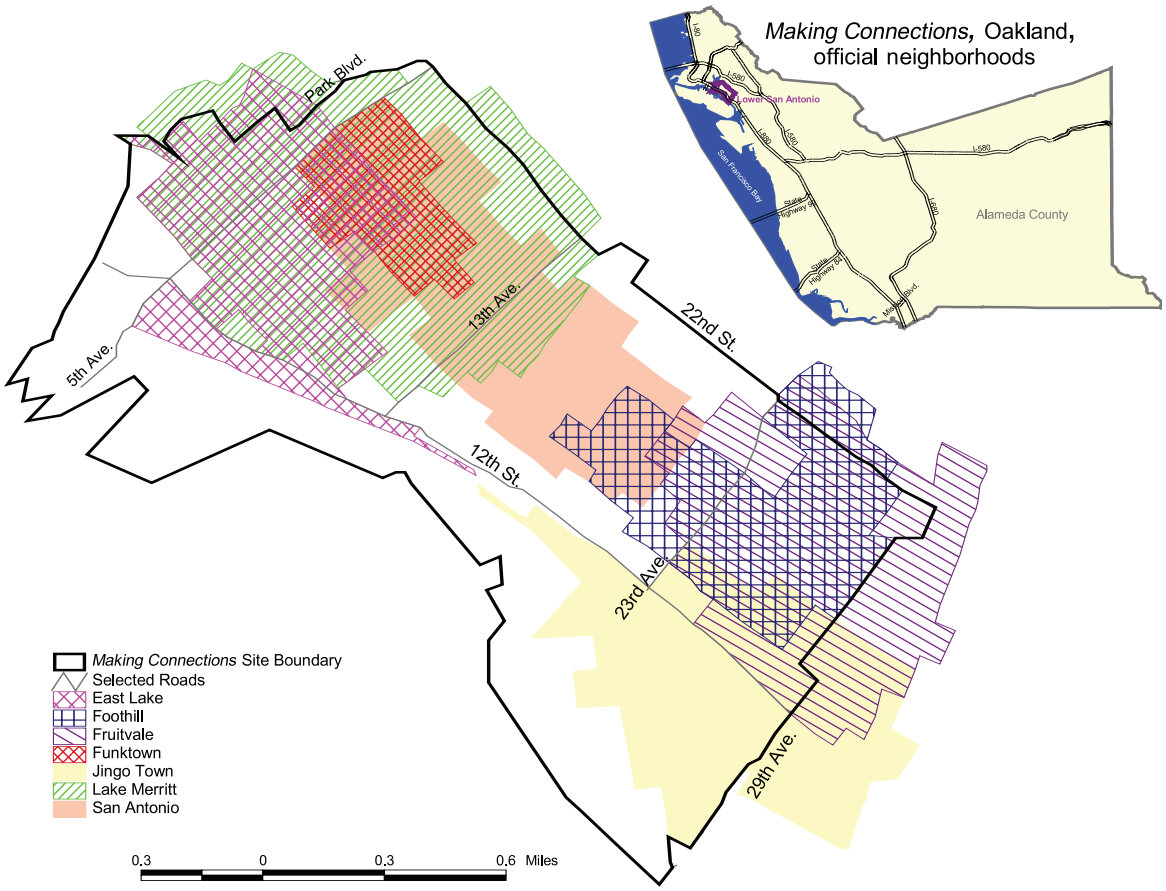
endorsed by the residents. There were also three other neighborhoods that showed resident consensus on boundaries. However, two of these spaces were identified based on some common spatial connection and not on name recognition. About one-fifth of the Providence target area (20.8 percent) was not endorsed by sufficient numbers of residents to identify a common area.

These illustrations suggest several dimensions along which residents' perceptions of neighborhoods may differ from place to place. The four sites shown as examples here differ in the size of their target areas and of resident-drawn maps and the degree to which residents know the name of their neighborhood and agree about neighborhood names. This yielded variation on resident consensus about neighborhood identity. The Louisville target area is almost totally comprised of endorsed neighborhoods, but the spaces are overlapping and possibly contested with respect to resident perceptions. Providence's target area can be characterized as a mix of endorsed and unendorsed spaces. In areas with endorsed neighborhoods, the degree of overlap is relatively low and the resident

Comments from a Local Expert on San Antonio Endorsed Neighborhoods

One factor that seems to affect neighborhood identity on the West Side of San Antonio is that we have two separate school districts. You see some clustering around schools. But it is not surprising that there are few neighborhood names that generate support or endorsement from a lot of residents. The space has been more fluid and has not had a history of formal neighborhood demarcation.

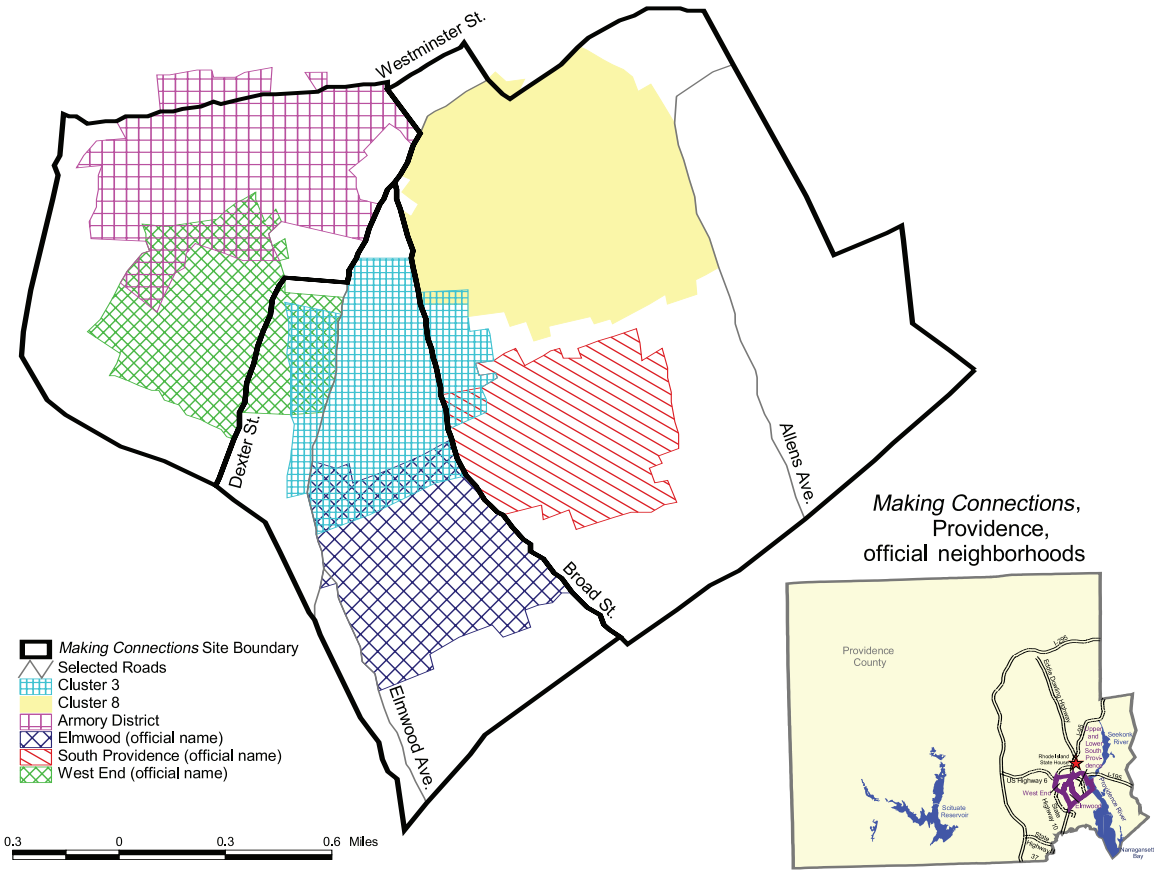
FIGURE 8
Oakland, Resident-Endorsed Neighborhood Boundaries



neighborhood identity seems to be fairly clear cut. The Oakland target area demonstrates a relatively high degree of coverage by endorsed neighborhoods with agreed-upon names. However, the neighborhoods are overlapping and boundaries may be contested. The area associated with the official neighborhood name is viewed by residents as small but it is central to the entire area. The San Antonio target area is distinctive due to its large size, and the maps of resident perceptions are sketchy at least in part due to low sample density. However, the large size of resident-drawn maps and the low level of knowledge of neighborhood names are additional factors driving the patterns of resident-endorsed neighborhoods there. Nevertheless, it appears that in San Antonio at least some residents identify with relatively large, unnamed spaces rather than the smaller demarcated neighborhoods suggested by resident maps from the *MC* target areas in the northeastern sites.

While not determinative, these contrasting patterns present potentially quite different environments for CCIs' work in resident engagement. In sites such as Louisville, for example, it would be important to understand the evolution of the highly overlapping neighborhood identities and the degree to which residents who related to the overlapping areas share common or competing interests. A contrasting situation is seen in San Antonio, where much of the target area is not included in any collective neighborhood identity. It is possible that resident-engagement strategies could begin in areas where neighborhood identity is clearer and gradually build out into the undesignated areas around them. In the large undesignated areas, efforts to engage the pop-

FIGURE 9
Providence, Resident-Endorsed Neighborhood Boundaries



ulation may have to begin without reference to place but on other dimensions of common interest. Additionally, it might be necessary to redraw the target area to achieve greater focus on areas with which residents identify. As these illustrations suggest, the information on endorsed neighborhoods provides a deeper and more nuanced understanding of how residents relate to the concept of neighborhood and how that might play out within the target areas designated for CCI work.

Composition of Endorsed Neighborhoods

In the background section, we discussed the complexity of neighborhood identity and reflected on the possible significance of social structure to this process. Leaders of CCIs are usually quite in touch with the socio-demographic composition of their target areas and recognize the importance of relating their work across various social divisions. Once endorsed neighborhoods are identified it is also possible to examine whether there are relevant socio-demographic factors that distinguish these neighborhood perceptions. Such information could prove useful to CCIs in the process of resident-engagement work that takes into account residents' perceptions of neighborhoods.[7]

Residents' race and ethnicity may influence neighborhood perceptions through several mechanisms. Ethnically based social networks or relationships with institutions may influence residents' activity space, information flows, or comfort zones within their residential areas. Moreover, ethnicity may signal to other residents or outsiders the existence of socially determined neighborhood boundaries. This raises the question of whether the racial and ethnic distribution

within *endorsed neighborhoods* distinguishes them from one another within *MC* target areas. This is illustrated in figures 10 and 11 for two selected sites where we display the map of endorsed neighborhoods along with a chart showing residents' racial and ethnic breakdowns within these spaces. First, in the Seattle/White Center example (figure 10), the endorsed neighborhood Park Lake Homes has a proportionately larger Asian population than does the neighborhood endorsed as White Center, where the non-Hispanic white population was the predominant group at the time the baseline survey was

FIGURE 10

Racial and Ethnic Distribution within Endorsed Neighborhoods for Selected Sites, Seattle/White Center (percent)

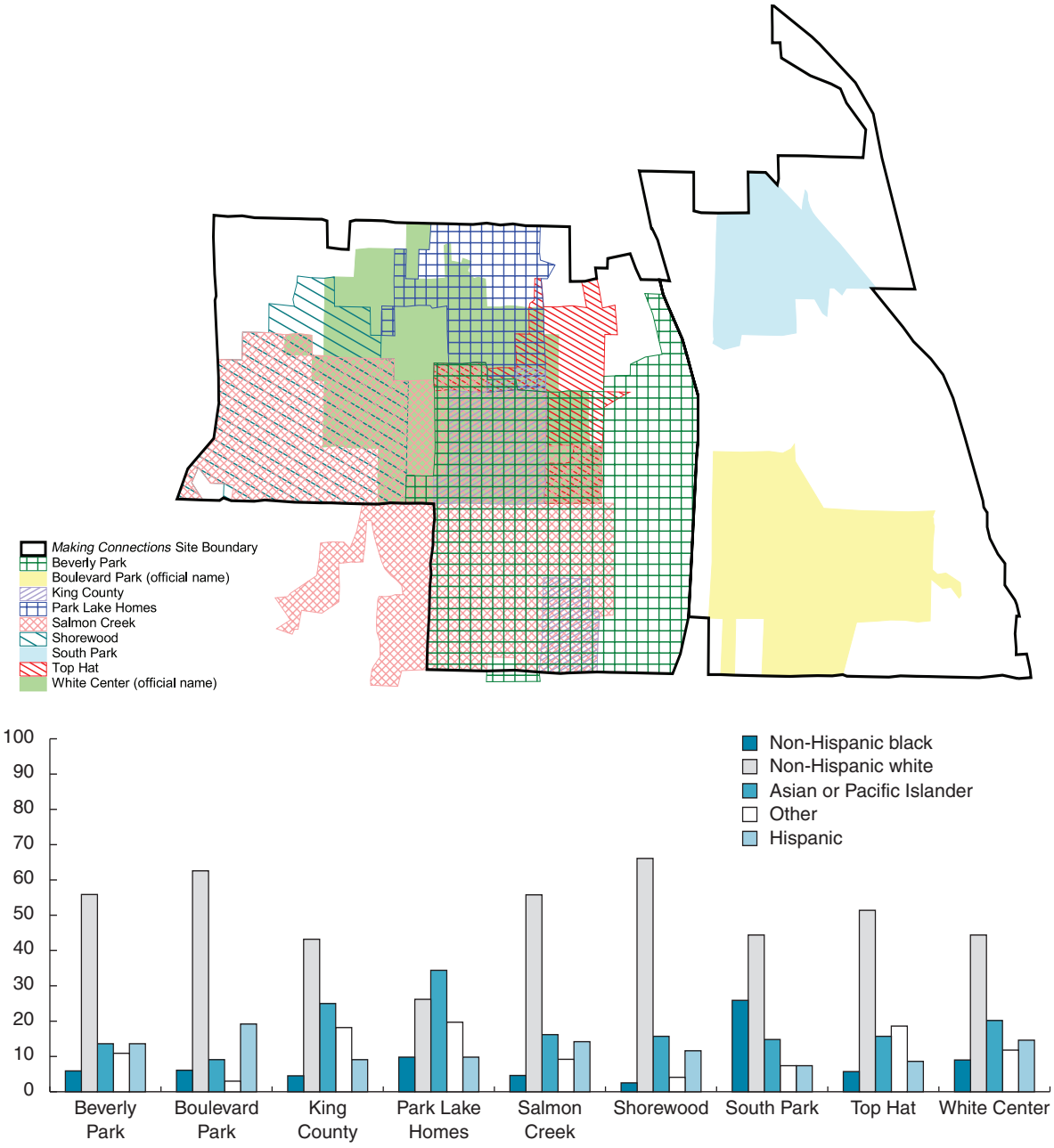
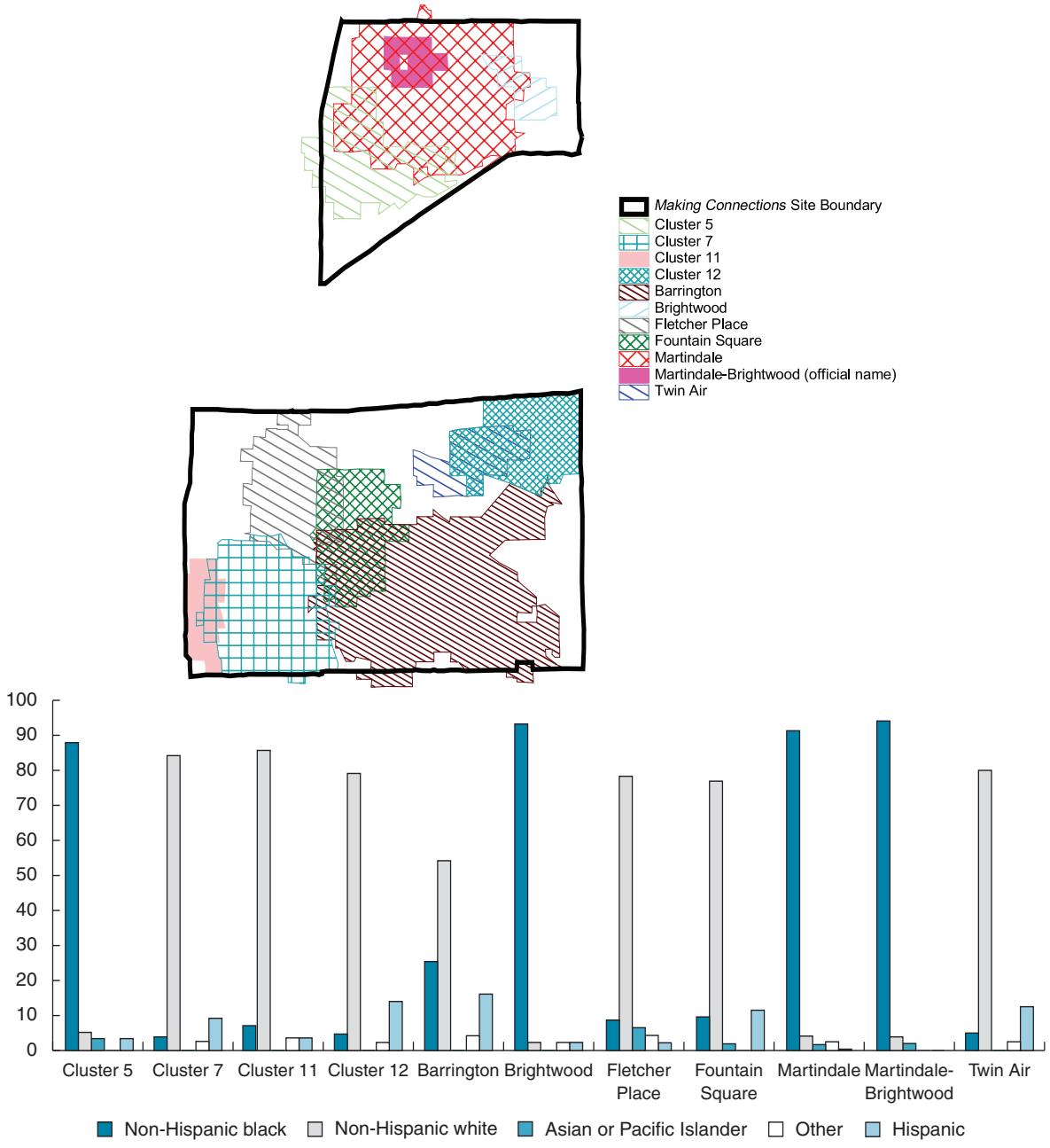


FIGURE 11

Racial and Ethnic Distribution within Endorsed Neighborhoods for Selected Sites, Indianapolis (percent)



conducted. While these two areas share some overlapping space based on the resident-drawn maps, ethnic distinctions may be playing a role in place identity. Second, as shown in figure 11, there are also ethnic differences among endorsed neighborhoods in Indianapolis. The distinctions in the Indianapolis target area seem to be influenced by whether the endorsed neighborhoods are predominantly African American or white. Thus, even though the mapping analysis shows some overlap in perceived neighborhoods, when the ethnicity of the space is examined, further distinctions emerge. It should also be noted

that across all 10 *MC* sites the resident-perceived neighborhoods are more ethnically homogeneous than the target areas as a whole.

Housing tenure is another illustrative factor of how variation in social structure may influence residents' perceptions of their neighborhoods. Homeowners may differ from renters socioeconomically (e.g., by age, income, marital status, employment status), and they may have different interests and involvement in neighborhood affairs. We illustrate the influence of tenure differences for two of the sites in figures 12 and 13. Along with the maps of endorsed neighborhoods, the charts classify households as public housing residents, renters, or home-

FIGURE 12
Housing Tenure within Endorsed Neighborhoods, Denver (percent)

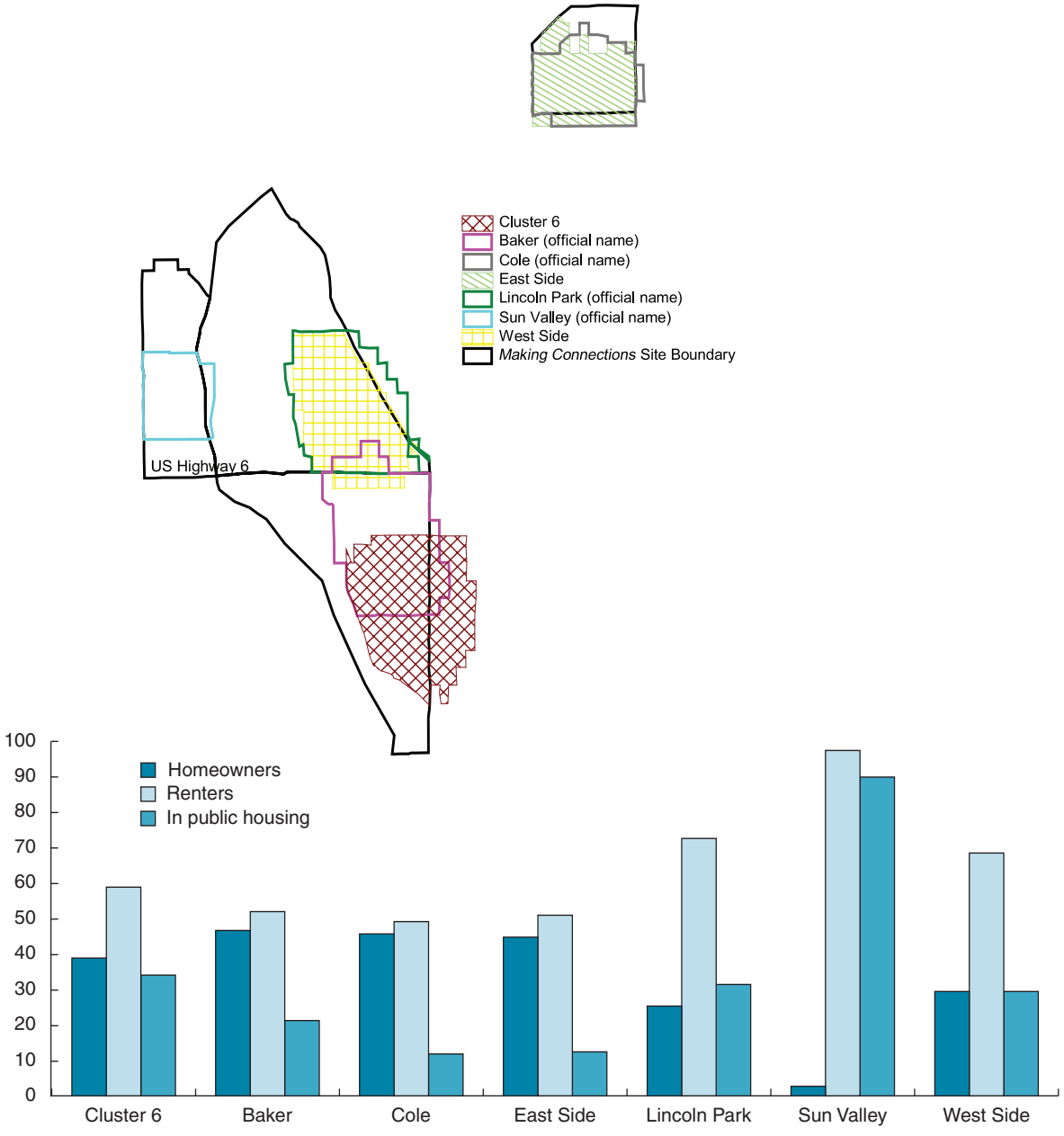
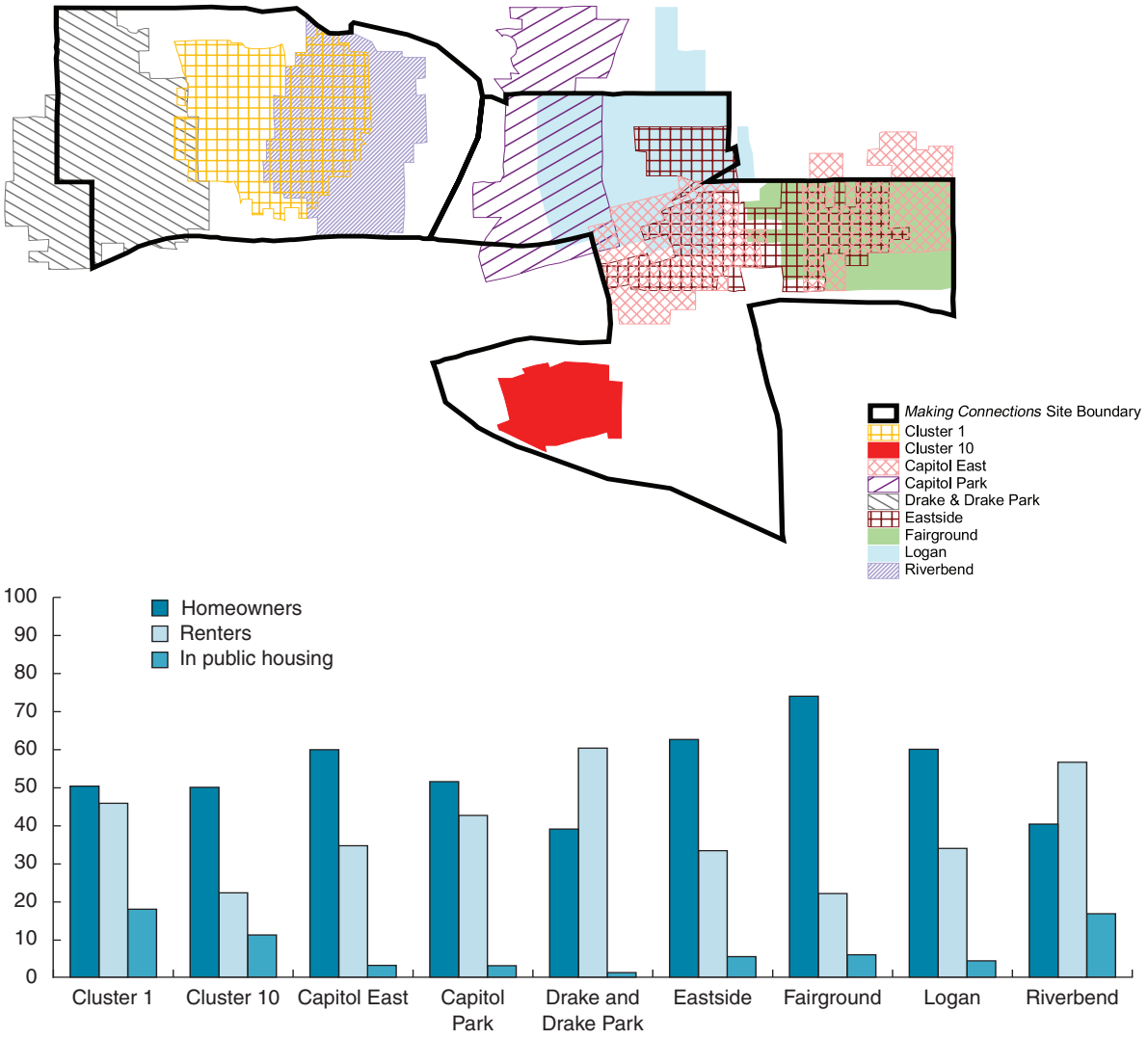


FIGURE 13
Housing Tenure within Endorsed Neighborhoods, Des Moines (percent)



owners. As shown in figure 12 for Denver, the endorsed neighborhood named Sun Valley is clearly distinguished by a great deal of public housing and very little homeownership. Its boundaries, as perceived by residents, do not overlap other areas. Baker and Cluster 6 are overlapping areas as perceived by residents, but Cluster 6 has more rental housing and less homeownership than Baker. On the west side of the Des Moines target area (shown in figure 13), Cluster 1 emerges as an endorsed neighborhood with more homeownership than the contiguous areas of Drake and Drake Park and Riverbend. On the east side of Des Moines, Fairground is an endorsed neighborhood with more homeownership than the other endorsed areas that overlap it.

Involvement in Endorsed Neighborhoods

Shared neighborhood identity as reflected in endorsed neighborhoods has several points of applicability to CCI work. One of the important reasons that CCIs focus on target areas is that the neighborhood is seen as a context for action to improve the well-being of

residents. A thread in many CCIs' theories of change is that resident engagement increases both self efficacy and collective efficacy. Residents who identify with a place are more likely to become engaged in efforts to improve the physical, cultural, and social context they see around them. CCIs' strategies to organize and engage residents may benefit from being informed by an understanding of the often overlapping spaces that are part of residents' conceptions of their neighborhoods. Linking these spaces to shared symbols such as names and relating the boundaries to landmarks or features of the built or natural environment may be useful in efforts to increase neighborhood identification and engagement.

With this in mind, we examine whether it is possible to characterize the endorsed neighborhoods with respect to their baseline levels of residents' neighborhood participation. This could be the basis for targeting outreach or deciding where there is already a base of activity on which to build. Visualizing indicators of involvement along with maps of resident-perceived neighborhoods could serve as useful adjuncts to CCIs' resident-engagement work. We illustrate this application in Hartford with a key question asked in the survey, whether the resident worked with neighbors on a problem. In Hartford (See figure 14), it can be seen that two of the resident-endorsed neighborhoods, Upper Albany and Cluster 5, had a larger base of resident participation than many of the other resident-endorsed neighborhoods at the start. Depending on strategic considerations, it might be advantageous to start engagement work in such locations with high participation. The endorsed-neighborhood geography could be used as a starting point for discussions that are likely to resonate with residents. The data also suggest that engaging residents throughout the rest of the target area may require additional strategies—still building, though, on resident perceptions of where their neighborhood boundaries lie and the features of that landscape. Cluster 11, for example, has few residents working together on a neighborhood problem at baseline and would be likely to require considerable capacity building before successful engagement could occur.

Conclusions

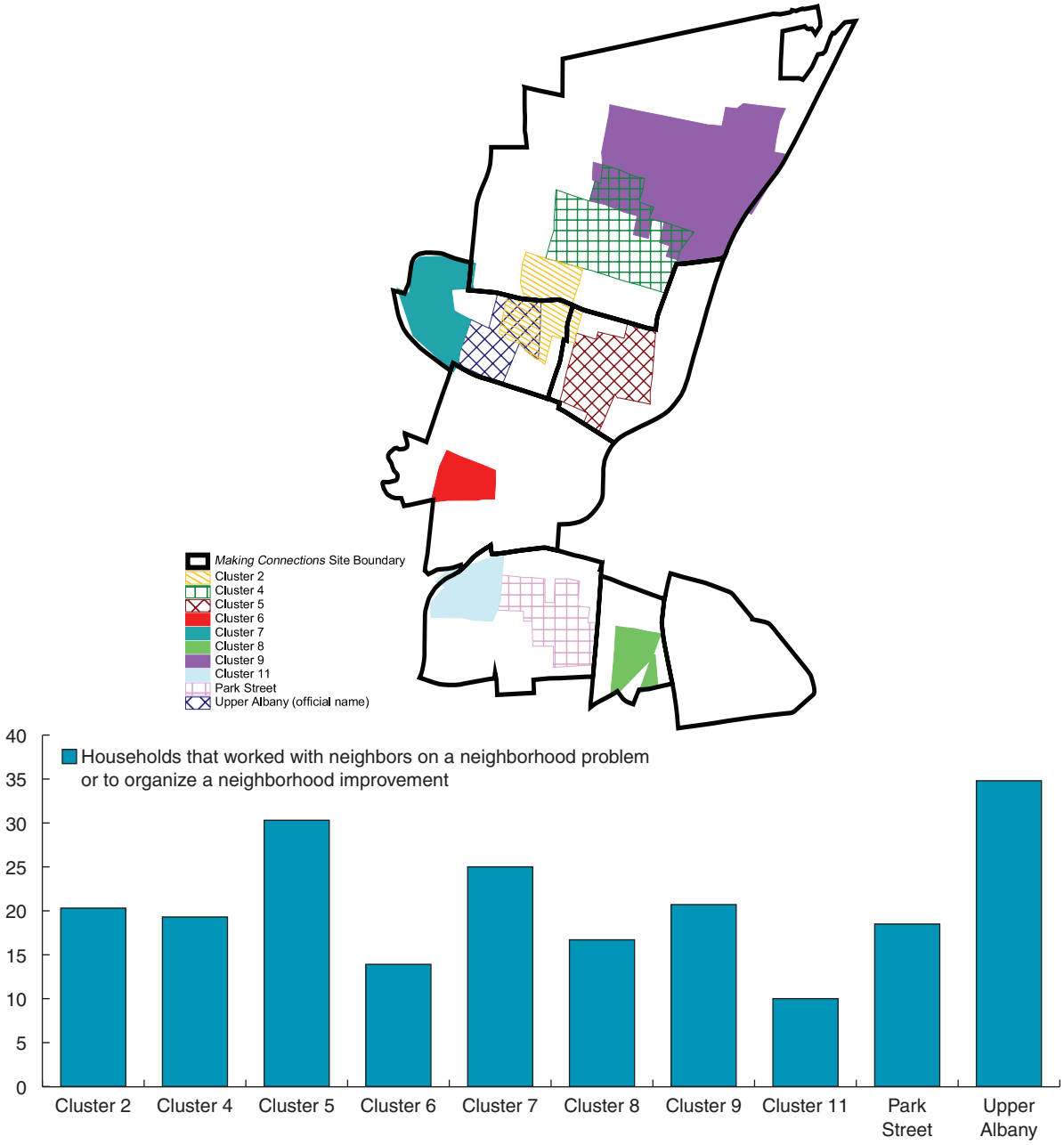
The purpose of the analysis reported here was to explore methods for uncovering how residents in the target areas of the *MC* sites related the concept of neighborhood to place identity. We began with the assumption that individuals living in the same vicinity would have a sense of the place where they lived but that the geographic boundaries of that place were not necessarily agreed upon. Moreover, we recognized that a shared symbol for a place, such as a neighborhood name, would not presuppose uniformity in the geographic boundaries associated with it in people's minds. In order to uncover whether there were commonalities or patterns in how residents who lived near one another or shared the same neighborhood name identified their neighborhood as place, we tested a variety of methods for comparing and contrasting maps that they drew of their neighborhoods. This was followed by an examination of some of the demographic characteristics that may have affected neighborhood perceptions and an illustration of how resident perceived neighborhoods might be used to more effectively position resident-engagement work.

The study found that even among residents living in close proximity to one another, there were a number of divergent opinions about neighborhood names, sizes, and boundaries. Nevertheless, in many instances there did emerge common spaces that were seen as part of the neighborhood by many residents. However, the identified places were often overlapping and seldom comported with defined target areas set forth by the *MC* sites. Using the mapping data from the survey respondents, it was possible to produce a map for each *MC* site that showed the location and names of the resident-defined neighborhoods. By overlaying streets and landmarks, these maps can be used to inform local resident engagement and other neighborhood-based work of the *MC* initiative.

The neighborhoods identified through this process were shown to be influenced in part by racial and ethnic differences in the population and by housing tenure patterns. Moreover, the resident-perceived neighborhoods were shown to differ in the baseline levels of community participation as measured by the survey. For each *MC* site, the resident-defined neighborhoods were described in terms of demographics, housing tenure, and participation, so that these profiles can be used to inform resident-engagement strategies.

A number of methodological issues emerged along the way, and these would benefit from further inves-

FIGURE 14
Selected Measure of Neighborhood Engagement by Endorsed Neighborhood, Hartford (percent)



tigation. Some may have influenced the data used in this report and might bear on the conclusions that were drawn. For example, not all survey respondents were able to complete the mapping task, and the amount of missing data differed by site. It would be useful to know whether the different completion rates had to do with variation in field operations of the survey, language or educational barriers of the survey respondents, or regional differences in how respondents understand the concept of neighborhood and mapping. Also, it appears that the differences in the scale of the maps used in the data collection may

have had an effect on the size of the maps that residents drew of their neighborhoods. It would be useful in future studies to randomly assign several different map scales within the same locations to investigate the magnitude of these effects.

An additional methodological issue is the role of sampling density. This varied across sites because the sample sizes were relatively constant but the square miles of the *MC* target areas varied. In the least densely sampled areas, the number of cases per neighborhood may have been too small to detect some common patterns or differences. Density may also have importance for research on neighborhood change or effects, which is increasingly relying on nested samples to measure neighborhood qualities. Typically, researchers require a minimum number of cases to achieve reliability, but this study suggests that increasing neighborhood unit size to gain sample points may distort neighborhood identity if it unknowingly merges several distinct resident-perceived neighborhoods.

Despite these methodological limitations, this analysis demonstrates that neighborhood maps and names provided by survey respondents can be the basis for uncovering both individual and collective perceptions of neighborhoods. GIS tools allow these perceptions to be translated into physical locations on cartographic maps, along with other geographically coded information such as streets and landmarks. This translation of collective perceptions of neighborhood onto locations within CCIs' target areas holds promise as a practical tool to aid CCIs in their efforts to strengthen neighborhoods to support families and children.

Implications for CCIs

The findings from this analysis suggest that the adoption of externally imposed or arbitrary neighborhood boundaries is likely to be problematic for CCIs. First, the lack of fit with place as experienced by residents is apt to be a barrier to authentic resident engagement. It is difficult to interest residents in participating in efforts to improve their neighborhood if the space is not salient to them and if the CCIs' way of communicating about or representing the concept of neighborhood does not fit with residents' mental representations. Moreover, since successful community work typically requires collective action, arbitrary neighborhood units are unlikely to bring together residents who share the common purpose that comes from identification with a place and sense of its possibilities. The failure to recognize resident viewpoints can also mask the fact that some spaces are contested, such as when neighbors of varying ethnic groups or housing tenure have conflicting aspirations for overlapping places that are part of their divergent neighborhood identities. Similarly, CCIs may inadvertently incorporate spaces into their target areas that are excluded by most residents from their neighborhood conceptions, thereby either diluting or undermining collective action in those areas.

Second, when CCIs have sites in several regions, it is important to recognize that neighborhood scale as perceived by residents is likely to differ. Resident-perceived neighborhoods, on the average, were much bigger in some of the *MC* sites than in others. Although investigating the reasons for these differences was beyond the scope of this study, the fact is that a one-size-fits-all approach to the designation of CCI target areas is likely to miss the mark, given this diversity. Instead, local knowledge, tradition, and geography should be taken into account in determining scale for various aspects of CCI work. Additionally, it should be recognized that the scale investigated in this study was tied to the residents' perceptions of neighborhood as elicited by the *MC* survey question. Since the literature cited earlier in this report suggests that individuals may actually hold a nested set of neighborhood perceptions, CCIs' decisions about neighborhood scale would benefit from being informed by the type of resident engagement and the action that is being planned.

Third, externally imposed or arbitrary neighborhood boundaries may result in a disconnection with CCIs' theories of change. CCIs typically anticipate that neighborhood improvements will exert a positive influence on residents' lives, but the power of this influence is likely to depend on exposure. At the extreme, if a resident has no awareness, interaction, or contact with a place, the potential benefit can be questioned. This is not to say that some spillover might not occur if areas contiguous to residents' perceived neighborhoods improve. However, to the degree that the theory is built on an assumption of direct exposure, the magnitude of any impact is likely to be compromised. Thus, it is important for CCIs to consider the various aspects of neighborhood

change that are being pursued and how these paths may be influenced by residents' neighborhood perceptions. Especially for pathways of change that rest on assumptions about social interaction or access to social resources, neighborhood perceptions may determine exposure to a considerable extent.

Fourth, this study raises questions about the role of neighborhood as a unit of measure in the evaluation of CCIs. CCIs frequently track indicators of neighborhood change for signs that they are making progress on their objectives. Data collection is often dictated by administrative boundaries such as census tracts, zip codes, or catchment areas, but these may not match the areas that residents see as relevant to them. Moreover, if residents' engagement is driven by their neighborhood perceptions, coverage may be confined to only portions of the administrative units chosen for evaluation. Thus, for example, residents may work to eliminate a problem in part of a zip code that they care about, but evaluators may be attempting to measure that change in a larger area. The actual results may be invisible in such a heterogeneous mix. Such concerns suggest that CCI evaluators should collect and organize neighborhood data at the smallest geographic unit possible, preferably point data. Then, they can calculate indicators by aggregating data to neighborhood units that are guided by an understanding of resident perceptions.

Finally, resident perceptions of neighborhoods may themselves be important targets for CCIs to address. Community organizing is apt to be more difficult in places where there is little consensus about neighborhood names, common space, or boundaries. Community building may enhance place-based social networks, promote emerging leaders, raise residents' awareness of their connections with their neighbors, and so forth. As a result, residents may change the way they identify with their neighborhood and their mental images of it as a place. The boundaries they draw on a map may shift or expand, and they may be more influenced in these perceptions by neighbors and local organizations with whom they have now worked. The collective identity of place may have been further strengthened and extended by CCIs' deliberate place-making activities such as streetscapes and signage, or by the introduction of new neighborhood venues such as family centers, shopping areas, schools, and so forth. The methods of uncovering residents' neighborhood perceptions documented in this report could be used as tools for tracking whether place-making strategies are working to change neighborhood identity and the relationships of the people to the places they live.

APPENDIX A

Finding Consensus Based on Naturally Occurring Map Clusters

To identify clusters, we use nearest neighbor hierarchical (NNH) clustering, a spatial analysis tool used to identify groups of incidents that form distinct spatial clusters.[8] For these purposes, the incidents of interest were the centroids of the respondent-drawn maps. In the NNH clustering procedure, points get clustered based on certain criteria. The clustering procedure continues until all points are grouped into a single cluster or until the clustering criteria fails. Beginning with the full distribution of incidents, the two closest points form a cluster, which is viewed as one observation from then on. In subsequent steps, points may be added to that cluster or grouped with other points to form new clusters.

How incidents get grouped depends on the clustering criteria. There is no theoretical guidance as to what the optimal criteria are for cluster identification—it is subjective and exploratory. Two criteria to input into the NNH clustering are the minimum number of points and the threshold distance. The NNH procedure identifies only clusters that contain at least the minimum number of points, as specified by the analyst. In addition, those points must be located within the threshold distance. This is the maximum distance between any two points in a single cluster. This essentially governs the spatial extent of clusters. Thus, the NNH procedure builds clusters containing the minimum number of points where the distance between those points is both the smallest and below the threshold. The cluster of these points is then treated as one single point, and the same process repeats itself until every point gets grouped into a cluster or when no additional clusters can be identified given the clustering criteria.

While the choice of input criteria is subjective, we did use two tools to analyze the data's spatial structure and help us determine the input criteria. CrimeStat's K-function and nearest neighbor K-function were implemented to guide the input-criteria decisions. The nearest neighbor K-function tells the degree of clustering over different nearest neighbor distances. The actual average distance between an observation and its K-th nearest neighbor is compared with the expected distance if the data were distributed randomly. A nearest neighbor value less than 1 means that an observation and a single nearest neighbor are more clustered than random. For each city, the nearest neighbor index was graphed for 50 of the nearest neighbors. Points on the graph where there were steep increases or decreases and points with the lowest nearest neighbor index values were used to help determine the minimum number of points. The K-order nearest neighbor index graph provides information about the appropriate minimum-points criteria specified in the NNH clustering procedure.

A K-function graph was also produced for each city. The K-function compares point density in an observation's local area to the average density in the entire study area. The procedure begins by going to each point, choosing a radius, and comparing the points in the radius to the expected number if the distribution were random. Theoretically, a K-function result above 0 indicates clustering. Random simulations are also often used to evaluate K-function results. The envelopes on the K-function graphs represent the lowest 2.5 percent and the highest 97.5 percent of the simulation results (in this case 100 simulations were run). Ninety-five percent of all

K-function results based on random data would be expected to fall within the bounds of this envelope. Functions falling outside this envelope would indicate a nonrandom distribution. On the K-function graphs, the L(t) curves guide what the minimum threshold distance could be. The point at which the graph levels off indicates the distance at which the peak density occurs. Distances beyond this leveling off would indicate places not clustered together as densely. Thus, the distance where the leveling occurs is used as the threshold distance in the NNH clustering.

After the input criteria (the minimum number of points and the threshold distance) are determined, the NNH clustering trials are computed. The output is convex hulls, which are drawn based on the point distributions of the resident-drawn map centroids. In choosing the final clustering solution, the total points covered in the hull boundaries also played a role. We wanted to make sure that as many of the resident-drawn map centroids were included as possible, while still choosing a solution that seemed reasonable based on the input criteria generated from the K-order and K-function procedures. Once the clusters were identified, any overlapping hulls were edited so that one point could only be assigned to one hull cluster. Then, the consensus analysis was carried out among respondents who had centroids of their maps identified in a hull boundary cluster.

Notes

1. The term *comprehensive* community initiative (CCI) is used in this paper because *Making Connections* work is broadly based and there is considerable literature on CCIs. However, the issues raised also apply to more focused community-change initiatives that engage residents or anticipate benefits for residents as a result of neighborhood improvements.
2. Approximately 10 percent of the RD maps were flagged because there was some irregularity, such as a partial gap in the boundary or a boundary that went outside the boundaries on the map that was presented by the interviewer. In these cases, the analyst filled in the gap or moved the boundary to create a closed polygon wholly within the map that was presented.
3. Several sites have modified the definitions of their subareas since the baseline survey. However, this analysis presents the subareas that were in effect at the time of the study.
4. Another complicating factor in the map analysis is sample density. Sample size was quite similar in all sites, but due to variation in the square miles of the target areas, sample density differed. The densities per square mile are as follows: Denver, 118.68; Des Moines, 97.89; Hartford, 108.14; Indianapolis, 67.59; Louisville, 245.66; Milwaukee, 257.02; Oakland, 292.82; Providence, 178.70; San Antonio 28.89; Seattle/White Center, 106.33.
5. It should be noted that the sites differed in the size of their target area and whether they used one name to refer to the entire target area or whether they designated subareas within. Moreover, even when the site designated subareas, some adopted existing neighborhood names while others chose another designation. (For example, Des Moines distinguished between Central East and Central West.) Whether residents were using the official name would be affected by such decisions.
6. It should be noted that low sample density, for example, in San Antonio, is likely to have reduced the chances that large numbers of respondents would offer the same neighborhood name.
7. A basic requirement for using aggregation to make a reliable measure on neighborhood composition is that there is adequate sample size. In this study, some of the endorsed neighborhoods have sample sizes that are small, making the estimates for those units unstable. However, the descriptive information is offered here to illustrate potential applications.
8. This material on clustering is based on Ned Levine, "Nearest Neighbor Hierarchical Clustering Information" and "K-Function and Nearest Neighbor K-Function Information," chapters 5 and 6 in the user documentation for CrimeStat: A Spatial Statistics Program for the Analysis of Crime Incident Locations (version 3.0). Houston, TX, and Washington, DC: Ned Levine & Associates and the National Institute of Justice.

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