



# Health Impact Assessment Can Inform Community Development Decisions

How the HIA process can align sectors in pursuit of shared goals

## HEALTH IMPACT PROJECT

### Overview

Conducting health impact assessments (HIAs) can help build collaboration across different organizations within the same community in order to improve public health. For example, community developers are responsible for improving the physical infrastructure of neighborhoods and administering programs and services for residents, while public health practitioners research, identify, and advocate for strategies to address health disparities and improve community health broadly. HIAs can bring these two disciplines together and provide developers with a process to engage the local community and evidence to ensure that decisions will benefit public health.

In 2013, the Health Impact Project, a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts, funded three HIAs focused on community development decisions: two at the state level in Georgia and Massachusetts and one in a neighborhood of northeast Hartford, Connecticut:

- The Georgia Health Policy Center, a university-based public health institute, conducted an HIA to inform an annual state plan to allocate low-income housing tax credits.
- Health Resources in Action, a public health institute, partnered with the Massachusetts Department of Public Health and the Metropolitan Area Planning Council, a governmental regional planning organization, on an HIA examining the health implications of the distribution of funding to community development corporations (CDCs)—organizations that build affordable housing and support other improvement efforts in low-income neighborhoods—across the state.
- Community Solutions, a community-based organization in Hartford, and Michael Singer Studio, a design firm, carried out an HIA to embed health considerations in a neighborhood environmental sustainability plan.

This brief presents case studies about these HIAs and draws from a review conducted by the Georgia Health Policy Center that summarized the HIA process and findings. It also provides an introduction to HIA for community developers and policymakers and explains how developers can incorporate health considerations into their decisions. In addition, it describes an effort to embed HIA principles into community development efforts through two national green building certification programs.

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“ The HIA connected the developer with other sectors in the community. This not only helped in the redevelopment, but it set the stage for collaboration in future projects. Health also became a more prominent element of other initiatives. Without the HIA, this might not have been the case.”

*Christine Hoehner, co-leader of the Page Avenue HIA in Missouri, as quoted in “The Business Case for Healthy Development and Health Impact Assessments”*

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## Community development affects health

Community development encompasses public and private efforts to strengthen the economic, physical, and social environments in low-income areas.<sup>1</sup> In the United States, it is a \$200 billion-a-year industry comprising more than 4,600 CDCs, over 800 government-certified community development financial institutions, and uncounted local organizations nationwide.<sup>2</sup> This brief focuses on the efforts of CDCs, which are best known for developing affordable housing but are usually involved in a range of initiatives critical to community health such as community organizing, economic development, sanitation, and street and neighborhood improvements, all factors that have well-documented implications for health.<sup>3</sup> For example, access to affordable housing is linked to improved physical and mental health, and access to green space is correlated with social activity and improved physical health.<sup>4</sup>

CDCs also contribute to healthy communities by organizing and empowering residents to participate in decision-making that affects them and by investing in social services that respond to their needs. For example, CDCs might help local residents organize to address neighborhood issues such as drug use or violence, secure a

Figure 1

## Economic Development, Infrastructure, Community Organizing, and Access to Resources Are Important to Health

Links between community development and health



### **\$ Economic development**

Efforts to attract business and commercial investment can improve the stability of local economies through job creation, an increased tax base, and enhanced access to necessary goods and services, which affect household income and health outcomes such as stress, chronic disease, and mental health.

### **👥 Community organizing**

Mobilizing people with shared values and concerns to influence institutions, policies, and government decision-making can facilitate health-promoting changes in a community, encourage civic participation, and strengthen relationships among residents, which can affect a range of health outcomes, including mental health, substance abuse, and cancer.

### **⚠️ Infrastructure**

Physical attributes of a community, including streets, parks and open spaces, housing, and buildings, can affect health outcomes such as cardiovascular disease, obesity, and injury by influencing residents' activity levels, sense of safety, and social interactions.

### **✳️ Resources**

Services and supports to meet individual and family needs, including housing, job training, child care, and counseling, as well as access to transportation, open space, health care, and quality schools, affect residents' quality of life and health outcomes such as respiratory illness, diabetes, and mental health.

Sources: Build Healthy Places Network, "Jargon Buster," accessed Sept. 23, 2016, <http://www.buildhealthyplaces.org/jargon-buster>; and Metropolitan Area Planning Council and Health Resources in Action, "Community Development + Health: A Health Impact Assessment to Inform the Community Investment Tax Credit Program," accessed Sept. 23, 2016, [https://macdc.org/sites/default/files/documents/CITC\\_HIA\\_Executive-Summary\\_9\\_16.pdf](https://macdc.org/sites/default/files/documents/CITC_HIA_Executive-Summary_9_16.pdf)

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community health center in an affordable housing project to increase residents' access to primary care, or offer substance abuse or mental health services to people who were formerly homeless.

Community development routinely involves collaboration among multiple sectors and local residents. It is a complex process that considers a range of issues but sometimes overlooks public health implications. The six-step HIA approach offers a flexible framework for combining health data and input from decision-makers, community members, and other stakeholders to inform development work. The process itself can empower community members by ensuring that their concerns and interests are addressed and by enabling them to participate in decision-making.

HIAs can also help community developers better articulate how their work connects to public health and cultivate a focus on stakeholder engagement that can lead to greater community buy-in. For example, an HIA of a proposed low-income senior housing development near a congested freeway in Oakland, California, led to modifications in the building design to address noise and air quality problems, garnering support from neighborhood leaders and recognition of the developer as an innovator.<sup>5</sup>

## What Is a Health Impact Assessment?

HIA is a rapidly growing field that can bring together scientific data, health expertise, and public input to identify the potential effects on public health of proposed laws, regulations, projects, policies, and programs.\* Federal, state, and local organizations are increasingly using HIAs to help community development professionals consider public health implications when making decisions.

HIAs broadly take into account environmental, social, and economic factors to evaluate the potential impacts of a decision on the health and well-being of the community, including the full range of positive and negative effects. HIAs employ a variety of data sources, including qualitative and quantitative analysis and input from stakeholders, to identify health concerns and determine the effect on the local population, especially high-risk groups such as seniors, children, and low-income families. Finally, HIAs provide pragmatic, evidence-based recommendations about how to reduce risks, promote benefits, and monitor the health effects of the implemented decision.†

### The HIA process‡

**Step 1: Screening.** The HIA team and stakeholders determine whether an HIA is needed, can be accomplished in a timely manner, and would add value to the decision-making process.

**Step 2: Scoping.** Together, they identify the potential health effects that will be considered, develop a plan for completing the assessment, and assign roles and responsibilities.

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**Step 3: Assessment.** The HIA team evaluates the proposal and identifies likely health effects by using a range of data sources, analytic methods, and stakeholder input to answer the research questions developed during scoping.

**Step 4: Recommendations.** The team and stakeholders develop practical, achievable solutions that can minimize identified health risks and maximize potential health benefits.

**Step 5: Reporting.** The team disseminates information about the HIA's purpose, process, findings, and recommendations to a wide range of stakeholders.

**Step 6: Monitoring and evaluation.** The team and stakeholders evaluate the results of the HIA according to accepted standards of practice. They also monitor and measure how the HIA affected decision-making and what contributions to public health resulted.

### Related tools

In recent years, practitioners have taken elements of the HIA process and adapted them into checklists, guidelines, and data systems that track health determinants, such as income, education, and employment. These tools can help optimize health benefits during community development decision-making when an HIA is not feasible or when sufficient information is already available.<sup>§</sup> Additionally, developers can use the evidence gathered in previous HIAs to implement project features or policies that promote community health.

\* Health Impact Project, "About Health Impact Assessment," accessed Oct. 6, 2014, <http://www.pewtrusts.org/en/projects/health-impact-project/health-impact-assessment>.

† Ibid.; and National Research Council, "Improving Health in the United States: The Role of Health Impact Assessment" (2011), 5, [http://www.nap.edu/catalog.php?record\\_id=13229](http://www.nap.edu/catalog.php?record_id=13229).

‡ Rajiv Bhatia et al., "Minimum Elements and Practice Standards for Health Impact Assessment, Version 3" (September 2014), <http://advance.captus.com/planning/hia2xx/pdf/Minimum%20Elements%20and%20Practice%20Standards%20for%20HIA%203.0.pdf>.

§ Bethany Rogerson et al., "A Simplified Framework for Incorporating Health Into Community Development Initiatives," *Health Affairs* 33, no. 11 (2014): 1939–1947, doi:10.1377/hlthaff.2014.0632.

## Low-income housing tax credits in Georgia

Almost half (49 percent) of Georgia renter households spend 30 percent or more of their income on housing, a threshold commonly used to determine when housing becomes unaffordable.<sup>6</sup> When housing costs force people to forgo other basic needs such as utilities, food, and medical care, negative health outcomes can result, including malnutrition, diabetes, anxiety, and depression.<sup>7</sup> Many families also make tough choices between affordability and quality in their housing, often with adverse implications for health. Because of the strong correlations between housing and health, decision-makers charged with increasing the supply of affordable housing should consider health as a key factor in housing policies and programs.

The federal Low-Income Housing Tax Credit Program (LIHTC) provides real estate investors with a dollar-for-dollar reduction in their federal tax liability in exchange for financing affordable rental housing. Investors contribute equity to subsidize low-income housing development, allowing some units to rent at below-market rates, and in return they receive tax credits paid in annual allotments, generally over 10 years.<sup>8</sup> Each year, the Internal Revenue Service allocates the tax credits to the states based on population, and the states award the credits to developers of qualified projects.<sup>9</sup> States must develop annual qualified allocation plans (QAPs) to identify how the credits will be distributed and set requirements, such as household income, allowable construction costs, and rent levels. States have the flexibility to add conditions—such as certain types of housing (e.g., single-family or multifamily), geographic locations, and other criteria such as green building or transit-oriented development—to meet their goals.<sup>10</sup>

The state of Georgia, through its Department of Community Affairs (DCA), allocates about \$22 million in LIHTC and matching state credits to support around 2,500 new housing units each year.<sup>11</sup> The Georgia QAP, which is updated annually and includes a designated period for stakeholder input, is one of the largest community development planning efforts in the state. A significant portion of the document focuses on “threshold criteria”—feasibility, cost, and requirements for public infrastructure—that projects must meet at the time of application as well as “competitive criteria” on which applicants are scored to determine if tax credits will be awarded.

Between 2013 and 2015, the Georgia Health Policy Center conducted an HIA of Georgia’s QAP that focused on the proposed criteria for apportioning tax credits and on the potential to improve the health of groups, such as seniors, children, and low-income families. Through an 18-member steering committee, the HIA team engaged a range of stakeholders, including affordable housing developers, organizers for equitable development, aging services providers, and representatives of DCA.

The team first conducted a “desktop HIA,” primarily a literature review, to develop recommendations for DCA about the 2014 plan and subsequently participated in DCA listening sessions and informational interviews with developers, community financiers, and community advocates to develop a list of topics for a more comprehensive assessment. Access to educational opportunities and integration of the proposed developments into existing neighborhoods emerged as stakeholder priorities.<sup>12</sup>

## Georgia HIA Methods

The desktop assessment included:

- Review of published literature, previous HIAs, and the 2014 existing QAP to propose recommendations for the 2015 draft.

The comprehensive assessment included:

- Analysis of state public health data to determine the demographics of local populations and the primary causes of premature death in the census tracts with LIHTC properties.
- Comparison of the effects on premature death of various possible distributions of LIHTC units (e.g., locating in a census tract with less than 5, 10, and 15 percent poverty).

The concentration of socially and economically disadvantaged families in neighborhoods with few amenities, struggling schools, and few business or job opportunities is associated with higher rates of disease, injury, disability, and early death.<sup>13</sup> Of the nearly 8,300 family housing units developed with LIHTC funding in Georgia over the past decade, 70 percent were built in such distressed neighborhoods.

The HIA team found that distributing LIHTC units more evenly across Georgia neighborhoods, instead of concentrating them in the lowest-income communities, could deliver better overall health outcomes, including potentially preventing 200 deaths a year among affordable housing residents. To maximize this benefit, the HIA recommended that the plan provide incentives to developers to locate LIHTC units in areas with higher-quality schools and lower health risks as measured by the 25 indicators used in the Georgia Department of Public Health's Demographic Cluster analysis. Streamlining the selection criteria and giving more credit to applications with sites that have these neighborhood characteristics were two proposed strategies to offset the higher costs of land acquisition and encourage developers to work with communities to overcome opposition to affordable housing projects.<sup>14</sup>

In response to the HIA findings and recommendations, the 2015 QAP language featured several changes, including allowing developers to earn credits for offering on-site health and fitness courses to residents. Research indicates that people are more likely to meet the Centers for Disease Control and Prevention's recommended weekly amounts of physical activity if they have access to more places for exercise.<sup>15</sup> Regular physical activity improves health and quality of life; reduces the risk of developing coronary heart disease, adult diabetes, and obesity by 50 percent; helps to relieve symptoms of depression and anxiety; and prevents falls among the elderly.<sup>16</sup> Further, the 2015 QAP added requirements to ensure that the design of developments makes it easier for residents to walk to nearby services and amenities. The 2015 QAP also adopted the HIA recommendation for an incentive structure to encourage the building of affordable housing in areas with higher-quality schools—which resulted in a threefold increase in applications for such locations—and the use of a tool to promote development in neighborhoods with lower health risks.

The HIA also strengthened the relationships among DCA, the Georgia Health Policy Center, and the Georgia Department of Public Health, resulting in another HIA (completed in 2016) examining specific ways that the QAP influences several affordable housing developments in the state.

Because QAPs are required for all states that participate in the tax credit program, this HIA has the added value of being highly portable. It is serving as a model for the incorporation of health considerations in the Alabama QAP.

## **Massachusetts' Community Investment Tax Credit grant program**

The Massachusetts Community Investment Tax Credit (CITC) was designed in 2012 to support community-led economic development. It enables local residents and stakeholders to work with certified CDCs to improve economic opportunities for low- and moderate-income households. Certified CDCs can receive tax credits for community planning, economic development, asset development, and engagement of community residents in decision-making about policies or programs that affect their lives.

The Massachusetts Department of Housing and Community Development, which regulates CITC, made a total of \$3 million in credits available in 2014 and is providing \$6 million a year from 2015 through 2019. The Massachusetts Department of Public Health; Health Resources in Action, a public health institute based in Boston; and the Metropolitan Area Planning Council conducted an HIA related to the program's funding level and allocation of the credits and helped the state housing department identify evaluation metrics that have exerted lasting influence on how the agency incorporates health into its decision-making.

### Massachusetts HIA Methods

- A baseline analysis of CDC activities to determine their distribution across the commonwealth, using data from annual surveys conducted by the Massachusetts Association of Community Development Corporations (MACDC) and discussions with individual CDCs.
- An analysis of CDC service areas to assess the needs of the populations they were most likely to serve and the results of their work.
- A comparison of environmental, health, and housing characteristics among populations in areas with and without CDC services.
- An assessment of changes in program funding on CDC activities and corresponding health impacts on vulnerable populations.

The team gathered baseline data from MACDC's annual reports for 2003-13, the years that preceded the CITC; surveyed board members of certified CDCs, which included neighborhood residents; examined demographic, health, and environmental data for the populations served; and evaluated the geographic distribution of CDC activities. Because service areas can range from a single neighborhood to many municipalities, the team categorized CDCs according to the types of communities they predominantly serve: urban, urban gateway, or rural.<sup>17</sup>

The team then explored the relationships among CDC activities—such as asset development, community organizing, outreach, and empowerment—and determinants of health, including employment, access to goods and services, and the availability of affordable quality housing. The HIA showed that increased funding through the CITC would enable CDCs to enhance these services, which would positively affect the health of the communities served.

The Massachusetts housing department used the HIA recommendations to update its "notice of funding availability" for the tax credits.<sup>18</sup> The initial 2014 draft notice did not explicitly consider public health implications of the program. The HIA recommended two changes that the department adopted to incorporate health effects into the credit program: use and define the term "service area" in a consistent manner to enable better evaluation of the impact of CDC activities and include "community organizing, leadership development, and empowerment strategies" as eligible elements of applicants' required community investment plans.



## Northeast Hartford's Neighborhood Revitalization and Sustainability Plan

Hartford, Connecticut, has high rates of crime, unemployment, and poverty, and poor health outcomes.<sup>19</sup> Residents of northeast Hartford experience significantly worse health and lower income compared with those living elsewhere in the city and the state. The Health Impact Project funded Community Solutions, a community-based organization that advocates for low-income residents of the city, to conduct an HIA and develop Hartford's Northeast Neighborhood Sustainability Plan.<sup>20</sup> Community Solutions collaborated with design firm Michael Singer Studio to ensure that the plan reflected the priorities of a broad set of stakeholders, particularly community residents.

The goal of the HIA was to develop a set of physical infrastructure improvements that would positively affect health in the neighborhood, prioritizing those that could spur economic growth and job opportunities for residents. The team examined ways the neighborhood could fix road intersections, renovate vacant lots, maintain and expand tree cover, and revitalize a city park to drive economic development and become a more useful resource to community members. The HIA team used a research approach that combined publicly available data, surveys, and community meetings that brought together residents and other stakeholders to identify and include their priorities—such as employment, safety, and health concerns—and to discuss feasible, evidenced-based improvements. An advisory committee of high-level decision-makers, including local medical providers and state policymakers, contributed city and regional perspectives to the HIA process and recommendations. The team, with leadership from the Georgia Health Policy Center, also convened a two-day training on the sustainability plan and the HIA process for residents, community groups, service providers, and government agencies.

### Northeast Hartford HIA Methods

- An assessment of the social, physical, and health conditions of the neighborhood based on literature and publicly available data.
- A stakeholder questionnaire to identify neighborhood improvement opportunities for inclusion in the plan.
- An analysis of the neighborhood improvement opportunities in the plan and how they might affect resident health through changes to the natural and built environments and to social dynamics.

The HIA generated several recommendations that were incorporated in the final neighborhood plan, including implementing a "Safe Routes to School" program to make selected intersections safer for all users as well as targeted efforts to reduce crime, such as converting city-owned vacant lots into gardens, outdoor gyms, play areas, and other productive community spaces.<sup>21</sup>

According to the HIA team, the new partnerships and capacity that emerged were as important as the recommendations. The HIA brought together a diverse group of stakeholders to create a shared development agenda. The inclusion of a hospital representative on the advisory committee helped to facilitate collaboration between the health care and community development sectors, which together identified new strategies and potential funding streams to improve community health. Further, the new connection with Community Solutions will help the hospital implement and support specific neighborhood development activities outlined in the plan, such as an initiative to use HIA recommendations to increase affordable healthy food outlets in the neighborhood and a scorecard project in which teams from the city, hospital, police, and community will connect to review various data sources in an effort to understand how conditions such as blighted property, ambulance calls, code violations, and eviction rates contribute to neighborhood safety.

In part because of the HIA, Community Solutions has become a go-to organization in northeast Hartford for an array of community development projects, more than half of which are connected in some way to the HIA recommendations. In addition, the HIA team worked with neighborhood partners to create a community scorecard to track implementation of the plan and its health effects over time and incorporate the data initiative into future development efforts.

## **Integrating health into affordable green housing**

Over the past three decades, the green building and sustainability movements have gained traction in the housing and community development sectors, as evidenced by the growth of two certification processes, the Enterprise Green Communities criteria and the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system, which formalize and encourage green practices in construction and renovation.<sup>22</sup> Twenty-three states and eight major cities have adopted the 2015 Green Communities criteria for residential housing development, and, as of August 2016, more than 7,200 affordable projects comprising about 39,400 units had received LEED for Homes certification, with 21,650 more units on the path to certification.<sup>23</sup>

The Health Impact Project, Enterprise Green Communities, and the Green Health Partnership between the University of Virginia School of Medicine and the U.S. Green Building Council collaborated in 2015 to incorporate HIA-inspired elements into the Green Communities criteria and LEED. The effort aimed to integrate health considerations into green building, emphasizing stakeholder engagement in the design and planning phase of development and connecting community development and public health through cross-sector collaboration. As a result of the partnership, the Green Communities criteria and the LEED pilot credit library both now include health-focused components.

The 2015 Enterprise system includes mandatory and optional "Design for Health" criteria. For the required criterion, affordable housing developers must use public health data to examine the conditions affecting the community and ensure that projects are designed, constructed, and operated to respond to these issues. Developers can earn additional credit toward certification by pursuing the optional criterion, which involves engaging public health professionals and community stakeholders to create a health action plan to identify, implement, and monitor strategies to enhance health-promoting features of the project (such as air filtration systems) and minimize harmful ones, including building materials that can exacerbate asthma.

Since the release of the 2015 Green Communities criteria, developers from more than 22 states have committed to using health data as part of the design and development processes for more than 10,000 affordable housing units. In addition, the Health Impact Project funded Enterprise to pilot the optional criterion with five community development corporations.

Similarly, the Health Impact Project collaborated with the U.S. Green Building Council to develop a “health process” pilot credit within LEED, called the Integrative Process for Health Promotion, which launched in May 2016. The pilot credit guides development teams through a systematic consideration of a project’s health effects and rewards them for prioritizing strategies to improve community health. For example, an organization seeking to build a new school can earn LEED points by working with a health professional to collect and analyze community data and gather input from stakeholders about their priorities. The data might reveal that a selected site has high air pollution, requiring a different location, if feasible, or enhanced air filtration in the ventilation system. Similarly, if community members express concern about unsafe intersections or a lack of sidewalks near the school, the developer, alone or in partnership with local government, could take steps to address those issues. Once the pilot is complete, the credit will be considered for permanent inclusion in the LEED rating system.

### Resources

- NeighborWorks America: <http://www.neighborworks.org/community/health>.
- Local Initiatives Support Corp.: <http://www.lisc.org/our-initiatives/health>.
- Build Healthy Places Network: <http://www.buildhealthyplaces.org>.
- Federal Reserve Bank of San Francisco: Healthy Communities Initiative: <http://www.frbsf.org/community-development/initiatives/healthy-communities>.
- Urban Land Institute: Building Healthy Places Initiative: <http://uli.org/research/centers-initiatives/building-healthy-places-initiative>.

## Implications for efforts to integrate community development and health

HIAs have informed many community development decisions over the past decade, and these case studies can help guide further integration of health considerations into community development work. Community developers, as part of Enterprise and LEED certifications, are using streamlined versions of the HIA process to increase engagement with key stakeholders and systematically and strategically consider health during the course of their projects.

Community developers, public health professionals, and other stakeholders can expand these collaborations by identifying strategic policy- and financing-related opportunities to influence decisions about community investments. For example, health care institutions often own and invest in local real estate, and an HIA could examine how their land acquisition and development decisions affect the health of neighborhood residents. Hospitals also invest millions of dollars in janitorial, maintenance, and food services, and their purchasing power can improve employment in their local communities.



People who do community development have an immediate affinity and understanding for those in population health and vice versa. Where we do stumble is how we make it concrete. ... We need to do better at taking approaches to community development that are geared toward attacking the root causes of bad health. That is a real challenge.”

David Erickson, Ph.D., director of community development, Federal Reserve Bank of San Francisco, June 2011

The community development HIAs discussed in this brief represent only a small share of the evidence base available to support the collaboration between community development and public health. Community developers have a long history of successfully supporting and strengthening underserved communities by taking a comprehensive approach that addresses the multiple needs of the people they serve. By using HIA and related models to inform policy and program decision-making, community development practitioners and public health professionals can elevate stakeholder engagement and health equity, provide a structured process, and create opportunities to use evidence to prioritize and build support for health-promoting community investments.

## Endnotes

- 1 Sandra Braunstein and Risa Lavizzo-Mourey, “How the Health And Community Development Sectors Are Combining Forces To Improve Health And Well-Being,” *Health Affairs* 30 (2011), <http://content.healthaffairs.org/content/30/11/2042.full>.
- 2 Community development financial institutions (CDFIs) are private for-profit and nonprofit organizations dedicated to delivering affordable lending to help low-income and other disadvantaged people and communities join the economic mainstream, mainly through financing small businesses, microenterprises, nonprofit organizations, commercial real estate, and affordable housing, as well as serving as intermediaries to help commercial banks invest in low-income communities to meet their Community Reinvestment Act requirements. (Definition from Opportunity Finance Network, <http://ofn.org/what-cdfi>.) Douglas Jutte, Jennifer Miller, David Erickson, “Neighborhood Adversity, Child Health, and the Role for Community Development,” *Pediatrics* 135 (2015), <http://dx.doi.org/10.1542/peds.2014-3549F>; “National Community Investment Fund, “CDFI Fund Releases Updated List of Certified CDFIs” (2013), accessed May 4, 2016, <http://www.ncif.org/connect/about-ncif/news-and-announcements/cdfi-fund-releases-updated-list-certified-cdfis#VtCaTFsrJhE>.
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- 5 Jonathan Heller, Margaret Gordon, and Rajiv Bhatia, “Jack London Gateway Rapid Health Impact Assessment: A Case Study,” Human Impact Partners and San Francisco Department of Public Health (May 2007), accessed Aug. 31, 2016, [http://www.hiaguide.org/sites/default/files/JackLondonG\\_RHIA\\_casestudy.pdf](http://www.hiaguide.org/sites/default/files/JackLondonG_RHIA_casestudy.pdf).
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- 7 Craig Evan Pollack, Beth Ann Griffin, and Julia Lynch, “Housing Affordability and Health Among Homeowners and Renters,” *American Journal of Preventive Medicine* 39, no. 6 (2010), [http://www.ajpmonline.org/article/S0749-3797\(10\)00455-1/fulltext?mobileUi=0](http://www.ajpmonline.org/article/S0749-3797(10)00455-1/fulltext?mobileUi=0).
- 8 Novogradac & Co. LLP, “Affordable Housing Resource Center: About the LIHTC” (2016), accessed Oct. 27, 2016, <https://www.novoco.com/resource-centers/affordable-housing-tax-credits/lihtc-basics/about-lihtc>.
- 9 Office of the Comptroller of the Currency, “Low-Income Housing Tax Credits: Affordable Housing Investment Opportunities for Banks,” *Insights* (March 2014), accessed May 5, 2016, <http://www.occ.gov/topics/community-affairs/publications/insights/insights-low-income-housing-tax-credits.pdf>.

- 10 Global Green USA, "2013 QAP Analysis: Green Building Criteria in Low-Income Housing Tax Credit Programs" (2013), accessed Aug. 5, 2016, [http://static1.squarespace.com/static/5548ed90e4b0b0a763d0e704/t/55520ec5e4b0b1995caa0f9c/1431441093899/2013QAP\\_FINAL.pdf](http://static1.squarespace.com/static/5548ed90e4b0b0a763d0e704/t/55520ec5e4b0b1995caa0f9c/1431441093899/2013QAP_FINAL.pdf); Enterprise Community Partners, "Live Online Event: How States Use QAPs as Incentive for Preservation, TOD, and Green Design and Building Practices" (2011), accessed May 12, 2016 <https://www.enterprisecommunity.org/resources/live-online-event-how-states-use-qaps-incentive-preservation-tod-and-green-design-and>; and Office of the Comptroller of the Currency, "Low-Income Housing Tax Credits."
- 11 Georgia Health Policy Center, "A Health Impact Assessment of the 2015 Qualified Allocation Plan."
- 12 Ibid.
- 13 Andrew Dannenberg, Howard Frumkin, and Richard Jackson (eds.), *Making Healthy Places: Designing and Building for Health, Well-Being, and Sustainability* (Washington: Island Press, 2011).
- 14 Georgia Health Policy Center defines stable communities as places with high levels of social and civic engagement among neighbors. They are diverse across a range of measures, including age, racial/ethnic identity, income, wealth, educational background, occupation, household tenure, and family type.
- 15 John Pucher and John Renne, "Socioeconomics of Urban Travel: Evidence from the 2001 NHTS," *Transportation Quarterly* 57, no. 3. (2003). [http://www.sharetheroad.ca/pdf/\(Pucher\)-Socioeconomics-of-Urban-Travel.pdf](http://www.sharetheroad.ca/pdf/(Pucher)-Socioeconomics-of-Urban-Travel.pdf).
- 16 World Health Organization, "Charter on Transport, Environment, and Health, Annex I" (1999), <http://www.euro.who.int/en/publications/policy-documents/charter-on-transport,-environment-and-health>; Ross Brownson et al. "Environmental and Policy Determinants of Physical Activity in the United States," *American Journal of Public Health* 91, no. 12 (2001), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1446921>.
- 17 The Department of Housing and Community Development defines a "gateway city" as a municipality with a population greater than 35,000 and less than 250,000, a median housing income below the state average, and a rate of educational attainment of a bachelor's degree or above that is below the state average.
- 18 Notice of funding availability is a public announcement that an agency will issue a request for applications for a program and includes information about funding amount and application requirements.
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