

Neighborhood Investment Flows

Brett Theodos, G. Thomas Kingsley, and
Simone Zhang

December 2013



WHATWORKS
COLLABORATIVE

Building Knowledge & Sharing Solutions
for Housing & Urban Policy

Abstract

In seeking to transform distressed neighborhoods, community improvement initiatives have overlooked an important component of the local environment likely to inform both how neighborhoods function and whether initiatives succeeded in achieving their objectives. Quantifying the full range of investment flows into and out of affected neighborhoods and statistically relating those flows to data on changes in other neighborhood conditions is of considerable interest.

This report presents learning gathered during an incubator project supported by the What Works Collaborative to investigate the availability of investment data in several cities. We find that the extent and quality of local data needed for tracking investment flows has improved dramatically in many places. While exhaustive quantification is probably not possible anywhere, a fairly complete picture is now available in some cities. Given the considerable interest in this topic from policy and practitioner audiences, we feel this argues for initiating a research study to quantify investment flows in a small number of targeted cities and neighborhoods.

Acknowledgments

The authors would like to thank the NNIP partners and their colleagues who contributed to this work. Special thanks goes to Seema Iyer in Baltimore, Gregory Parrish in Detroit, Drew Westberg in Kansas City, Jeff Matson in Minneapolis, Robert Gradeck in Pittsburgh, Eleanor Tutt in St. Louis, and Peter Tatian, Jenny Reed, and Art Rodgers in Washington, DC.

Introduction

Community improvement initiatives are complex and have proven extremely difficult to evaluate. It has long been suggested that a fully satisfying assessment would have to involve quantifying the flows of investments that define the initiative over time. Yet, given the complexity of these initiatives and serious data availability problems in the past, assembling the necessary data for that task has been regarded as prohibitively expensive.

In recent years, however, municipal governments and other entities investing in neighborhoods have made substantial progress in automating their financial and other administrative records. In many cases, it is now possible to inexpensively identify (geocode) the precise locations where funds are invested. Accordingly, in 2012, the What Works Collaborative¹ funded this exploratory research to clarify what it would take to conduct such an analysis today. The work was to entail three tasks:

1. Develop a framework of accounts that identified and defined the relevant types of capital flows that would have to be quantified.
2. Work with several local data intermediaries² to identify how the data needed to populate those accounts are collected and stored in their cities and, in a few cases, estimate the cost of assembling such data in the assessment of a community initiative.
3. Based on these results, outline further research that would better monitor and evaluate of community initiatives.

This paper presents the results of this work. The first section briefly reviews the relevant literature that helps clarify purposes and frame our approach. Section 2 then presents and discusses the framework of accounts developed under the first of these tasks. We present the results of our inquiries on the scope, possibilities, and costs of data collection in Section 3 (drawn from the work with the local data intermediaries and other sources). Section 4 offers conclusions and suggestions for further research.

When this project was first proposed, it was justified principally by its potential to serve as the basis for “program evaluation.” It is important to point out, however, that the same measures (collected earlier and recurrently during the course of a program) would also be fundamental to effective “performance management” as the program was under way. Funders are emphasizing

¹ The What Works Collaborative is a foundation-supported partnership of the Brookings Institution Metropolitan Policy Program, Harvard University Joint Center for Housing Studies, New York University Furman Center for Real Estate and Urban Policy, and Urban Institute Center for Metropolitan Housing and Communities to conduct research that informs the formation and implementation of evidence-based housing and urban policy. See <http://www.urban.org/what-works-collaborative.cfm>.

² Members of the National Neighborhood Indicators Partnership (NNIP) from Baltimore, Detroit, Kansas City, Minneapolis, Pittsburgh, St. Louis, and Washington, DC. NNIP is a national network of local data intermediaries in 37 cities (see Kingsley and Pettit 2011).

performance management in community improvement programs more today than they have previously, so the possibilities of using data for this purpose will also be weighed in this paper.

Background

The evaluation of place-based interventions poses challenges given difficulties of sample size, selection, and the complexity of processes affecting neighborhood change (Abravanel, Pindus, and Theodos 2010; Bartik and Bingham 1997; Pindus, Wial, and Wolman 2009). Nevertheless, researchers have put considerable effort toward understanding the impact of neighborhood investment strategies on property values, crime, employment levels, and well-being indicators. Studies have relied on such quantitative methods as regression discontinuity, adjusted interrupted time series, instrumental variables, and qualitative methods such as case study reviews.

Researchers have investigated the effects of numerous interventions. Galster, Tatian, and Accordino (2006) explored the impacts of a Richmond program using HOME and CDBG funding. Brown (2009), Zielenbach (2003), and Zielenbach, Voith, and Marianob (2010) investigated the impacts of HOPE VI. Several authors have investigated the impacts of affordable housing, including the Low Income Housing Tax Credit (LIHTC) (Baum-Snow and Marion 2009; Deng and Freeman 2011; Ellen et al. 2007; Galster 2004; Green, Malpezzi, and Seah 2002; Koschinsky 2009; Schwartz et al. 2006). Others have investigated the impact of business improvement districts (Brooks 2008; Cook and MacDonald 2011; Ellen, Schwartz, and Voicu 2009; Hoyt 2005), Empowerment Zones (Ham et al. 2011; Krupka and Noonan 2009; Neumark and Kolko 2010; Rich and Stoker 2010; Smith 2007), New Markets Tax Credits (Abravanel et al. 2013; Freedman 2012), and community development corporations (Galster et al. 2005; Krumholz 2006). In addition to exploring impacts, several researchers have defined typologies of local market and investment conditions, based on quantitative techniques (Goldstein and Closkey 2006; Weissbourd, Bodini, and He 2009) or theory (Mallach 2008).

While this literature exhibits tremendous depth and breadth, it leaves unanswered the questions motivating this research. While programmatic impacts can be discerned from observing property values (Galster, Hayes, and Johnson), crime, or other factors, we ask instead, what investment levels—both project and non-project related—are required to achieve desired impacts? What is the composition of those flows, and how have they changed over time? How do different investment flows affect outcomes differently?

It is important to situate an initiative's investments in the realities of a community's dynamic economic environment. These initiatives do not operate in a vacuum. Initiative investments may be small (or large) relative to the overall capital flows being invested in neighborhoods. To our knowledge, no one has before monitored the capital inflow to neighborhoods (apart from direct initiative expenses). Today, a host of actors are engaged in revitalizing communities—CDFIs and community-oriented banks, CDCs, service providers, foundations, real estate developers, community representatives and neighborhood councils, anchor and other for- and nonprofit

institutions, and local, state, and federal governments. These stakeholders are making sizable investments in economically upgrading distressed communities, while lacking sound information about the private and public capital flowing to these locales.

Framework

The critical charge of this work concerns data required to monitor the types of *capital investments* likely to be made in community improvement programs today. That topic is covered in the first part of this section. However, the sponsors of this work recognize that capital investment is only part of the activity that defines today's place-based initiatives. That is, in addition to developing and rehabilitating the built environment, many current improvement efforts entail notably expanding and restructuring *services* (for example, in education, health, workforce development, and family counseling) and other community activities. Variations in such programs can certainly affect neighborhood outcomes. Accordingly, in the second part of this section, we explore the possibilities for collecting location-specific data on operating expenditures of service providers in these and related fields.

Capital Investment

Definition and Investment Categories. In this paper we adopt a traditional definition of capital investment as including (1) major improvements to the built environment involving new construction or substantial rehabilitation (as opposed to routine repairs and maintenance) and (2) the installation of major new business equipment.

Table 1 defines the types of investment for which such data would be collected. To start, we note two main categories. First are Project Investments, those purposefully undertaken as part of the community improvement initiative being assessed. Second are Other Investments made in the project area. Data on the magnitude and placement of Other Investments are needed to shed light on the meaning of the Project Investments. How big a departure do the Project Investments actually represent in magnitude and location in relation to the stream of Other Investments taking place in the area? Does it appear that the Project Investments in one period have stimulated increases in Other Investment in later periods?

Within each category, it would be important to break down total investment amounts by source of funds. Public subsidies can of course be a source of funds for projects initiated by private and nonprofit developers as well as government agencies. Whereso, knowing their magnitude would be critical in assessing their implications and the cost effectiveness of the outlays.

Data on investment outlays would next be classified by type of project. Projects could be categorized in a number of ways, but for the purposes of this paper we identify four main types:

- *Housing* (broken down by whether the property is owned by government, a nonprofit, or another private entity—individual or firm)
- *Business enterprise* (also broken down by type of ownership)
- *Public space and structures* (since almost all of these are publicly owned, subcategories refer to different types of land use)
- *Infrastructure* (also normally publicly owned, with subcategories referring to different types of infrastructure)

Table 1. Capital Investment Accounts

	Project Investments		Other Investments	
	Total	(by source of funds)	Total	(by source of funds)

HOUSING

Public owned
Private owned
Nonprofit owned

BUSINESS ENTERPRISE

Public owned
Private owned
Nonprofit owned

PUBLIC SPACE & STRUCTURES

Parks & recreation
Other open space
Community centers
Other public buildings

INFRASTRUCTURE

Roads & sidewalks
Transit
Water, wastewater, sewerage
Other (e.g., broadband)

Geography and Timing of Investment. Every investment outlay would be coded to identify its specific location via geographic coordinates, postal address, and/or land parcel number. The timing of the outlays would also be identified; some projects would be broken into phases, and dollar outlays for each phase would be entered. The investment projects selected would include all those taking place within the boundaries of the neighborhood (project area) defined for the community initiative, during the project’s specified operating period. It might also be decided to enter investment data for a “buffer” area surrounding the project area (i.e., to enable exploration of possible indirect effects of project investments).

There can be no accountability (no meaningful assessment of performance) in community improvement unless initiative managers clearly specify the boundaries of the geography (neighborhood, community area, etc.) they intend to improve. They could specify different geographies for different actions and services, but comprehensive community initiatives normally undertake multiple activities to improve conditions in one defined area.

To provide the basis for an adequate understanding of investment implications, it would be necessary to study changes in investment trends over time. This means that investment data in the format specified (and associated data on indicators of community well-being) would ideally be collected for periods: (1) before the community initiative began; (2) while the initiative is under way; and (3) after the initiative has been completed (see Galster, Tatian, and Accordino 2006 for justification and approach for using data for such periods in interrupted time-series analysis).

Data Sources. As to information on capital investment, our expectations coming into this project were that data pertaining to most categories defined above would be available in records maintained by local agencies, although we recognized that the data quality and timeliness of available data can vary substantially across cities.

Project records. The best source of data on investments initiated by the project being assessed should be the records of the entity (agency, CDC, other nonprofit) responsible for implementing the project. The entity should hopefully be maintaining records that meet our specifications above, or should be able to retrieve them easily from the developers working on the project.

Building permits. Permits from local governments are almost always required for projects involving the new construction or substantial rehabilitation of structures, and these records would be the primary source of data for Other (non-project) Investments. Permit records normally contain information on the location, timing, and owner of the project. Data as to the amount of the investment are also normally provided, although the accuracy of those data is questionable in many places. (Project developers provide estimates that are not independently verified, and they have incentives to report inaccurate numbers because of tax exposure or other reasons.) In most cases, the permit files do not contain information (dates and dollar amounts) for different phases in project development. In addition to dollar amounts, the permit files may contain other useful descriptive data on projects (e.g., square footage of floor area, number of units). Inquiries of the developer would be required for large projects in development over long periods.

Capital budget records. Records on local government investments (public spaces, structures, and infrastructure) are normally maintained to monitor plans and performance under local capital budgets. The data items we have noted as being required (locations, dollar amounts, and some milestone dates) should normally be available, but data quality will vary as will the ease of extracting data. Where investments are broken down in detail and each component is geocoded in automated records, the task will be comparatively easy, but problems are often

encountered. For example, some localities group a number of small investments (with multiple locations) in one “project” so that full locational information is very difficult to reconstruct. The extent to which agencies maintain historical records also matters for this type of research. Also important is whether local agencies have agreed to a combined capital budget process. Where they have not, researchers may have to examine records of multiple agencies: perhaps, different departments within the city (e.g., public works, parks and recreations), separate city and county agencies (e.g., a transportation authority), and several different local school districts.

Business licenses. When new businesses are formed, they customarily have to obtain a license to operate from a local agency. Records on licenses can be a useful check on information about business investments obtained from building permit records. Other data in the license files may be of interest (e.g., on ownership and some operating size parameters). Data on new investment (structures or equipment) are not normally provided but may be in some cases.

Nonprofit start-ups and expansions. A useful source for checking on start-ups and expansions of nonprofit organizations is the nationwide National Center for Charitable Statistics (NCCS) database maintained by the Urban Institute. This contains data from the income tax Forms 990 nonprofits submit to the IRS. Almost all nonprofits with annual revenues of \$25,000 or more are required to file (churches and other religious institutions are the major exception). Annual budget data as well as other descriptive information (e.g., address, service type) are provided for each establishment.

National and state data. More national and state agencies have started releasing data for smaller areas (point locations, census tracts, zip codes). Previously data on urban conditions were collected infrequently and reported out sometimes several years after they were collected. While there are still major gaps—necessitating the incorporation of local data sources described above—it is nevertheless useful to incorporate select national and state datasets. Important national data sources include Home Mortgage Disclosure Act data about median mortgage amounts and the number of mortgages for originated units (available at the tract level by year). Zip Business Patterns has the number of business establishments by major sector and establishment size at zip code level, which may be helpful in augmenting business license information. Programmatic data can also inform investments. For example, the Community Development Financial Institutions (CDFI) Fund provides information about the locations and sizes of New Markets Tax Credit investments (Abravanel et al. 2013). The US Department of Housing and Urban Development (HUD) provides the point-locations of data (so one can add across projects to create summaries at any geographic level) about the locations of public housing, LIHTC, Section 8 Project-Based, Section 108, and other projects, of which new, rather than existing, developments would be of interest for this analysis. While not described in detail here, similar data are often available for state-run programs.

Proprietary data. Several firms collect information about communities that may be useful for tracking investment flows, though any benefit of these data would need to be carefully weighed against their cost. Information that we have incorporated into other analyses include Dun &

Bradstreet data about the existence and location of businesses (Rossman et al. 2008). These data have proven especially helpful for tracking small businesses, which can prove difficult to identify through other sources. Thomson Reuters sells information about the locations of equity investments, which are difficult to access. InfoUSA, Claritas, and other vendors also market information about the economic activity of firms, some of which can be pinpointed to certain geographies.

A final comment: it is important to remember that the different data sources convey information about different funding sources. For example, while building permits can reflect private or public investments (or both), municipal capital budgets typically cover only local public investments. The implication is that it can be quite difficult to discern the ultimate source of the funding without additional legwork for some of these sources. Further, money that flows through multiple layers of government may appear in multiple budgets or data sources. It will therefore be necessary to de-duplicate records, meaning that we would need to match investments to avoid double-counting funding that appeared in multiple datasets. Even with strong address information, it may be challenging to ascertain whether two records from two different data sources refer to the same work (or simply two phases of a project, for example) without speaking with project principals.

Services Operating Expenditures

Definition and Expenditures Categories. A sizeable expansion in the services provided by a school, health center, or workforce development program may be an important component of a community improvement initiative today. The community development field increasingly accepts incorporating such services into its scope of work (see Tatian et al. 2012; Walker, Rankin, and Winston 2010; and most chapters in Andrews and Erickson 2012).

A classification scheme for service expenditures (Table 2) begins in parallel to that for capital investments; by recognizing the need to measure both Project Expenditures (those undertaken as a part of the community improvement initiative) and Other Expenditures. Again, comparing these two streams is necessary to understanding the relative size and composition of activities motivated by the initiative being assessed. Within each category, expenditure levels would be further subdivided according to the type of provider offering the service (public, nonprofit, and private).

The next element in the scheme breaks expenditures into seven different programmatic categories and 20 subcategories as shown in the row headings on Table 2. All these services are generally regarded as important to community well-being in low-income neighborhoods.

Data Sources. The task in this area would entail obtaining expenditure data for all specified types of service providers operating within the boundaries of the neighborhood where the

improvement initiative is taking place (amounts for different periods as suggested for the investment analysis).

It is important to understand, however, that this task would be much more difficult than the one outlined above for capital investments. The first step would be simply to identify the service providers operating in the neighborhood, and we know of no city that maintains a single source for such information. Although 311 systems could be a helpful starting point in some cities, a considerable number of interviews with initiative managers and other neighborhood stakeholders would be required in most places just to create the list. And the list is likely to be a long one, given the multiplicity of entities likely to be providing the types of services identified in Table 2 in any low-income neighborhood.

One key asset for tracking nonprofit investments is the NCCS system noted earlier. NCCS can be used to identify all nonprofits operating in a neighborhood and provide annual expenditure data for each establishment. Depending on the information desired, analysts might have to contact individual nonprofits to obtain more detail than is provided in income tax returns. But by covering the basics, the NCCS should dramatically reduce data collection costs on the nonprofit side.

For other types of service establishments (public and private for-profit), the challenges would be much more substantial. It would be necessary to contact service providers and obtain information on expenditures for each of their establishments operating in the neighborhood. The approach would differ across the range of services. For example, analysts would only have to go to only one source (e.g., the school district or library system) to obtain data for public schools and pre-K programs, but they could have serious difficulties in breaking out operating expenditures for individual establishments. In other areas (e.g., private day care), there would be no central source for the information, and it would be necessary to collect the data for each provider establishment one by one.

Table 2. Service Expenditure Accounts

	Project Expenditures		Other Expenditures	
	Total	(by type of provider)	Total	(by type of provider)
HEALTH				
Primary care				
Mental Health				
EARLY CHILDHOOD & YOUTH				
Home visiting				
Foster care, child protective				
Day care, Head Start, Pre-K				
Immunization				
Youth services				
EDUCATION				
Elementary schools				
Middle and high schools				
Special schools				
EMPLOYMENT & FINANCIAL				
Job linkage, training				
Financial counseling				
HUMAN SERVICES				
Human services, general				
Emergency assistance				
PUBLIC SAFETY				
Law enforcement				
Crime prevention				
Legal services				
COMMUNITY ACTIVITIES				
Community organizing				
Arts & culture				
Recreation				

Geography. Obtaining expenditure data for all (or most) social service establishments *located in* the neighborhood would be a major accomplishment. Unfortunately, those data will still not provide an accurate picture of the service expenditures that *benefit* the neighborhood. A sizeable number of the individuals served by providers in the neighborhood under study may live outside its boundaries, and a sizeable number of neighborhood residents may receive services from establishments located outside. This divergence may well be growing in many cities. For example, the concept of a single elementary school for each neighborhood is not consistent with current realities. Today, with the acceptance of “school choice” policies by many

school districts, a significant number of children who live in a neighborhood are likely to attend schools outside that neighborhood's boundaries. Similarly, it may often be more efficient for a community initiative to support expansion of a service establishment (e.g., a workforce development center) located outside the neighborhood but already serving many neighborhood residents than to build a new one inside the neighborhood.

This has major implications for data collection. It implies that to get a fully accurate allocation of service expenditures by neighborhood, it would be necessary to obtain expenditures data for service establishments that serve neighborhood residents but are not located in the neighborhood as well as those that are. It would then be necessary to obtain data on the residential addresses of all clients of each provider, and to distribute provider expenditures proportionally across the benefitting neighborhoods. For a full assessment, it would further be necessary to separate changes in performance measures (like school proficiency scores) by neighborhood according to the residential addresses of beneficiaries as well.

A few years ago, data collection of this scope would no doubt have been judged too costly to be worthwhile everywhere, and it probably still would be in most places. However, several states and cities have since developed Integrated Data Systems (IDS) that could provide this type of data for a number of services. An IDS integrates data on specific individuals from the separate databases of the individual programs from which they receive services. Information on the development of the IDS field has been compiled by the Actionable Intelligence for Social Policy project at the University of Pennsylvania (<http://www.gse.upenn.edu/child/projects/isp>). The potential for this type of analysis will be explored further in section 3.

Scope and Possibilities of Data Collection

Approach

To explore the state of local data infrastructure, we identified broadly available local data sources that could capture investments flowing into targeted neighborhoods. We engaged seven NNIP sites to investigate the quality and availability of local data on investments: Baltimore, MD; Detroit, MI; the District of Columbia; Kansas City, MO; Minneapolis, MN; Pittsburgh, PA; and St. Louis, MO.

We asked each partner site to complete a questionnaire (see appendix 1). To capture capital investment flows, we asked partners to reach out to local contacts to learn more about building permits, business licenses, and central capital budget records, as well as to identify other relevant data sources. The NNIP partners typically had earlier experiences working with building permit data but lacked familiarity with business licensing and capital budgeting data. To learn more about the availability of centralized operating expenditure budgets, we asked our partners to preliminarily scan the data cities release and identify significant local organizations delivering services within the programmatic domains we outlined earlier.

For each data source, we asked partners to answer several questions. We were interested in the earliest year data were available and whether raw data were accessible to researchers. We were also interested in data quality, including address information, data fields reflecting the scope of an investment, and categorization schemes that may shed light on which investment account each record should populate. With budget records, we were interested in the degree of centralization across local agencies, as greater centralization could lower the costs of collecting data individually from separate agencies. We were further interested in the availability of data on actual and projected expenditures. Accessing accurate data on real spending is particularly important in jurisdictions where projected and actual spending may significantly differ. Where actual spending data are accessible, less on-the-ground investigation would be required to ensure data accurately represent real neighborhood investment flows.

After reviewing the survey responses, we contacted two sites with particularly promising data infrastructure, Baltimore and St. Louis, to estimate the cost of actually implementing a project to document investment flows to a neighborhood over several years. We asked each site to develop the strategy for accessing data in its local context. The budget estimates include a combination of top-down data collection (collecting data on the whole city and then narrowing in on the target community through geographic information) and bottom-up data collection (canvassing the community and reaching out to key stakeholders to identify important investment projects and validate investment estimates). We asked our partners to estimate the time and cost expenditures necessary for each step of their action plan and calculated a total estimated cost for each site.

Building Permits

Over the past 10 to 20 years, all the partner sites began digitizing and automating building permit data. Today, all sites maintain digital records. In all sites, permit data extend back at least to the mid-1990s and early 2000s, early enough to construct baseline investment-level estimates for neighborhood initiatives launched in recent years.

NNIP partners have almost all worked with building permit data. Except for Detroit, all sites publicly release raw building permit data. Multiple versions of building permit data exist in some sites. Individuals in city planning (Washington, DC) and NNIP partners themselves (Baltimore, Minneapolis, and Detroit) maintain high-quality versions of building permit data that either extend further back historically or include higher-quality address and investment scope information. The table below reflects the best available versions of building permit data.

Table 3. Summary of Building Permit Data

		Balt.	Detroit	KC	Minn.	Pitts.	St. Lou.	WDC
Access	Automation start year	2000*	1995*	Early 1990s	1999	2011	1991	Unknown
	Year of earliest historical record	2000	1995	As early as 1950s	1970s	Mid-1990s	1991	2002
	Accessible to NNIP partner/researchers	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Identifiable Work Categories	New construction	X	X	X	X	X	X	
	Remodel/Addition	X	X	X	X		X	X
	Rehabilitation		X		X		X	
	Demolition	X	X	X	X	X	X	X
	Site alteration		X	X	X		X	X
	Plumbing/Mechanical/Electrical	X		X	X	X		X
Geography	Parcel ID		X	X	X	X	X	X
	Address	X	X	X	X	X	X	X
	Longitude/Latitude				X			X
Scope	Total construction cost	X	X	X	X	X	X [†]	X
	Number of units	X	X [†]	X	X	X	X [†]	X
	Square footage	X	X	X	X	X		X
Dates/Completion	Date permit issued	X	X	X	X	X	X	X
	Start date							
	Date work completed			X			X	
	Canceled flag			X			X	

* Automation actually began earlier, but older data are either inaccessible or of too poor quality to be analyzed.

[†] Field exists but data are low quality.

Quality and Data Structure

Except for Minneapolis, all sites require separate building permit applications for different project components. To determine the total cost of a project, it would be necessary to match building permit entries on addresses. Further investigation may also be necessary to determine how total construction cost is reported in each permit entry to avoid double counting investments.

Project timing. In all sites, building permit records include the date when the building permit was issued. This does not necessarily reflect when or even if a project began (implications discussed later).

Categorization. All the cities differentiate between residential and commercial construction. While each city offered different categorization schemes to classify the nature of the work to be completed, almost all differentiate in some way between new construction, remodeling/addition, rehabilitation, demolition, site alteration, and plumbing/mechanical/electrical work.

Locational information. The quality of building permit address information is generally high. Permit data in all sites include a field for street addresses and parcel ID. Most partners indicated

that street address information has improved (for example, cities began to automate address entry, minimizing typographical errors and inconsistencies), making geocoding easier. Records in two sites (Washington, DC, and Minneapolis) come with longitude and latitude coordinates.

Scope of information. All cities ask permit applicants to list a total construction cost. No city, however, asks for a total development cost. Depending on the type of project, applications ask for number of units and square footage (except in St. Louis). These fields, however, are not always well completed; they are optional in some cases.

Validity Issues

The level of permitting noncompliance varies by city and by project type. In cities like Detroit that lack capacity for enforcement, compliance rates are commonly understood to be quite low. In general, the sites reported that large projects like major new construction tended to be well-documented, while smaller interior renovations were often completed without the requisite permits. Where noncompliance is high, permit data would not capture all the investments flowing into a community. When permit data are unreliable, additional legwork within communities to capture undocumented projects would be needed. Changes in compliance levels could also make it more challenging to examine trends over time, as fluctuations in reported investment levels may reflect, in part, fluctuations in compliance.

As noted earlier, it is possible for permits to be filed but for no construction to actually take place. Projects may be delayed or canceled altogether. Addressing this issue, two sites (Kansas City and St. Louis) track the date work was actually completed and include a flag for canceled projects.

Reported total construction costs may be inaccurate for a number of reasons. Because future taxation and permitting fee structures are based in most sites on estimated construction cost, values may be systematically underreported. Several partners expressed concerns that building divisions typically do not review final construction budgets to verify the reported costs. Construction costs may also differ from actual expenditures as projects are subsequently modified or previously unidentified roadblocks or opportunities emerge.

Because construction cost figures may not perfectly reflect conditions on the ground, analyses of permitting data should be supplemented with legwork to verify values with developers. Depending on the size, number, and capacity of developers active in the target community, this may be easy or cumbersome. Efforts to document accurate investment figures may be boosted by outside organizations that track development activity. In Washington, DC, for example, the DC Economic Partnership maintains a detailed database of all major development activity in the city. The data include total development costs, assembling the best available information from a broad array of primary (architects, developers, general contractors, Office of Planning, etc.) and secondary sources (media and newspapers, newsletters, brokers, etc.). The database includes up-to-date information on development status and project scope, along with cleaned address information. From 2001 to 2009, the minimum cost threshold for inclusion was \$1 million (this

threshold was subsequently raised to \$5 million). The existence of such a database in a city would substantially improve the validity of its available investment data.

Business Licenses

Business licenses can account for new establishments in a neighborhood targeted in a comprehensive initiative. While these data are not as accessible as building permit data, all the cities have made strides in recent years to digitize their business licensing information in ways that would make the data amenable to analysis.

Only one site, the District of Columbia, released data publicly on an ongoing basis through a live web feed of licenses as they are entered into the system. In four other sites (Baltimore, Kansas City, Minneapolis, and St. Louis), municipalities have developed procedures for gaining access to raw business license data without going through a formal Freedom of Information Act (FOIA) request process. Partners in the remaining two sites, Detroit and Pittsburgh, discovered that it would be difficult to gain access to raw business license data. In Pittsburgh, only aggregate statistics can be provided (with zip code areas the lowest possible level of geography), because business licenses are processed in part by an external private tax agency.

Table 4. Summary of Business License Data

		Balt.	Detroit	KC	Minn.	Pitts.	St. Lou.	WDC
Access	Automation start year	2004	2010*	Unknown	2000	Unknown	Unknown	Unknown
	Year of earliest historical record	2004	2010	Unknown	2000	2005	Unknown	2009
	Accessible to NNIP partner/researchers	Yes; request procedure in place	Yes, but difficult	Yes; request procedure in place	Yes; request procedure in place	No; can get only aggregate statistics	Yes; request procedure in place	Yes; publicly available
Categorization	Local or standard business classification system?	No clear system	Local system	Local system and optional NAICS code	Local system	None	Local system	Local system and NAICS code
	Differentiate for-profit and nonprofit?	No	No	Yes	No	Yes	No	Yes
Geography	Parcel ID		X		X			
	Address	X	X	X	X	X	X	X
	Longitude/Latitude				X			X
Scope	Gross income			X				
	Number of employees			X			X	X
Dates	License issue date	X			X	Unknown	X	X
	Start date			X	Unknown	Unknown	X	X
	Expiration date			X	Unknown	Unknown		X

* Automation actually began earlier, but older data are either inaccessible or of too poor quality to be analyzed.

So far, most of the NNIP partners surveyed have had little to no experience working with business license data. Only three partners could ascertain how far back the data extend in their sites. Baltimore's data go back to 2004, Minneapolis's back to 2000, and Detroit's back to 2010.

Quality and Data Structure

Except for Baltimore and Minneapolis, all sites use a single business license application form, making analysis more straightforward.

Categorization. Businesses are classified according to distinct local classification systems that do not consistently align with NAICS codes. Washington, DC, and Kansas City include optional fields for NAICS codes on the application, but those fields are sparsely populated. Washington, DC, Kansas City, and Pittsburgh differentiate between nonprofits and for-profits.

Locational information. All the business license entries come with street addresses. Washington, DC, Kansas City, and Pittsburgh also offer parcel IDs. Washington, DC, and Minneapolis provide longitudes and latitudes.

Scope of information. Overall, few sites offer high-quality information on the size of business startups. Kansas City data include initial gross revenue estimates and actual gross revenue figures for subsequent years upon license renewal. St. Louis, on the other hand, requires businesses to report the number of employees they employ.

Validity Concerns

As with building permits, the NNIP partners expressed concerns about noncompliance. Since cities like Detroit have limited enforcement capabilities, business license data may underreport the existence of smaller startups.

The size information Kansas City and St. Louis provide is tied to the licensing fee structure, creating the incentive to underreport. In Kansas City, however, the business license income information is tied to the tax system and may accordingly be taken as reasonably reliable.

Capital Budgets

Each investigated city assembles a central capital budget, combining capital investment information across agencies. In most cities, this information is released as part of a five-year Capital Improvement Plan. These efforts to centralize capital investment record-keeping could substantially reduce the time and money that would otherwise be required to approach local agencies individually.

Capital budget records are not, however, without limitations. Not all local agencies participate in the central budgeting process, and some agencies participate only nominally, divulging only large line items that do little to describe where and how money is invested. Frequently omitted agencies across the cities include schools, housing authorities, and other quasi-governmental agencies like water and sewer companies, transit authorities, and redevelopment authorities. Capital budgets may also exclude key financing instruments for capital investments. In the District of Columbia, for example, revenue bonds serve as a crucial financial instrument to fund capital investments. They are not, however, typically captured in capital budget records.

These limitations suggest a need to supplement capital budget records with community canvassing. Fortunately, the agencies more likely to abstain from the central budgeting process are also more likely to be tied to key community institutions and visible infrastructure. Within a target neighborhood, it would be relatively easy to identify these institutions and structures and to approach the relevant agencies for more detailed information. Tackling large items would similarly likely involve engaging key local agencies, which typically maintain internally finer-grained financial information on capital investments that they supply to central budgeting.

Table 5. Summary of Capital Budget Data

		Balt.	Detroit	KC	Minn.	Pitts.	St. Lou.	WDC
Central Capital Budget Exists	Projected spending	X	X	X	X	X	X	X
	Actual spending			X		X	X	X
Access	Raw data can be obtained without FOIA request?	Yes	No	Yes	Unknown	No, only specific projects	Yes	No, only specific projects
Raw Data Geography	Parcel ID							X
	Address	X	X [†]	X	X		X	X
	Longitude/Latitude	X					Unknown	
Projected Timing	Start date	X	X	X	X	X	X	
	Completion date				X	X	X	
Actual Timing	Start date			X	X	X	X [†]	X
	Completion date				Unknown	X	X [†]	X
Expenditure	Projected expenditure	X	X	X	X	X	X	X
	Actual expenditure			X	X	X	X	X

[†] Field exists, but data are low quality.

One key challenge with capital budget data is that while the cities provide reasonably detailed information on *projected* expenditures on investment projects, they are far less transparent about *actual* expenditures. Only Washington, DC, releases capital budgets that clearly and consistently enumerate actual spending. Kansas City, Pittsburgh, and St. Louis also provide information in their capital budget plans on money left over or actually spent, but this information does not appear to be formatted for easy analysis. Accessing data on real spending is a key issue in jurisdictions where real spending diverges substantially from allocations. Part of the issue in getting at actual expenditure numbers is that accounting departments external to the budgeting office sometimes handle project expenditure tracking. Thus, while capital budget records can help identify key capital investment projects, further follow-up work would be necessary to acquire real spending numbers.

Since capital investment projects may take place over several years, it is important to track how much investment is made over the course of the comprehensive initiative and if indeed investment projects get off the ground. Washington, DC, St. Louis, and Pittsburgh had the best project timing information, providing actual start and end dates for construction (although Washington, DC, data are spotty). Minneapolis offers actual start dates but no end dates. All sites but St. Louis offer projected start dates, and Washington, DC, Minneapolis, and St. Louis also provide projected completion dates.

Locational information. All of the sites reported that address information is spotty, except for fixed institutions (like major buildings). Baltimore, Minneapolis, Pittsburgh, St. Louis, and

Washington, DC, provide some street address information. Only Pittsburgh provides parcel IDs. The quality and availability of capital budget data can also vary within a city. Data are often better in municipally targeted investment areas, like business improvement districts. Washington, DC (which has strong GIS capabilities), Baltimore, and Detroit provide investment area overlays to help identify areas in which there may be specialized, higher-quality investment data.

Data access. All the local governments examined release capital budgets in PDFs. NNIP partners found it challenging to learn about the underlying data systems that house capital budget records. The possibility of accessing raw capital budget data where they exist hinges on finding the right contact person. In the experiences of our partners, offices that manage the Capital Improvement Plan are more likely to have high-quality data. Of the seven sites, only Washington, DC, Baltimore, and Kansas City appear to be able to provide access to raw capital budget records.

Services Operating Expenditures

In this section, we first consider what it would take to obtain operating expense numbers for service establishments located within a neighborhood of interest, then what it would take to estimate the allocation of expenses for service establishments serving neighborhood residents regardless of whether the establishments themselves are located in the target neighborhood.

Information from NNIP Partners. To explore potential data sources to account for operating expenditures of service agencies, we asked the NNIP partners to preliminarily investigate the nature and quality of budget and accounting records maintained by their local governments. We asked our partners to consider the records of municipalities only, although we recognize that county governments and school districts typically operate and/or fund the majority of the relevant programs.

Not surprisingly given Detroit's current situation, the prospect of obtaining even basic data there is uncertain. However, for all the other cities, basic budgetary data seem to be available and publicly accessible. This means that for any fiscal year, it should be possible to obtain information on budgets and outlays related to programs for which they are responsible. In most cases, published documents will provide the following information:

- *Total budgets and outlays covering the direct work each service-providing agency (personnel, OTPS, etc.) for the jurisdiction at hand.* Totals are likely to be available at the agency (or department) level but sometimes an agency may provide more than one service, and the subtotals for individual services may not be broken out separately. Normally, data are not available on the share of total funding that goes to direct service provision versus administrative or overhead functions. Also, central budget office numbers hardly ever break out expenditures establishment by establishment, and numbers at that level are not always available in individual agency records.

- *Funding provided to contractors or grantees who are direct service providers for the agency.* These amounts are frequently, but not always, available. The data normally include totals for the contractor/grantee organization as a whole but not for individual establishments (although sometimes an organization will have only one establishment).

All the NNIP partners we consulted say they are familiar with service provision in low-income neighborhoods in their cities and that they could compile an accurate list of all provider-establishments in a specified neighborhood fairly quickly. However, they confirmed our view that in most neighborhoods some services will be funded by the federal government, state government, and philanthropies whose budgets and expenses are not reflected in any local public-sector records. Therefore, such entities would have to be contacted directly to obtain a complete picture. NNIP partners also confirmed that service providers' accounting and other record-keeping systems are likely to be varied. The adoption of automated systems has increased significantly in recent years, but in a sizeable number of cases it can be expected that record keeping will still be rudimentary.

Approach to Obtaining Expense Data by Establishment. While still a daunting assignment, our judgment is that there have been enough improvements in relevant record-keeping over the past decade to warrant efforts to obtain establishment-level service expenditure data for key service providers in target neighborhoods. The steps such an approach could entail are as follows:

1. Obtain NCCS data on nonprofits located in the selected neighborhood (from the Urban Institute Center on Nonprofits and Philanthropy) and generate a list of establishments and expense data coded to our framework, year by year (since most service providers are nonprofits, this should be a highly cost-effective way to build a large part of the list of establishments).³
2. Consult with knowledgeable local stakeholders (CDCs, NNIP Partners, etc.) to identify other key service providers of the types identified in our framework (Table 2) who are located in the neighborhood. Many of these will be public-sector entities (e.g., schools, health clinics), but some may be for-profits.
3. Visit the central budget or accounting offices of local agencies (e.g., cities, counties, school districts) to obtain relevant data at whatever level of detail is available (as it may be useful to have trends in agency totals as context, even if establishment-level data are not available).
4. Contact relevant offices of the federal government, state government, and philanthropies to obtain available expense data they maintain at the establishment level.

³ The nonprofit NTEE codes in NCCS have already been cross-walked to the service provider types identified in our framework (see Hayes, Blackwood and Kingsley forthcoming).

5. Visit individual agencies to try to obtain establishment-level data when it has not been provided by other offices.

For programs that do not keep records by establishment, assembling expenditure data at this level could involve a sizeable measurement/analytic challenge. In many cases, it might require estimates based on questionable assumptions; in other cases, the task may simply be infeasible. Nonetheless, the effort to obtain as much of this type of information as possible in a few places could provide quite useful information for program planning and assessment even if not fully comprehensive.

Approach to Estimating Expenses by Benefiting Neighborhood. We noted earlier that to obtain a fully accurate allocation of service expenditures to the neighborhoods *benefitting from* those services would be even more challenging. It would be necessary to obtain expenditure data for service establishments that serve neighborhood residents but that are not located in the neighborhood. And then it would be necessary to obtain data on the residential addresses of all clients of each provider and distribute provider expenditures proportionally across the benefitting neighborhoods. We also noted that a full assessment would require separating changes in performance measures (like school proficiency scores) by neighborhood according to the residential addresses of beneficiaries as well.

Doing this comprehensively is likely not feasible, since it would require automated records with participant addresses for all programs and, even though the number of programs with such records is growing, many still do not have them. However, much might be learned from doing it for a selection of programs that already have such data in a form that is easy to use. This would be most feasible where, as noted earlier, an Integrated Data Systems (IDS) exists that has already integrated data about the participation of individuals from the records of multiple service programs.

This general approach is getting much support in the Department of Education's Promise Neighborhoods Program. Local implementation of that program may involve, for example, integrating data about a student from school records (e.g., proficiency scores, absenteeism, school mobility) with those on the same child from the child welfare system and health care providers (see Comey et al. 2013). However, Promise focuses on data for only one neighborhood in a city. Some of the new IDS systems have geocoded data from multiple programs jurisdiction-wide. One such system, the Childhood Integrated Longitudinal Data (CHILD) in Cuyahoga County, Ohio, incorporates county-wide information on children across the ages of interest to Promise Neighborhoods (cradle to career) and is now regularly integrating data from 10 different nonprofits and public agencies (Coulton and Fischer 2012). Another well-tested jurisdiction-wide system is that operated by Allegheny County (Pittsburgh), Pennsylvania.

Sample Data Collection Approaches and Associated Costs

We contacted NNIP partners at a few sites to assemble a preliminary estimate of how much it would cost to collect data on investment flows to a target community. Both sites understood that accurately documenting investment flows would require obtaining city data for the target neighborhood and following up with key organizations and agencies on the ground. The estimated direct cost to collect data in each site was between \$50,000 and \$100,000 per city. (This estimate does not include costs for processing federal data or funds to acquire proprietary data.)

Examples from two NNIP partners provide a helpful illustration of how these funds would be used to gather investment flows information. In St. Louis, our NNIP partner, Regional Housing and Community Development Alliance (RHCDCA), already has experience working with building permit and business license data. The only incremental cost associated with these data sources for this analysis would be acquiring the most recent data available.

To identify key public investments in the target neighborhood, RHCDCA would recommend making strategic calls to major local leaders and organizations in the area. They would then engage the alderman associated with the target community. (In St. Louis, aldermen have direct access to information on any public investments made within their jurisdictions.) RHCDCA would assemble a listing of key public projects in the area and request that the neighborhood's alderman secure financial information on those investments.

To capture significant private investments in the community, RHCDCA would engage up to eight community organizations active in the target neighborhood. This would be supplemented with a subcontract to a local community development corporation to compile data on private investment flows into the community. RHCDCA believes that local CDCs are best positioned to know and access key private players in a target neighborhood.

RHCDCA also pointed to the emergence of an open data group in St. Louis. While this group has not yet started any projects, one of the group's first proposed projects is to digitize the city's capital and operating budgets. Depending on timing, it may be possible to leverage the work of Open Data St. Louis.

The Baltimore NNIP partner, the Baltimore Neighborhood Indicators Alliance (BNIA), has extensive experience working with building permit data. They are already familiar with the record layout and with efficiently geocoding building permit data. BNIA recommends time be built into the data collection phase to allow them to correct cost estimates supplied by the permit data by contacting major developers and other organizations identified in the data.

BNIA estimates that acquiring capital budget data and business license data would require much more time in Baltimore than in other cities. Although the data exist and are said to be of

good quality, it will take substantial effort to secure them from the local government. BNIA (like most partners) has not worked with these data.

To complement collecting these data, BNIA also suggests neighborhood canvassing, engaging local community organizations that have a strong pulse on the areas they serve. Through calls, interviews, and requests for budgets and financial information, BNIA would compile private investments in communities.

Conclusions and Suggestions for Further Research

The extent and quality of local data needed to measure investment flows in neighborhoods targeted by improvement initiatives has improved dramatically in many cities. While exhaustive quantification is probably not possible anywhere, a fairly complete picture is now available in some localities. With regards to capital investments, we found that building permit data are reliable and widely used. While less advanced than building permit data, all the cities have also made strides in digitizing business licensing information in ways that make these data amenable to analysis. Further, every city assembles a central capital budget, combining capital investment information across agencies. Efforts to centralize capital investment record-keeping substantially reduce the time required to approach local agencies, though there are limitations as not all local agencies participate in the central budgeting process and some agencies participate only nominally. Neighborhood-level services data were more challenging to access. Some systems (e.g., public schools) are partially able to produce this information, but in most cases, services data will need to be accessed not through city agencies, but by directly approaching nonprofits operating in the target communities. Finally, there is at least some information available about capital flows out of neighborhoods, in particular as related to foreclosures and business and nonprofit closures/out-migration.

Recent advancements in data collection, and pressing need for policymakers, funders, and practitioners to be better informed about their work, argue for attempting a quantification of capital flows in a few locations. This quantification would serve both as valuable for knowledge building, as well as an important test of the framework we have developed. A successful study design would consider several factors.

First, we recommend that quantification of capital flows to and from neighborhoods be attempted in two to three neighborhoods at the same time, and that these neighborhoods be located in separate cities. Absent this, the risks are too great that we would generalize a unique neighborhood's social, political, and economic pattern to a diverse set of places.

Next, the selection process for these neighborhoods and cities will be very important. The most foundational criterion is that the neighborhoods and cities selected provide a substantively interesting context for studying community change. For example, this may mean studying a location that has been targeted by an important new federal program, foundation initiative, or

promising local revitalization effort. Alternatively, it may be of interest to first identify a neighborhood that has recently undergone significant change, with a desire to better understand how that change was achieved. Preferably, the neighborhoods and interventions would be representative of a broader set of approaches, promoting the external generalizability of the findings. It may, however, also be advantageous to select neighborhoods that differ with regards to their local context so as to investigate a richer array of US cities and local contexts.

A second essential selection criterion, which will come as no surprise given the discussion above, is that the study cities provide access to reliable, standardized, comprehensive, timely, easily manipulated, and inexpensive information about capital flows in their jurisdiction. Especially important is information about building permits, business licenses, and capital budgeting records. A willingness to facilitate access to service data, and local information about capital outflows (vacancies, foreclosures, etc.) are also of use. Not just the data-sharing functions are important; it is essential that cities reliably collect information in the first place, ensuring a high degree of compliance. For example, cities where building permits requirements are widely flouted would not be good candidates for investigation.

A third factor arguing in favor of selecting of particular sites is the existence of a robust local partner to facilitate access to capital flows data. A logical organization in many cities would be the NNIP partner, though other observers of municipal finance might instead fill this role. (For example, the DC Fiscal Policy Institute has considerable familiarity with that city's capital budgets.) Most important is that a local partner has high organizational capacity, has developed strong connections with city agencies and staff who can facilitate data access, and has had previous experience retrieving and processing the information of interest to this research. Local knowledge will be important not just in obtaining data, of course, but also in contextualizing and interpreting findings.

After selecting sites, research would proceed with building a careful inventory of investment flows into the neighborhood, detailing where possible, their source, purpose, financing structure, and timing (going back as many years as feasible). The study would rely on secondary data and also strategically collect original data where it will be of greatest value. It will be of interest to investigate if certain types of capital inflows precede or induce other types. It may be of value to combine the above approach with qualitative research that queries neighborhood residents and stakeholders about perceived changes in a neighborhood's trajectory, and the source of those changes. Analysis and reporting will inform the important substantive questions motivating this research, but also useful is that the research assess the successes and failures of the methodology taken, and advance lessons to the broader field.

Although preliminary, we consider a possible timeline under which the described activities could be completed. We anticipate it will take approximately two months to select target cities and neighborhoods, and to identify local partners. Development of a protocol to ensure standardized data collection could occur concurrently. Next, with assistance from UI, the local data partner would collect investment data from local sources, which we estimate to require six to eight

months. Accessing neighborhood contextual data (e.g., poverty, employment, home prices, etc.) as well as assembling and/or purchasing data from national (e.g. HMDA, ACS) and private (e.g., D&B, InfoUSA) sources can be completed during this time. Finally, we could analyze all relevant data over the course of three months and draft a summary report in a similar timeframe. Allowing two months for soliciting comments and incorporating revisions means we could complete a final report 18 months after project initiation.

The broader research should be of great value to all entities that plan and implement community revitalization initiatives; including local civic leaders, national and local foundations and national community development intermediaries as well as federal agencies (primarily HUD). The research is intended to show how varying mixes of investment flows affect neighborhood outcomes in different urban settings, and as such should become a primary guide for the design of these initiatives. It should also support the design of criteria to guide decisions about which neighborhoods warrant comprehensive intervention and, among those that do, the likely impacts of varying overall levels of investment.

References

- Abravanel, Martin, Nancy Pindus, and Brett Theodos. 2010. "Evaluating Community and Economic Development Programs: A Literature Review to Inform Evaluation of the New Markets Tax Credit Program." Washington, DC: The Urban Institute.
- Abravanel, Martin D., Nancy M. Pindus, Brett Theodos, Kassie Bertumen, Rachel Brash, and Zach McDade. 2013. "New Markets Tax Credit Program Evaluation." Washington, DC: The Urban Institute.
- Andrews, Nancy O., and David J. Erickson, eds. 2012. "Investing in What Works for America's Communities." San Francisco: Federal Reserve Bank of San Francisco and Low Income Investment Fund.
- Bartik, Tim J., and Richard D. Bingham. 1997. "Can economic development programs be evaluated?" In *Dilemmas of Urban Economic Development*, edited by R. D. Bingham and R. Mier (246–77). Thousand Oaks, CA: Sage.
- Baum-Snow, Nathaniel, and Justin Marion. 2009. "The Effects of Low Income Housing Tax Credit Developments on Neighborhoods." *Journal of Public Economics* 93:654–66.
- Brooks, Leah. 2008. "Volunteering to Be Taxed: Business Improvement Districts and the Extra-Governmental Provision of Public Safety." *Journal of Public Economics* 92 (1–2): 388–406.
- Comey, Jennifer, Peter A. Tatian, Lesley Freiman, Mary K. Winkler, Christopher Hayes, Kaitlin Franks, and Reed Jordan. 2013. "Measuring Performance: A Guidance Document for Promise Neighborhoods on Collecting Data and Reporting Results." Washington, DC: The Urban Institute.
- Cook, Philip, and John MacDonald. 2011. "Public Safety Through Private Action: An Economic Assessment of BIDs." *Economic Journal* 121 (May): 445–62.
- Coulton, Claudia J., and Rob Fischer. 2012. "Cuyahoga County's Childhood Integrated Longitudinal Data System (CHILDS): Information for Program Improvement, Outcome Tracking, and Policy Analysis." Cleveland, OH: Center on Urban Poverty and Community Development, Case Western Reserve University.
- Coulton, Claudia J., G. Thomas Kingsley, and Kathryn L.S. Pettit. Forthcoming. "Strengthening Communities with Neighborhood Indicators." Washington, DC: Urban Institute Press.
- Deng, Lan, and Lance Freeman. 2011. "Planning for Evaluation: Using Regression Discontinuity to Evaluate Targeted Place-Based Programs." *Journal of Planning Education and Research* 31(3): 308–18.
- Ellen, Ingrid G., Amy E. Schwartz, Ioan Voicu, and Michael H. Schill. 2007. "Does Federally Subsidized Rental Housing Depress Neighborhood Property Values?" *Journal of Policy Analysis & Management* 26 (2): 257–80.

- Ellen, Ingrid G., Amy E. Schwartz, and Ioan Voicu. 2009. "The Impact of Business Improvement Districts on Property Values: Evidence from New York City." *Brookings Wharton Papers on Urban Affairs* 2007:1–39.
- Freedman, Matthew. 2012. "Teaching new markets old tricks: The effects of subsidized investment on low-income neighborhoods." *Journal of Public Economics* 96:1000–14.
- Galster, George C. 2004. "The Effects of Affordable and Multifamily Housing on Market Values of Nearby Homes." In *Growth Management and Affordable Housing: Do They Conflict?* edited by Anthony Downs. Washington, DC: Brookings Institution Press.
- Galster, George C., Chris Hayes, and Jennifer Johnson. 2005. "Identifying Robust, Parsimonious Neighborhood Indicators." *Journal of Planning Education and Research* 24 (3): 265–80.
- Galster, George, Diane Levy, Noah Sawyer, Kenneth Temkin, and Chris Walker. 2005. "The Impact of Community Development Corporations on Urban Neighborhoods." Washington, DC: The Urban Institute.
- Galster, George C., Peter Tatian, and John Accordino. 2006. "Targeting Investment for Neighborhood Revitalization." *Journal of the American Planning Association* 72 (4): 457–74.
- Goldstein, Ira, and C. Sean Closkey. 2006. "Market Value Analysis: Understanding Where and How to Invest Limited Resources." St. Louis, MO: Federal Reserve Bank of St. Louis.
- Green, Richard K., Stephen Malpezzi, and Kiat-Ying Seah. 2002. "Low Income Housing Tax Credit Housing Developments and Property Values." Madison: Center for Urban Land Economics Research, University of Wisconsin–Madison.
- Ham, John C. Charles Swenson, Ayşe İmrohoroğlu, and Heonjae Song. 2011. "Government Programs Can Improve Local Labor Markets: Evidence from State Enterprise Zones, Federal Empowerment Zones and Federal Enterprise Community." *Journal of Public Economics* 95:779–97.
- Hayes, Christopher, Amy Blackwood, and G. Thomas Kingsley. Forthcoming. "Nonprofits and Neighborhood Change." Washington, DC: The Urban Institute
- Hoyt, Lorlene M. 2005. "Do Business Improvement District Organizations Make a Difference?: Crime In and Around Commercial Areas in Philadelphia." *Journal of Planning Education and Research* 25:185.
- Kingsley, G. Thomas, and Kathryn L.S. Pettit. 2011. "Quality of Life at a Finer Grain: The National Neighborhood Indicators Partnership." In *Community Quality of Life Indicators; Best Cases V*, by Joseph M. Sirgy, Rhonda Phillips, and D.R. Rahtz. New York: Springer.
- Koschinsky, Julia. 2009. "Spatial Heterogeneity in Spillover Effects of Assisted and Unassisted Rental Housing." *Journal of Urban Affairs* 31 (3): 319–47.

- Krumholz, Norman, W. Dennis Keating, Philip D. Star, and Mark Chupp. 2006. "The Long-Term Impact of CDCs on Urban Neighborhoods: Case Studies of Cleveland's Broadway-Slavic Village and Tremont Neighborhoods." *Community Development*, Winter, 37, 4.
- Krupka, Douglas J., and Douglas S. Noonan. 2009. "Empowerment Zones, Neighborhood Change, and Owner-Occupied Housing." *Regional Science and Urban Economics* 39:386–96.
- Mallach, Alan. 2008. "Managing Neighborhood Change: A Framework for Sustainable and Equitable Revitalization." Montclair, NJ: National Housing Institute.
- Neumark, David, and Jed Kolko. 2010. "Do Enterprise Zones Create Jobs? Evidence from California's Enterprise Zone Program." *Journal of Urban Economics* 68:1–19.
- Pindus, Nancy, Howard Wial, and Harold Wolman. 2009. *Urban and Regional Policy and Its Effects*. Washington, DC: Brookings Institution.
- Rich, Michael J., and Robert P. Stoker. 2010. "Rethinking Empowerment: Evidence from Local Empowerment Zone Programs." *Urban Affairs Review* 45:775.
- Rossmann, Shelli, Brett Theodos, Rachel Brash, Megan Gallagher, Christopher Hayes, and Kenneth Temkin. 2008. "Key Findings from the Evaluation of the Small Business Administration's Loan and Investment Programs." Washington, DC: The Urban Institute.
- Samuelson, Paul A. 1980. *Economics: Eleventh Edition*. New York: McGraw Hill.
- Schwartz, Amy E. Ingrid G. Ellen, Ioan Voicu, and Michael H. Schill. 2006. "The External Effects of Place-Based Subsidized Housing." *Regional Science and Urban Economics* 36:679–707.
- Smith, Richard. 2007. "Real Estate Capitalization by Policy Input in the Cleveland Empowerment Zone." *Michigan Journal of Public Affairs* 4:1–23.
- Tatian, Peter A., G. Thomas Kingsley, Joe Parilla and Rolf Pendall. 2012. "Building Successful Neighborhoods." Washington, DC: The Urban Institute.
- Temkin, Kenneth, and Brett Theodos. 2008. "The Debenture Small Business Investment Company Program: A Comparative Analysis of Investment Patterns with Private Venture Capital Equity." Washington, DC: The Urban Institute.
- Walker, Christopher, Sarah Rankin, and Francisca Winston. 2010. "New Approaches to Comprehensive Neighborhood Change: Replicating and Adapting LISC's Building Sustainable Communities Program." Washington, DC: Local Initiatives Support Corporation.
- Weissbourd, Robert, Riccardo Bodini, and Michael He. 2009. "Dynamic Neighborhoods New Tools for Community and Economic Development." RW Ventures.
- Zielenbach, Sean. 2003. "Assessing Economic Change in HOPE VI Neighborhoods." *Housing Policy Debate* 14 (4): 621–55.

Zielenbach, Sean, Richard Voith, and Michael Marianob. 2010. "HOPE VI and Neighborhood Economic Development: The Importance of Local Market Dynamics." *CityScape: A Journal of Policy Development and Research* 12 (1): 99–132.

Appendix 1: Data Availability Questionnaire

BUILDING PERMITS

Name of department responsible for building permits: _____

Name/contact information for your contact there: _____

Are building permit records maintained in a computer based system? YES/NO

If yes, what year did the automation of records begin? _____

How far back are historic records still available (year)? _____

Would you be able to gain access to these records for research purposes? YES/NO

Would any member of the public be able to do so? YES/NO

How is the project location recorded (Are projects geocoded)? (check all that apply)

Parcel ID

Address

Longitude/Latitude

Other: _____

Is an estimate of total development cost⁴ required? YES/NO

Do you think the estimates provided are reliable? YES/NO If not, why not?

Are data provided on cost components? YES/NO. If yes, what are the categories?

What information is provided on the type of property owner (e.g., private, public, nonprofit)

How are building permits categorized (e.g. by zoning, by owner)? Do they differentiate between new construction, rehabilitation, demolition, expansion, etc.? Do they differentiate between residential, commercial, land development, public, and non-profit projects?

What other data on project scope are available? Square footage? Number of units?

What other data are provided? (probably easiest for you to send us a copy of the database schema and/or the application form)

Any other general comments on building permit records? Any cautions for analyzing the data?

⁴ The sum of all costs for a project, including all undertakings necessary for administration, planning, site acquisition, demolition, construction, or equipment and financing, and for otherwise carrying out the development of the project.

BUSINESS LICENSES

Name of department responsible for business licenses: _____

Name/contact information for your contact there: _____

Are business license records maintained in a computer based system? YES/NO

If yes, what year did the automation of records begin? _____

How far back are historic records still available (year)? _____

Would you be able to gain access to these records for research purposes? YES/NO

Would any member of the public be able to do so? YES/NO

How is the business location recorded (are projects geocoded)? (check all that apply)

Parcel ID

Address

Longitude/Latitude

Other: _____

Is any information on the size of the business provided (e.g. by number of employees, by income)? YES/NO

If yes, how is the scale of the business recorded (e.g., dollar amounts, no. of employees, subcategories)?

Do you think the scope estimates provided are reliable? YES/NO If not, why not?

What information is provided on the type of business owner (e.g., private, nonprofit)?

What data are provided on type of business (e.g. retail store, restaurant, hotel, etc.)? Are they recorded with NAICS codes?

What other data are provided? (probably easiest for you to send us a copy of the database schema and/or the application form)

Any other general comments on business license records? Any cautions for analyzing the data?

CAPITAL BUDGET RECORDS

SECTION A) Please list the agencies responsible for maintaining capital budgets covering public capital investments in your city/county/state in the following areas (may be more than one agency per category):

1. Infrastructure (roads and sidewalks, transit, water/wastewater/sewage)
2. Public facilities and public buildings (libraries, government office buildings)
3. Parks and recreation
4. Schools and post-secondary institutions
5. Health facilities (health clinics, hospitals)

Is there a centralized capital budget data source? YES /NO

If NO:

- Please fill out Section B for each agency you listed.

If YES:

- Who maintains the central capital budget? _____
- Key contact on the central capital budget: _____
- What local agencies contribute to the central capital budget?

- What agencies maintain separate records?

- Please fill out Section B for **1) the central capital budget** and **2) for each agency** that maintains separate records.

SECTION B) With respect to **each of the agencies identified**, please answer the following questions

Name of agency: _____

Name/contact information for your contact there:

Are capital project records maintained in a computer based system? YES/NO

If yes, what year did the automation of records begin? _____

How far back are historic records still available (year)? _____

Would you be able to gain access to these records for research purposes? YES/NO

Would any member of the public be able to do so? YES/NO

How are the locations of different types of projects recorded (Are locations geocoded)?

Projects at a specific site? (check all that apply)

Parcel ID

Address

Longitude/Latitude

Other: _____

Projects that are linear (like roads, sidewalks)? Are segments defined?

How is project timing recorded (e.g., month and year: budgeted start and completion, actual construction start and completion, actual start and completion of outlays)

What other data are provided to describe projects? (send us a copy of the agency's specification for entering information where available)

SECTION C) Any other general comments on capital budget records? Any cautions for analyzing the data?

OTHER CAPITAL INVESTMENT DATA?

Are there any other local data on capital investments available for your area? Please specify who maintains the data, what the data cover, in what format the data are available, and the name of a contact person.

OPERATING/SERVICE BUDGET RECORDS

SECTION A) To the best of your knowledge (without making any calls), please list the agencies responsible for maintaining operating budgets covering public investments in services in your city/county/state for the following areas (may be more than one agency per category):

1. Health facilities (health clinics, hospitals)
2. Early childhood and youth (home visiting, foster care, child protective, day care, Head Start, pre-K, youth services)
3. Business development (business incentives, loans, investments, grants)
4. Education (elementary, middle schools, high schools, post-secondary education, workforce training, GED)
5. Employment and financial (workforce development services, financial counseling)
6. Human services and housing (rental and ownership housing support and incentives, shelter assistance, family services, other human services)
7. Public safety (law enforcement, crime prevention, legal services)
8. Community activities (community organizing, parks and recreation, arts and cultural activities)

Is there a centralized operating/service expenditure data source? YES /NO

If NO:

- Please fill out Section B for agencies with which you are familiar.

If YES:

- Who maintains the central operating budget? _____
- Key contact on the central operating budget: _____
- What local agencies contribute to the central operating budget?
- What agencies maintain separate records?
- Please fill out Section B for **1) the central operating budget** and **2) for each agency** that maintains separate records with which you are familiar.

SECTION B) If you are familiar with any of the agencies above, please answer the following questions for the agency:

Name of agency: _____

Name/contact information for your contact there:

Are operating budget records maintained in a computer based system? YES/NO

If yes, what year did the automation of records begin? _____

How far back are historic records still available (year)? _____

Would you be able to gain access to these records for research purposes? YES/NO
Would any member of the public be able to do so? YES/NO

How are the locations of different types of projects or programs recorded (Are locations geocoded)?

Projects/programs at a specific site? (check all that apply)

- Parcel ID
- Address
- Longitude/Latitude
- Other: _____

Projects/programs that are linear (like roads, sidewalks)? Are segments defined?

How is project timing recorded (e.g. month and year of actual delivery of service or completion of outlays)

What other data are provided to describe projects? (send us a copy of the agency's specification for entering information where available)

SECTION C) Any other general comments on operating expenditure records? Any cautions for analyzing the data?

OTHER OPERATING EXPENDITURE DATA?

Are there any other local data on operating/service expenditures available for your area? Please specify who maintains the data, what the data cover, in what format the data are available, and the name of a contact person.