

Building and Operating Neighborhood Indicator Systems:

A Guidebook

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National Neighborhood Indicators Partnership

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PREFACE AND ACKNOWLEDGMENTS

In 1996, the Urban Institute published *Democratizing Information: First Year Report of the National Neighborhood Indicators Project*. That report documented the accomplishments, procedural methods, and philosophies of the local partners in the National Neighborhood Indicators Projects (NNIP), all of whom have built advanced information systems with integrated and recurrently updated information on neighborhood conditions in their cities. The report also suggested how the NNIP partnership might work to develop better tools and techniques in the field and to promote the development of similar capacities in other cities—an agenda that is now being implemented.

This report is an adaptation of *Democratizing Information*. It extracts information on the history and capacities of NNIP's local partners and restructures and updates that information so as to serve directly as a guidebook for local institutions elsewhere that might be interested in following a similar path.

Although the report itself was compiled by Urban Institute staff, primary credit should go to NNIP's original local partners in six cities whose work forms the basis for our optimism about the role of neighborhood-level information in advancing social change. Their past accomplishments, and their ideas about sensible future directions for this field, underlie all of our basic conclusions and recommendations. The partners are David S. Sawicki (Atlanta); Charlotte Kahn, Gloria Cross, and Glen Pierce (Boston); Claudia J. Coulton and Neil Bania (Cleveland); Terri J. Bailey (Denver); Joaquin Herranz and Cheryl Taylor (Oakland); and Pat McGuigan and Jack Combs (Providence).

At the Urban Institute, G. Thomas Kingsley served as the report's overall editor and primary author. Patrice Flynn and Susan Wiener contributed materials on the characteristics of NNIP partner institutions and a preliminary review of their data sets for the original edition. Peter Tatian and Milda Saunders helped compile more detailed information on their data systems and their development and use. Kara Hartnett conducted the survey of neighborhood information system interests and capabilities in other cities.

A number of individuals provided helpful comments and valuable guidance in preparing the report, either in its initial form or in its more recent version. Most important were James O. Gibson and Talton Ray, the founders of the NNIP partnership. They also included Urban Institute staff members George C. Galster, Harry Hatry, George E. Peterson, and Margery Austin Turner. Tim Ware did an admirable job managing the formatting and production of both versions of the report.

Finally, we express our thanks to the primary funders of NNIP implementation and their staffs who have worked closely with all partners, enhancing the project's accomplishments and relevance: The Annie E. Casey Foundation (with particular thanks to Irene Lee and Cindy Guy) and the Rockefeller Foundation (with particular thanks to Chet Hewitt and David Maurrasse).

Chapter 1

INTRODUCTION AND SUMMARY

As early as the 1960s, some people interested in improving conditions in cities envisioned the development of computer-based information systems to help them in that work. The systems would contain data on a broad variety of conditions and trends at the neighborhood level. The data would serve as the basis for identifying the spatial pattern of problems and opportunities in a city, and then be used in planning well-targeted response strategies and, ultimately, in tracking results.

For more than two decades thereafter, little progress was made in implementing this idea for a number of reasons—mostly because the work of actually constructing such systems still proved too costly. In the 1990s, however, for the first time advancing technology has allowed this dream to move close to reality, at least in a few places, fanning the flames of interest in the topic again.

Local institutions in a number of cities have now built automated, integrated, and recurrently updated neighborhood indicators systems and operated them successfully for several years. In 1995, six of these institutions joined the Urban Institute in establishing the National Neighborhood Indicators Project (NNIP) to further the development and use of such systems in local policymaking and community building.

This document is a guidebook based on their experiences. Its purposes are to explain the strategies and techniques used by the local partners in NNIP to both build and operate their systems so as to help institutions in other cities develop similar capacities. It draws on materials from the first-year report of NNIP (National Neighborhood Indicators Partnership 1996) but updates and refocuses them to serve more effectively as a guidebook.

This chapter begins by explaining the history and purposes of NNIP. It then reviews the contents of this guidebook, summarizing major findings and conclusions of each chapter along the way.

THE NATIONAL NEIGHBORHOOD INDICATORS PROJECT

Concept and Initial Planning

As noted, NNIP is a collaborative effort by the Urban Institute and several local partners.¹ In the Project's planning phase (1995–96),² a review of the structure, history, and accomplishments of the local partner institutions led to the conclusion that they represent an important technical and institutional breakthrough. All have built advanced information systems with integrated and recurrently updated information on neighborhood conditions in their cities—a capacity that did not exist in any U.S. city a decade ago. They have overcome the resistance of major local public agencies to sharing administrative data and, because of major cost reductions made possible through new information technologies, they have shown that such systems can be operated on an ongoing basis at a level that can be locally self-sustaining. Their indicators cover topics such as births, deaths, crime, health status, educational performance, public assistance, and property conditions.

Perhaps more important is the way they have used their data. NNIP partners operate very differently from traditional planners and researchers. Their theme is *democratizing information*. They concentrate on facilitating the direct practical use of data by city and community leaders, rather than preparing independent research reports on their own. And all have adopted as a primary purpose using information to build the capacities of institutions and residents in distressed urban neighborhoods.

A survey during the planning phase evidenced a high level of interest among other cities in developing similar capacities and in obtaining assistance from NNIP in doing so. It was also concluded that developing a National Neighborhood Data System (NNDS) on changing neighborhood conditions (combining comparable information from partner cities and adding data from other cities and national data sets) would be feasible and valuable for both national and local policy.

The longer-term plan for the implementation of NNIP entailed four types of activities to be undertaken by the Urban Institute and its partners: (1) developing concepts and practical tools to advance the use of information in community capacity building; (2) extending and applying the partners' data in creative ways to support better local policymaking, such as in designing local strategies to respond to welfare reform; (3) building the NNDS and using it to gain understanding of how inner-city neighborhoods are changing nationally; and (4) broadly disseminating project outputs and helping institutions in other cities develop similar systems and capacities.

NNIP Implementation

The full-scale implementation of the NNIP activities noted above began in late 1996.³ Since then, the staffs of the Urban Institute and the local partners have worked on a series of products that have been assigned in an overall work program, and the partnership as a whole has met three to four times per year in various cities. In brief, the project's main activities in each of the four areas noted above are as follows:

1. Advancing the Use of Information in Community Capacity Building. It is beginning to be recognized that one of the most promising avenues for building capacity in distressed communities may be through helping their residents take advantage of today's remarkable advances in information technology. But how this might be accomplished has never been thought through systematically. In 1997, NNIP assessed the state of the art in this field and developed a framework and approach for moving it forward. The approach entails further work in three areas: (a) building databases as tools for community collaboration and action; (b) building community capacity to use data effectively; and (c) building indicators of neighborhood health and change. In this activity, NNIP is working as a *learning community* in developing and field testing a variety of tools—databases, how-to handbooks, training curricula, websites, reports, and other products.

2. Using Information to Enhance Local Policymaking: Responding to Welfare Reform. The NNIP partners have always used their data in support of better policymaking at the city and metropolitan levels. The national implementation of welfare reform (which began after the first NNIP report was prepared) has heightened both the urgency of better-informed local policy and the awareness of local policymakers in many areas of their need for better information. One of the NNIP partners—the Center for Urban Poverty and Social Change in Cleveland—has extended its information base and conducted analyses that have made notable contributions along these lines. Their first work—plotting the spatial distribution of vulnerable welfare recipients against that of entry-level job openings in the metropolis—has motivated serious attention to adapting local transportation policies and systems. Spatial analyses of related supportive services, now under way, are expected to make similar contributions to the local policy process (Leete and Bania 1995; Coulton, Verma, and Guo 1996). Partners in all other NNIP cities are now at work, under Urban Institute guidance, in preparing similar analyses for their cities. The Urban Institute is preparing an overall report comparing and contrasting the results across cities.

3. Building the NNDS and Analyzing Neighborhood Change. The larger part of the NNDS was built during 1997, incorporating a broader range of information than was originally planned (Kingsley and Tatian 1997). The system has two components. Component 1 contains a core set of comparable census-tract-level indicators (mostly administrative indicators covering the 1990–95 period) drawn from the six partner systems. Component 2 integrates information from seven national data sets, mostly at the census-tract level, for all parts of the country. This component has been used to create a set of Metropolitan Profiles for the 100 largest metropolitan

areas, and it has also been used for an initial analysis of neighborhood trends in metropolitan Washington, DC (Turner and Hayes 1997). In the next stages of our work we are using the system (1) to analyze processes of neighborhood change and (2) to prepare additional data starters' kits for new cities that join the NNIP network.

4. Dissemination and Helping Other Cities Build Neighborhood Indicators Capacity.

This component involves work in five areas:

(1) Urban Institute and partner staff frequently make presentations on NNIP and its implications to national and regional conferences of groups interested in community building, local policymaking, and social indicators.

(2) The Urban Institute distributes copies of *Democratizing Information: First Year Report of the National Neighborhood Indicators Project* and hardcopy versions of other NNIP products to individuals and groups that request them.

(3) Initial guidebook materials have been prepared and assembled to establish an NNIP site on the World Wide Web (as a component of the Urban Institute's site). These include this guidebook along with materials on sources and techniques for indicator development, methods of using indicators to build community capacity, and the use of indicators in policy development.

(4) NNIP is taking steps to facilitate networking among institutions in all cities that either have established NNIP-type capacities or are taking steps toward that objective. A key event was our October 1998 conference that brought together the current NNIP partners with practitioners working on fledgling indicator systems in 11 other cities along with numerous representatives of national agencies and interest groups working on indicator development (135 individuals participated). Similar gatherings will be held in the future, and NNIP is implementing a new e-mail discussion list—*NNIPNEWS*—that will facilitate communication between meetings.

(5) NNIP has provided direct technical assistance to institutions in four additional cities to help them establish neighborhood information capacities similar to those of the NNIP partners. Included were guidance and analytic support to one established intermediary—the DC Agenda Project in Washington, DC—and presentations and guidance to the regional associations of grantmakers and other institutions in three other cities—Baltimore, Philadelphia, and Miami—that are in the process of establishing new intermediaries for these purposes.

ORGANIZATION AND SUMMARY

As noted, the main purpose of this guidebook is to explain the strategies and techniques used by the local partners in NNIP to build and operate their systems so as to help institutions in other cities develop similar capacities. These topics are addressed directly in Chapters 4–6. The

next two chapters (2 and 3) offer background information that should facilitate understanding of how, when, and why to apply the more specific suggestions given later.

Social Indicators: History and Key Concepts (Chapter 2)

What the NNIP partners have accomplished emerges from a history of interest in social indicators. This chapter reviews that history and explains other important concepts and terms that need to be understood to work in the field.

Our review of the history of social indicators recognizes that the idea of computer-based neighborhood-level indicators systems has been around for a long time, going back at least to the 1960s when there was a wave of interest in social indicators at the national, state, and local levels. Through the 1970s and 1980s, however, there was little practical follow-through on this movement. We argue that the reason is that important preconditions for neighborhood-level data systems did not adequately develop until around 1990.

These preconditions include (1) sufficient improvements in the capacity, and reductions in the costs, of desktop computers; (2) automated address-matching software (which permits rapid sorting of address-based data by neighborhood); (3) Geographic Information System (GIS) software, which links statistical databases to locations and permits rapid mapping of conditions and trends; (4) the automation of administrative records, with addresses and other information on events such as births, deaths, crimes, and home sales; (5) the development of local intermediaries who see developing neighborhood indicators systems as central to their missions (e.g., the local NNIP partners); (6) devolution and recognition of the ineffectiveness of fragmented social programs of the past; (7) interest in new programmatic approaches that are by nature more information-intensive; (8) the expansion of local institutions involved more deeply in local social policy (e.g., community foundations and other types of intermediaries); and (9) increased collaboration across local agencies and interest groups—collaboration that often heavily relies on more and better information than has typically been available in the past.

The last half of the chapter begins by offering definitions of the terms “indicators” and “benchmarking.” It then explains why data at the neighborhood level are increasingly regarded as a critical basis for local social policy and reviews the literature on how neighborhoods can be defined. Finally, it explains what GIS systems are and offers entry points to the rapidly expanding GIS literature.

NNIP Partner Institutions (Chapter 3)

This chapter simply gives a short statement about each of the original NNIP partners, describing the missions and structures of the organizations of which they are a part and explaining how their data-intermediary functions got started and what they have accomplished. The chapter

ends by noting seven common characteristics: All of them (1) maintain automated data systems with regularly updated neighborhood-level data from multiple sources; (2) emphasize the application of data in action programs (not interested in data for its own sake); (3) exist primarily to support community building and address persistent poverty; (4) serve as a one-stop shop for a variety of data users in the public interest; (5) emphasize democratizing information—facilitating data use by actual stakeholders, rather than using it directly themselves; (6) use information as a bridge to encourage collaboration among stakeholders; and (7) have developed a reputation as impartial providers of reliable information, not beholden to any short-term interests.

Building a Neighborhood Indicators System (Chapter 4)

This chapter starts with discussion of the strategies the local NNIP partners have followed in developing their systems and related capacities. In all cases, their approaches were incremental—that is, they started by collecting a limited amount of data and making practical use of it. These starting points, in turn, built support for them to acquire yet more data for additional uses. Eventually, all have acquired, and recurrently update, a sizable number of data files. They each operate a data warehouse, a collection that can be drawn upon quickly in creative ways across components to address new issues and opportunities as they emerge (not just to produce routine predefined indicator reports).

The chapter next explains the steps the local partners took initially to build confidence among major data providers (e.g., police and human resource departments) so that the providers would recurrently give them access to their data files. It offers additional detail about how the NNIP partners safeguard data quality and confidentiality (in all cases, when they obtain access to data about individual households, they enter into contractually enforceable pledges to securely maintain such data in their own facilities and not to release it to the public or other individuals).

The next section provides (and discusses) listings of the specific data files that each of the NNIP partners maintain. All of them are skilled users of U.S. Census products, and while their use of census data is noted, most of the material here focuses on the administrative data files they have assembled and locational data they have obtained from other local surveys and inventories. Interestingly, most have accumulated similar types of information. Main providers of administrative data (and in parentheses the total number of NNIP partners that obtain data from those agencies) are vital statistics agencies (6); police departments (6); public assistance agencies (5); school systems (6); hospitals and health agencies (2); tax assessors and auditors (6); building/planning departments (3); public housing authorities (5); development/budgeting departments (3); and business/employment directories (6).

The final section discusses how the partners specifically use indicators. Operationally, all of them give more emphasis to the use of indicators in topical policy analysis than in comprehensive monitoring of societal trends. Although they have done some of the latter (and could do more given

the capacities of their data warehouses), none has made a commitment to issuing comprehensive neighborhood indicators reviews annually.

NNIP has not endorsed any one scheme of indicators across sites, recognizing that variations in local policy priorities and data availability are sure to mandate differences. However, one well-considered scheme is presented for illustrative purposes (from the Cleveland Community Building Initiative, incorporating 110 different indicators). Discussion of this scheme points out the importance of asset-oriented indicators in community building—any system of indicators derived from administrative data sources will have to be supplemented with special surveys if asset indicators are to be adequately represented.

Using a Neighborhood Indicators System (Chapter 5)

This chapter reviews how the local NNIP partners use their systems to add value to many activities in their cities. It opens with a statement of the operating philosophy of the NNIP partners, developed out of a fuller examination of their commonalities as identified in Chapter 3. Central here is the commitment to use data to further social change in poor neighborhoods and to do so in a manner that builds capacities of the residents. This section also shows how “democratizing information,” the “one-stop shop” approach, and using information as a bridge to encourage collaboration among stakeholders all further these underlying objectives.

Next, the chapter analyzes the variety of actual uses to which NNIP partner data have been put and condenses this analysis into a summary of the basic functions performed by NNIP partners. Information on actual usage is presented in different ways: on one hand, through a long table describing 65 different applications of Piton’s data system for Denver over an 18-month period; on the other, through a series of boxes that give case examples of important applications across NNIP cities. The latter include, for example, the stories of how Atlanta used neighborhood-level data on the location of poverty to change a previously county-based system for allocating job tax credits; how Denver used its data to get a metropolitan newspaper to carry positive stories of achievements in poor neighborhoods; how Oakland made good data the lever for a school-focused system for coordinating previously fragmented social service delivery; and how Cleveland’s data became the basis for an entirely new strategy for revitalization in the city, the Cleveland Community Building Initiative.

In the functional analysis we identify four essential core capabilities of all NNIP-type intermediaries: (1) data assembly and cleaning; (2) marketing data and its use (principally around policy-related applications); (3) dissemination of findings; and (4) training and other interactive processes to help stakeholders use the data. The ability to conduct research and analysis independently is a related capacity that all NNIP partners possess—not essential, but very supportive of the core capabilities.

The way these capacities are applied may vary depending on the client and the specific use. The range of clients and applications include

1. City-wide initiatives (monitoring trends, strategic planning, building awareness, and supporting dialogue).
2. Agencies and service providers (strategic planning, allocating resources, performance monitoring and evaluation).
3. Communities (comprehensive community building, planning and implementation).
4. Private sector (identifying investment, marketing, and partnering opportunities).
5. Researchers (understanding city-wide trends, understanding the dynamics of neighborhood change).

Costs and Prospects (Chapter 6)

This chapter has three sections, all attempting to shed light on the prospects for NNIP-type capacities being developed in other cities. Generally, we conclude that the movement appears likely to spread. The first section shows that basic systems of this type can be built and operated today for a fairly modest annual cost. Using data derived from activities in Denver, we suggest that the basics can be provided for around \$125,000 per year, and that by the second year it should be possible to cover a substantial share of the costs from fees for service. These are levels that the philanthropic and business communities in mid-size metropolitan areas ought to be willing to provide once they better understand the benefits. What many people fail to recognize is that in all metropolitan areas today, many groups are now spending considerable sums in trying to pull together fragmentary neighborhood data to support their plans. Building an efficient one-stop shop like those of the NNIP partners should both reduce actual local spending on data and enhance the richness and quality of the neighborhood data that can be made available.

The second section summarizes the results of a 33-city survey we undertook in 1995, and some more recent evidence, to the effect that leaders in American cities are indeed eager to develop neighborhood indicators capacities. Many, in addition to the NNIP partners, are already moving in that direction; 82 percent of the cities surveyed were either in the process of developing local indicators systems or had serious plans to initiate such development.

In the third section, we try to boil down the materials from the guidebook into the 10 most important suggestions NNIP has to offer on what it takes to build and operate local neighborhood indicators systems successfully:

1. Design an indicator system for the explicit purpose of changing things—not just to monitor trends.
2. Develop a single integrated system that can support one-stop shopping.
3. Develop indicators at the neighborhood level—not just for the city as a whole.

4. Build a data warehouse—not just a set of files on indicators.
5. Serve multiple users but emphasize using information to build capacity in poor communities.
6. Democratize information—help stakeholders use information directly themselves.
7. Help stakeholders use data to tackle individual issues, but do so in a way that leads toward more comprehensive strategies.
8. Use information as a bridge to promote local collaboration.
9. Use available indicators but recognize their inadequacies—particularly the lack of sufficient data on community assets.
10. Ensure integrity in the data and the institution that provides them.

Chapter 2

**SOCIAL INDICATORS:
HISTORY AND KEY CONCEPTS**

This chapter provides background information necessary to understanding what the NNIP partners have accomplished and how similar capacity might be developed elsewhere. It opens with a brief history of the social indicators field since the 1960s—of which the neighborhood indicators movement is a part. It then more precisely explains and defines several key concepts: indicators, benchmarks, neighborhoods, and Geographic Information Systems (GIS).

SOCIAL INDICATORS: HISTORICAL PERSPECTIVE

American governments have been collecting data on changing social conditions for more than a century.⁴ President Hoover gave the idea more stature when he established a President's Research Committee on Social Trends in 1929,⁵ but the most intense period of scholarly and policy interest in social indicators occurred in the 1960s. By the middle of the following decade, the fervor had waned substantially, but in the 1990s there are signs that interest is reviving.

A review of this more recent history should help in understanding the potential for indicators initiatives like those developed by the NNIP partners. As we read it, a number of important conditions have emerged over the past decade—conditions that did not exist in the 1960s—that now make it much more likely that multidimensional local social indicators systems will become a feature of the policy environment in many American cities.

1960–75: An Idea That Came Too Early

Bauer (1966) defines social indicators as ". . . statistics, statistical series, and all other forms of evidence . . . that enable us to assess where we stand and are going with respect to our values and goals, and to evaluate specific programs and determine their impact." The idea of developing a national system of social indicators gained considerable momentum in the mid-1960s.

A prominent argument for social indicators was based on the acceptance and success of the system of national income and product accounts; if national monitoring of economic conditions was working, why not keep track of social conditions in a similar manner? Recurring monitoring via a system of social accounts should present a sounder basis for setting program priorities, help in establishing clearer social goals and policies, and simplify the task of program evaluation.

Several works were published to promote the concept and explore its potential—see, for example, Bauer (1966), Cohen (1968), Bell (1969), and U.S. Department of Health, Education, and Welfare (1969). In February 1967, Senator Walter Mondale (D-MN) and 10 other senators introduced The Full Opportunity and Social Accounting Act of 1967 (S.843 1967), which called for the preparation of an annual Social Report of the President and the establishment of a Council of Social Advisors to help the president prepare the report and conduct related research.⁶

Another factor supporting the idea at that time was the considerable improvement in computer capacity that had occurred over the preceding decade. It was possible for the first time to conceive of storing and manipulating vast amounts of data much more efficiently than had been possible in the past.

These factors stimulated a considerable amount of work with data at the local level as well. Prominent here were a series of major studies, such as the Chicago Area Transportation Study and the Penn-Jersey Transportation Study, mounted to serve as the basis for metropolitan-wide transportation planning. Typically, these studies entailed collecting a substantial amount of information on conditions at the neighborhood level and using the data in models to forecast future land-use change and, thereby, travel volumes. Some people hoped that this sort of data collection would be the leading edge for ongoing social indicators systems in the cities and that these would convey local advantages similar to those claimed for them nationwide.

These themes had generated a great deal of excitement initially, but by the mid-1970s they were no longer being pursued very actively either nationally or in individual urban areas.

1975–90: Waning Interest

We have not attempted a thorough assessment of the reasons the social indicators movement faded in the 1970s, but we note two factors that certainly had an effect.

First, at least some of the initial efforts to promote social indicators seemed to promise too much. Social scientists recognized that even an elaborate system of indicators would never replace the need for additional customized data collection and new thinking about social processes in individual policy analyses and program evaluations. Given our inadequate understanding of many aspects of social dynamics and the limitations of available measures, there was little hope of capturing enough of what you needed to know in any single system of numbers. It was felt that more effort should be spent on focused studies related to individual priority issues.

Second, the costs of collecting and manipulating the data were still substantial. The large databases assembled for the metropolitan transportation studies, for example, were hardly ever updated because of the expense. Although computer capacity had increased, the cost of running the models associated with those studies was still enormous. The analysts did not have the funds to experiment with the models adequately, and their forecasting power typically proved to be weak. At least one researcher proclaimed that the era of large-scale urban models was simply over (Lee 1973), and for almost two decades it appeared he was right.

A 1978 review of urban indicators concluded that, even though a number of studies had been undertaken in the 1960s and 1970s, the topic was "of low priority in most cities" (Flax 1978). There was little to suggest the need to revise that assessment through the end of the 1980s.

The 1990s: A More Promising Environment

While there is still no official system of social accounts to parallel that for the economy, the 1990s have seen renewed interest in the social indicators at the national level. The literature is expanding again (see, for example, Barton 1991; Miringoff and Miringoff 1997; Prosser and Stagner 1997), and there have been some impressive efforts to assemble useful nationwide indicators, particularly those related to outcomes for families and children (Federal Interagency Forum on Child and Family Statistics 1997; Miringoff 1993). And, although emerging from somewhat different (although overlapping) concerns, the indicators movement has also been given a boost by the push for more effective monitoring of environmental conditions (President's Council on Sustainable Development 1996) and the Government Performance and Results Act of 1993, which mandates substantially expanded performance measurement and reporting by federal agencies.

The indicators idea is making progress and gaining adherents at other levels as well. Probably the most prominent model among states is still Oregon's benchmarking effort (Oregon Progress Board 1992), although the consistent state- and county-level monitoring across the country by the Kids Count system may well be having more impact in spreading the word (Annie E. Casey Foundation 1996). At the city level, noteworthy examples include the involvement of many urban areas in the Healthy Cities movement promoted by the National Civic League⁷ as well as neighborhood indicators initiatives that are the subject of this report.

What has accounted for this progress? Different factors no doubt played varying roles at different levels and places. The nine factors noted below are those we judge the most important in both enabling and stimulating the development of neighborhood-level indicators systems.

1. Computer Hardware. One of the most important factors, of course, has been the remarkable improvement in computer capacities coupled with dramatic reductions in their costs. The costs of storing and manipulating large data sets are now a tiny fraction of what they were even in the 1970s. Computers that would have been regarded as extremely powerful then, even by systems professionals, can now be purchased for well under \$2,000. The types of land-use and transportation forecasting models that proved impossibly expensive to work with on the mainframe computers of old can now be handled easily on desktop computers, and adaptations of them are now coming back into regular use (Klosterman 1994; Tayman 1996).

2. Address Matching. Address matching may well have been the most critical ingredient in the new mix, at least for neighborhood indicators systems. It became possible in all parts of the United States because of the efforts of the U.S. Bureau of the Census in building its TIGER (Topologically Integrated Geographic Encoding and Referencing) system during the 1980s. Working with the U.S. Geological Survey, Census staff digitized the pattern of streets and other geographic features nationwide. Street names and address ranges for each block on each street are also an integrated part of the database (U.S. Bureau of the Census 1985).

Thus, anyone with a copy of the relevant TIGER files and a personal computer that is large enough can print out an accurate map of any city, showing the street pattern, the boundaries of census block groups and tracts, and other physical features (e.g., shorelines). In a process called geocoding, if the user inputs the address of a particular building, the computer can locate it on the map (the computer searches first for the street name and then looks along that street until it finds the block with the address range in which the requested address fits). If a user inputs a larger data file with all of the addresses at which some event occurred over the past year (e.g., births or burglaries), the computer can quickly locate them all and print out totals for each block group or census tract. The costs are remarkably low. The necessary TIGER files (or adaptations) are built into most commercially available GIS software packages (see discussion below). (The Annex at the end of this chapter provides additional information on geocoding software.)

3. GIS Software. Geographic Information Systems will be explained more completely later in this chapter. For now, it should be sufficient to say that GIS software packages have the capacity to store data with geographic references so that they can sort information by spatial units and print out maps. A range of packages are now commercially available, and the prices have dropped considerably over the past few years. One of the most user-friendly and least costly of these is being made available by the U.S. Department of Housing and Urban Development (HUD) for only \$249.⁸ It offers a simple menu-driven approach that allows novices to produce professional-quality city and neighborhood maps with comparatively little training.

4. Automated Administrative Data. Over the past decade or so, most local public agencies automated their administrative records. Before then, neighborhood analysis required adding up totals by census tract from handwritten logs, which was a remarkably arduous clerical task—so expensive in terms of staff time that it was seldom performed. Today, an agency's data tape with an entire year's record of events can be address-matched and tabulated by computer for any defined set of geographic subareas of a city in a matter of minutes. In most cities, administrative data are available on topics such as jobs, births, deaths, crimes, incidences of illness, student school performance, opening and closing public assistance cases, housing-code violations, building construction and demolition, changes in property values and taxes, toxic emissions, and many others.⁹

5. Local Institutional Development—Data Intermediaries. Finally, in some cities, new institutions have been created to establish and operate neighborhood indicators data systems and make the data available broadly to local groups that want to use them. These groups include the partners in NNIP, but similar entities have emerged in at least two other cities, and important institutions in many others are considering the idea.¹⁰ There are enormous economies of scale implicit in the work of building and operating neighborhood indicators systems—this will be explained in the remaining chapters of this report. These economies of scale imply, however, that the existence of a local data intermediary (or a partnership among several of them) may be essential to the development of effective system capacity.

6. Devolution and the Recognition of the Ineffectiveness of Past Social Programs. There is now broad bipartisan recognition that the social programs designed to alleviate poverty over the past few decades have not been working effectively. This has stimulated more emphasis on data systems, and research using those systems, to understand what went wrong and to support a creative search for more promising alternatives. The urgency of these tasks has been heightened at the local level by the expectation of more devolution (local actors will bear yet more of the responsibility for implementing programs that work) and the evident constraints on funding that imply the need for more careful planning (and more careful planning, in turn, relies on better information).

7. Information-Intensive Programs and Policies. The new programmatic approaches gaining prominence today are more information-intensive. A common critique of the programs of the past is that the fragmentation of separate functional specialties (e.g., different social services, crime prevention, education, job creation, housing) was an important cause of the disappointing performance of the 1980s. Needed instead—at both the community- and city-wide levels—are comprehensive strategies that cut across and set priorities among these specialties and integrate them in more coherent delivery. This theme is emphasized in both the new movement supporting comprehensive community building and the approach taken in the federal Empowerment Zone/Enterprise Community program, which will be discussed later in this report. To develop such approaches one needs a substantial amount of information to look more carefully at the dynamics

of current social forces in relation to the effects of a broad array of public interventions and their interrelationships.

8. Expansion of Local Institutions Involved in Local Social Policy. There is now a much broader range of institutions involved in urban improvement efforts and, therefore, a broader range of actors expressing the need for better information to guide their own planning. These institutions include the many nonprofit development groups and social service providers that emerged in the 1980s, but also city- and metropolitan-wide intermediaries, leadership coalitions, and networks (drawing participants from business groups, community foundations, and a variety of other public-interest oriented institutions).

9. Increased Collaboration. The 1990s is seeing greater acceptance of the need for collaboration among governments and the many new nongovernmental entities trying to address the problems and opportunities of American cities. The 1960s and 1970s were often characterized by confrontation between city hall and neighborhood groups. Confrontation and mistrust have by no means vanished, but today one is more likely to find the parties meeting with each other regularly in an effort to develop collaborative strategies for urban change (Wallis 1994; Kingsley, McNeely, and Gibson 1997). And as will be stressed later in this report, injections of well-organized and up-to-date information on urban realities often form the foundations for the fresh points of view around which such collaborations can be built.

DEFINITIONS AND APPROACHES:

INDICATORS, BENCHMARKS, NEIGHBORHOODS, AND GIS SYSTEMS

Before we discuss how the NNIP partners have gone about their work, it is important to clarify some of the key concepts that are foundations for it in all cities. We discuss the meaning we give to the terms "indicators" and "benchmarks"; why the NNIP partners have chosen to work with neighborhood-level data and how they define the term "neighborhood" in practice; and the meaning of the term "GIS."

Indicators and Benchmarking

A vast array of data can be used to describe conditions in a society, but not all data are indicators. Indicators are distinguishable in at least two respects. First, they are measures purposefully selected for tracking because they relate to important societal values and goals. Second, indicators must be expressed in a consistent form that permits comparison over time, and normally between places. To achieve the latter purpose, indicators are usually expressed as rates or percentages rather than as absolute values; for example, if you know only that there have been 100 new tuberculosis cases in one neighborhood over the past year and 200 in another, you cannot

tell which has the more serious problem in this regard—you can make that assessment, however, if you know the number of such cases *per 1,000 population*.

Many people think of the term "social indicators" primarily in reference to outcomes—that is, as measures of societal well-being (measures that tell you how well social goals are being achieved). That definition, however, is too restrictive for policy analysis and evaluation. One scheme (Land 1975) identifies five types of indicators for application in social system models:

1. **Policy instrument indicators:** variables exogenous to the system that are manipulable by social policy.
2. **Nonmanipulative descriptive indicators:** other exogenous variables that influence outcomes but are not manipulable by social policy.
3. **Outcome or end product indicators:** endogenous variables that define the social condition of concern and are consequences of the social processes embodied in the model.¹¹
4. **Side-effect indicators:** endogenous variables that influence or are influenced by, but do not define, the social conditions and processes under consideration.
5. **Analytic indicators:** parameters of the social processes specified in the model that play some role in influencing change but do not meet any of the other definitions.

Real-world applications by the NNIP partners that will be noted in Chapter 5 make clear that they recurrently use indicators in all of these other senses of the term. Sound planning as well as evaluation requires consideration of measures of most of these types. One wants to quantify outcomes, but one also wants measures of the factors (policy and nonpolicy) that may have interacted to cause those outcomes, and measures of important side effects that may have been produced as well.

The principles to be advocated here are as follows: (1) in any specific use, it is important to be clear about the roles different measures are expected to play, but (2) it is important to recognize that the appropriate role for any one indicator may change depending on the use at hand. To illustrate the latter point, the crime rate is clearly an important societal outcome in its own right. However, steps to reduce the crime rate may also be instrumental in producing other valued outcomes—for example, the level of reinvestment in the neighborhood and, ultimately, housing quality.

Another term related to indicators that is in high currency today is "benchmarking." Hatry (1995) notes:

The term benchmark has come to have many meanings. In recent years, the business sector has used the term to refer to a business firm comparing its own results to those of the best in the country (or world). Benchmarks are usually defined by dictionary as being a reference point or criterion against which to judge one's own performance. I believe this broader definition is more useful for public sector programs. A public agency can have many other reference points or benchmarks. These include the performance in past time periods, the performance of the best organizational unit within programs, and comparisons with the best (or average) outcomes of various demographic groups.

Thus, many indicators can serve as benchmarks when they are explicitly selected to perform that role. They include not only outcome measures in Land's classification, but also measures of the performance of policy instruments intended to influence outcomes.

The Importance of Neighborhood Data

Assembling data and creating indicators at the neighborhood level is obviously more troublesome and costly than collecting information for cities or counties as a whole. Why have the NNIP partners uniformly built neighborhood-based data systems? The answer is fairly obvious, but it is worth noting explicitly because many agencies and researchers continue to use city-wide averages as a guide to policy in a manner that can be quite deceptive.

City-wide averages are valuable where the conditions under study are fairly uniform across communities—that is, when city averages are reasonably characteristic of the conditions that exist in most neighborhoods. But we know that with respect to many important conditions in U.S. cities, such uniformity is rare.

This is particularly true with respect to poverty (and its attendant effects). In most cities, poverty is typically concentrated in a limited number of neighborhoods, and this concentration has been increasing over the past two decades. Mincy and Wiener (1993) found, for example, that only 5.6 percent of the nation's census tracts had poverty rates in excess of 40 percent in 1990, but such tracts accounted for 15.1 percent of the total population in poverty (up from 11.4 percent in 1970). Furthermore, research by Coulton, Chow, and Pandey (1990) found that, in Cleveland, there were significant policy-relevant differences in conditions even among tracts in this most concentrated category (i.e., poverty rates of 40 percent or more). This is certain to be the case in most other cities as well.

Where such contrasts exist, data at the city level alone can be misleading. Consider a city, for example, where student test scores are going up substantially in most communities, but dropping precipitously in a significant minority. The city average would show a modest improvement—a trend descriptive of neither reality.

Neighborhood-level information is increasingly being recognized as vital for planning and operating most city-wide services. Community policing is a good example. Police departments need to know a great deal about the characteristics of individual neighborhoods—social, economic, and physical circumstances as well as trends in crime—to deploy resources effectively. It is self-evident that knowledge of characteristics of neighborhoods and their populations is also critical to the deployment—at least the cost-effective deployment—of many other city-wide programs, such as health services, code enforcement, and fire prevention.

Knowledge of neighborhood-level conditions is even more obviously essential for developing effective strategies for improving individual communities. From the descriptions above, it is clear that such work in distressed inner-city neighborhoods has been the primary motivator in the missions of all seven NNIP partners. All of them share the same philosophy as to how that task should be approached: that is, through comprehensive community building.

As articulated by the National Community Building Network¹² (1994), the operating principles of comprehensive community building are to (1) integrate community development and human service strategies; (2) forge partnerships through collaboration; (3) build on community assets; (4) start from local conditions; (5) foster broad community participation; (6) require racial equity; (7) value cultural strengths; and (8) support families and children. Recent trends in community building practice are found in Kingsley, McNeely, and Gibson (1997).

Chapter 5 will present several examples of how neighborhood-level data from the NNIP partners' systems have been used to establish and help implement various policies and programs. In all of these cases, either the task at hand could not have been accomplished, or serious policy mistakes would likely have been made, if data at the neighborhood level had not been available.

A Pragmatic Approach to Defining Neighborhoods

Traditional Views. Most people think of a neighborhood as (1) a small residential area (size not exceeding the bounds of easy walking distance), where there is (2) considerable social interaction between neighbors, and probably (3) some degree of social homogeneity (as defined by class, ethnicity, or other social characteristics). Residents have common interests because they share the same physical space and likely for other reasons as well.

City planners most often adopt a neighborhood concept in planning new residential areas. Probably the most prominent explicit definition was by Clarence Perry in 1929 (Gallion 1950). Perry saw a neighborhood as the area served by one elementary school (enrollment of 1,000 to 1,200 pupils). The total population would range from 5,000 to 6,000. Assuming a density of 10 families per acre, the neighborhood would occupy about 160 acres that, if in a circular form, would have a radius of about one-quarter of a mile. America's urban areas have generally been developed at

much lower densities since then, but other than that, Perry's basic concept is still the driving approach for much of today's planning of new residential areas.

Operational Problems with Any Single Definition. Regarding an existing city, however, the task of defining a consistent set of neighborhood boundaries, satisfying to all people for all purposes, has proved to be impossible.¹³ There is considerable disagreement among social scientists as to "the degree to which the term implies homogeneity, social interaction, and place identity on the part of the residents" (Coulton 1995; White 1987). The extent of social cohesion and organization can vary widely across neighborhoods.

Undoubtedly, there is consensus that the neighborhood is a "social/spatial unit of organization . . . larger than a household and smaller than a city" (Hunter 1979:270). But here is where consensus ends because it has been difficult to link the social organizational structure of space to any particular spatial boundaries. Suttles (1972: ch. 3) deemed it helpful to see all of this in terms of hierarchy. He argued that the social and spatial aspects of neighborhoods are intrinsically interrelated, and that particular social functions are associated with different spatial levels of neighborhood. Suttles's most elemental unit was the "block face," the area in which children could play without supervision. The second level was labeled the "defended neighborhood": the smallest area possessing a corporate identity as defined by mutual opposition to another area. The third level, the "community of limited liability," typically consisted of an administrative district in which individuals' social participation was selective and voluntary. The highest geographic level of neighborhood, the "expanded community of limited liability," was viewed as an entire sector of the city. Surveys conducted by Hunter (1974) and Birch and others (1979) have found support for this hierarchical view of neighborhood.

A number of studies (e.g., Lynch 1960) have shown that residents of the same area often see the boundaries of their neighborhood differently and, for some, the concept has little clarity. Galster (1986) has pointed out that individuals may define their own neighborhoods differently for different purposes. Even where there is a fairly solid consensus among neighborhood residents about boundaries, that consensus may change over time.

On the basis of analysis of a variety of factors and often with citizen input, some cities have defined reasonably consistent sets of neighborhood boundaries that they have found useful for planning and other purposes over a considerable time period (e.g., Chicago, Cleveland, Denver, Philadelphia).¹⁴ However, it must be recognized that these are at best approximations, and they are not likely to suit all valid uses. For example, various agencies and service providers may have legitimate reasons to define service districts differently.

Approach Taken by NNIP Partners. This boundary problem is one of the primary factors that confounded the development of neighborhood data systems historically. To talk sensibly about the mix of conditions that differentiate neighborhoods from a policy perspective (e.g., housing quality,

social conditions, crime rates), it is necessary to have uniform boundaries—that is, it is necessary to be talking about the same place. Yet different agencies often tabulate their own data for geographic subareas of the city that do not match.

With the contribution of the TIGER files and address-matching (as discussed earlier), however, this situation no longer needs to be a problem. These technological advances make possible an alternative approach, the approach that has been accepted by the NNIP partners:

Do not adopt a single definition of neighborhoods. Rather, store all data on a small-area basis (e.g., address, block, block group) so you can add it up at different levels to serve varying needs of users.

It is important to use a definition appropriate for the purpose at hand, and to use it consistently for that purpose. In particular, for any use, boundaries must remain constant over time to calculate trends reliably. However, this principle now permits considerable flexibility. For example,

- Community groups can define whatever boundaries they want for their own initiatives.
- Service agencies can obtain all data for their own service districts (e.g., police beat).
- City planners can use comprehensive data for any standard set of neighborhoods they have defined.

It is also worth noting that planners and researchers often use census tracts to examine spatial variations in characteristics within cities. Census tracts have an average population of around 4,000; they thus approximate the size of a neighborhood as traditionally defined. Also, in designing tracts, the Census Bureau has tried to be sensitive to what cities have regarded as important physical and socioeconomic boundaries. However, tracts cannot be expected to represent neighborhoods the way local residents would define them. Nonetheless, analysis of spatial patterns and trends using census tracts can be extremely valuable, if this point is kept in mind. Similarly, analysis based on census block groups can be useful for finer-grained analysis (there are typically 4 to 10 block groups per tract). Since block groups are smaller, they are likely to be comparatively more homogeneous.

Geographic Information Systems

In a GIS, all data are referenced to specific locations on the surface of the globe. The computer records on housing-code inspections, for example, include not only information on the number and types of violations discovered, but also the addresses of the buildings involved that, via the TIGER files discussed earlier (or other similar interfaces), can be translated into definite locations in space, specified by latitude-longitude coordinates.

The boundaries of geographic subareas (census tracts, service districts, other defined neighborhoods, etc.) can also be specified in computer files, normally as a string of linked line segments with end points fixed by coordinates. Boundaries and other features can be entered into the GIS quite simply now by "digitizing": tracing over the lines on a map with a mouse connected to the computer. When these data are in place, the computer can very quickly add up any spatially identified variables (for example, the number code violations by type) occurring within any specified subarea, and relate them to other data in the system (e.g., calculate the number of code violations per 100 buildings and compare variations across all census tracts).

As noted earlier, the past decade has witnessed a phenomenal advance in the accessibility of this technology. Versions of GIS software today can be operated on desktop computers. The capacities of mapping software and printers have also much increased as their costs have been substantially reduced. Assuming the data are in the GIS, desktop installations can now easily create and print out accurate and attractive maps showing, say, the dot location of every building that has a code violation (on a street pattern base map), or census tract boundaries with different shades indicating different ranges of code violation rates.

GIS technology also makes it possible to calculate spatial measures that are more meaningful for policy analysis than those available from tabular data alone. For example, knowing how many food stores or day care centers are located within a two-mile radius of the center of a neighborhood is often likely to be more useful than knowing how many of each are located within the neighborhood's own boundaries.¹⁵

There are important differences between types of GIS systems, however. Much of the publicity about GIS in municipal circles of late relates to parcel-based GIS—systems that incorporate highly accurate specifications of the boundaries of each lot in the city, and other features such as the locations of water supply mains, for detailed engineering and land-planning applications. These systems are still very expensive; it takes an enormous amount of work to digitize all of the lot lines and substantial computer memory to store all of those data points.

Two of the NNIP partners (Atlanta and Providence) work with parcel-based systems, but most of their operations, and all of those of the other sites, work at a higher level of generality. The greatest level of detail they have to store is data on the street pattern and address ranges for blocks (as is contained in the TIGER files). GIS at this level is much less data-intensive and therefore much less expensive; it is affordable to many nonprofits as well as city governments.

ANNEX

GEOCODING SOFTWARE

By Peter Tatian

Geocoding can be defined as the process of assigning latitude and longitude coordinates to a list of street address records. Most software packages that do mapping, like MapInfo and ArcView, come with geocoding functions built in so that the user can automatically create mappable files from lists of addresses. There are also stand-alone geocoding packages, like MapInfo's MapMarker, that perform only this task. These stand-alone packages generally do a better job of geocoding than the mapping packages do.¹⁶

The success of the geocoding process is usually measured by the geocoding rate, which is the percentage of records to which one is able to assign coordinates. In addition to the simple number of matches, however, one should also look at the *precision* of the geocoding—that is, ideally one would like to have all records matched to the exact latitude and longitude coordinates of the street address. This may not be possible if the address is incomplete (say, if the house number is missing) or cannot be located precisely by the software. In such cases, most geocoding software will try to find the next best match and assign that to the record, such as the coordinates of the centroid of the ZIP+4 or ZIP code. (This information is usually stored as a code in a separate variable that can be attached to the records.)¹⁷

The success of the geocoding process depends on three factors: (1) the quality of the addresses provided on the administrative data file that you are trying to geocode; (2) the quality of the geographic database against which you are trying to match the addresses (i.e., the street file you have); and (3) the algorithm used by the software for matching your addresses to the street file. Since (1) is the same regardless of what software you are using, we need to look at (2) and (3) when evaluating different geocoding and mapping software.

Most dedicated geocoding packages are sold with a subscription for regular updates of street files, so the user is generally working with the most recent geographic file that takes into account the latest changes in ZIP codes, street numbering, and so on. This may not result in noticeably higher geocoding rates or more precise matches, however, since it is not always clear how the software companies update their street files. Most updates are probably minor and won't affect the results very much. (It should be noted as well that if you're using older addresses, say from the 1980s, having a more recent address file is not necessarily better.)

One of the big differences between mapping and dedicated geocoding packages seems to be in the quality of the algorithms they use for matching addresses to geographic coordinates. In particular, dedicated geocoding software has greater capabilities for handling inconsistently formatted addresses. For example, an address such as "3940 Wisc Av" may stump a mapping package, whereas a geocoding package would correctly interpret it as "3940 Wisconsin Avenue NW."

With both types of software, one always has the option of resolving such problem addresses manually, but when geocoding thousands of addresses this can be very time consuming. So the

more addresses that can be geocoded automatically, the better. Even if one has to resort to manual geocoding, the dedicated geocoding software packages have functions to make this easier and more accurate. For example, MapMarker has a feature called "candidate visualization," which allows you to see where multiple potential matches fall on a map before you make your choice.

A recent Urban Institute research project provided a chance to make a simple head-to-head comparison of two software packages. We geocoded a sample of addresses obtained from property tax offices in Baltimore County, MD, and Denver, CO, using both the mapping package MapInfo and the dedicated geocoding package MapMarker. With MapInfo, we got geocoding rates of between 60 and 70 percent, whereas with MapMarker we got geocoding rates of more than 95 percent. These rates were all obtained automatically, with no manual intervention on our part.

Of course, the higher geocoding rates come at a price. MapMarker is rather expensive, costing \$1,495 per state or \$8,950 for the entire United States (fall 1998 prices). This is an annual subscription cost, which entitles the user to regularly updated street files throughout the year. If one is doing a lot of geocoding in one area, the extra cost may be worth it.

A test version of MapMarker can be downloaded from the MapInfo website at <http://testdrive.mapinfo.com/tdc/home.nsf?OpenAbout>. The test version comes with Washington, DC, data (you can get data for another state by calling MapInfo) and limits the number of records you can geocode at one time.

In addition to doing geocoding in-house, there is also the option of using an outside geocoding service. This can be a cost-effective option if you do not have a great number of records to geocode. The advantage is that such services usually use the latest street files and have very advanced geocoding software. You can send them data files on tape, diskette, or via FTP (file transfer protocol). They will even do manual geocoding of difficult records, but the cost obviously increases. For more information on the services of one of these firms, GDT, see <http://www.geographic.com/products/index.cfm>.

Chapter 3

NNIP PARTNER INSTITUTIONS

This chapter introduces the six original NNIP partner institutions. It explains the kinds of institutions they are, how they have been funded, and the way they see their missions, and notes some key accomplishments.

The Atlanta Project

Institutional Setting. The Atlanta Project (TAP) began in the fall of 1992 as an initiative of former President Jimmy Carter, and it continues to operate out of the Carter Collaboration Center. TAP is a multidimensional effort designed to break the cycle of poverty in Atlanta and to provide a model for application in other cities. The TAP project area contains about one-half million people living with some of the poorest housing, health, and employment conditions in the United States. TAP is funded by private sources including foundations and a sizable number of major corporations with headquarters or major installations in the Atlanta area. The corporate sponsors play a direct and active part in project activities.

The three major tenets underlying TAP are empowerment, volunteerism, and project innovation. When the project began, the area was divided into 20 clusters. TAP provided a cluster coordinator for each—someone who lived in the cluster and was to work to encourage a true “bottom-up” approach to problem solving. Each cluster also had a corporate partner responsible for helping the residents prepare a strategy that reflected the community's priorities and built on its assets (each corporation loaned an executive committed to working with the cluster coordinator and the neighborhood steering committee for a five-year period). The project generally saw the corporate partners as strategic implementers who could take vaguely defined community aspirations and

translate them into a feasible work program (Peterson and Sundblad 1994). TAP is continuing, although its approach may be revised on the basis of a mid-course assessment.

Data and Policy Analysis Group. Data and Policy Analysis (DAPA) was established as a part of TAP to provide policy-relevant information to support work in the TAP clusters. It is funded totally by TAP at this point. DAPA is directed by David Sawicki, a professor of planning and public policy at Georgia Tech, who also serves as its representative in NNIP. As best we can tell, it was Sawicki who coined the term “democratizing information” to characterize his activities: "providing factual information directly for use by poor people and poor communities who have historically been denied access to the data they need to plan for their own futures effectively."

DAPA has four primary functions: (1) support for operations, which includes preparing data (tables and maps) to respond to specific well-defined information requests from users; (2) support for planning and community building (turning over electronic databases attached to digitized parcel maps directly to cluster coordinators and community groups so they can perform a variety of types of analysis themselves); (3) conducting policy analysis regarding a proposed project or piece of legislation; and (4) conducting broader research on issues related to poverty, community change, and urban policy that have a geographic component.

The Boston Foundation, Persistent Poverty Project

Institutional Setting. In 1985, The Boston Foundation, one of the nation's oldest community foundations, shifted substantial resources and programmatic emphasis to create a new initiative to address the challenges of the city's poor: the Poverty Impact Program. In 1988, building on its commitment to the issue of poverty, it received an additional grant from The Rockefeller Foundation to function as one of its Community Planning and Action Projects, including the mandate to generate a body of locally based information to help refocus and mobilize community attention to urban poverty. The Boston Persistent Poverty Project has operated since then as an arm of The Boston Foundation. Its purpose has been to "transform the ways we think about intergenerational urban poverty and those who live in poverty" and "to engage each member in our community in an effort to end those conditions which are unnecessary, destructive of the best in all of us, and, finally, unacceptable."

The Boston Persistent Poverty Project (1989) began with an analysis of the status of poverty in Boston, *In the Midst of Plenty*, based on an extensive survey. The next step was to collect information directly from residents of the city's various neighborhoods through community roundtables and focus groups, and to convene the Strategy Development Group (a body of 43 community activists, business leaders, academics, and civic, religious, and labor leaders) who then spent two years in dialogue with one another and with people from across the city to rethink Boston's approach to chronic poverty.

These community soundings resulted in a set of Guiding Principles for a New Social Contract to inform policies and practice at all levels. These principles are to (1) incorporate those directly affected by policies into the heart of the dialogue and community building; (2) value racial and cultural diversity as the foundation for wholeness; (3) promote active citizenship and political empowerment; (4) build on community strengths and assets; (5) ensure access to fundamental opportunities and remove obstacles to equal opportunity; (6) support and enhance the well-being of children and their families; and (7) foster sustained commitment, coordination, and collaboration based on a shared vision of mutual respect. These principles have been implemented in a new framework at The Boston Foundation and are being adopted or adapted by many other foundations, public agencies, and community-based initiatives.

The Boston Children and Families Database. The Project's director, Charlotte Kahn (also its primary representative in NNIP), managed a sizable collaborative process to develop a database that would support the Project's broader agenda: the Boston Children and Families Database (BCFD). The process began in 1991 through the convening of a diverse group (project staff with representatives of community-based organizations, nonprofit service providers, and data-providing agencies) to assess the value of such an undertaking. In 1993–94, groups met to select a set of specific indicators. They started with a complete list of variables available from the census and a number of administrative data files. They then broke up into smaller groups, according to interests and expertise, leading to the selection of a subset of about 800 variables to be incorporated into the system.

The full data files were collected from the respective contributing agencies by the staff of the Center for Applied Social Research at Northeastern University, which has handled the technical side of BCFD development and operation (the Center's director, Glenn Pierce, is also a member of the NNIP team). The administrative files were then cleaned and stripped of excess variables (i.e., those not required to construct the selected indicators); census variables were also abstracted; and all data were put into compatible formats as part of the system. These data are now being made available to the public at the census-tract and block-group levels (although most data are available and analyzed by Northeastern at the block-group level) in a package of six diskettes. A complete *User's Guide* (Sagara 1995) has also been prepared. Administrative data are being updated annually.

**Center on Urban Poverty and Social Change,
Case Western Reserve University, Cleveland**

Institutional Setting. The Center on Urban Poverty and Social Change (CUPSC) is the only NNIP partner that is solely university based. It is based in a unique university context, however; it is a part of the Mandel School of Applied Social Sciences at Case Western Reserve University, which strongly emphasizes direct work with local city-wide and community institutions to address the opportunities and problems of poor neighborhoods. The CUPSC mission is "to create, communicate, and apply knowledge of value to a broad range of audiences and constituents concerned with the

ultimate goal of reducing urban poverty and its consequences. . . . The Center serves as a pathway between the university, and the community, linking social science to social change."

CUPSC was founded in 1988 with grants from the Cleveland and Rockefeller Foundations (it was one of the latter's Community Planning and Action Projects). Its funders have broadened more recently to include other foundations and agencies, some of whom purchase research products and data services on a contract basis.

The Center's mission statement notes several features: "The special focus of all studies undertaken by the Center's multidisciplinary team is the *neighborhood*—the fundamental interface between the large-scale social forces that create poverty and the individuals and families who are poor. Center researchers have mounted many collaborative projects incorporating approaches from other disciplines and professions. . . . To ensure that its research has immediate relevance for its constituents, the Center undertakes projects only with community involvement."

Cleveland Area Network for Data Organizing (CAN DO). CUPSC Director Claudia Coulton (also its chief NNIP representative) began assembling neighborhood-level data soon after the Center was founded. Neil Bania of the Center is also an active participant in NNIP. In 1990, the Center issued a full report on trends in Cleveland's neighborhoods over the preceding two decades—a report used as the primary basis for the formation of the Cleveland Poverty Commission. As this and other reports were more widely disseminated, the Center began to receive more requests for data assistance. In response to this demand, the staff developed the CAN DO system.

In its current form, CAN DO contains neighborhood-level information from the 1990 census and from a variety of administrative data files (information, for the most part, for every year since 1980). Administrative data series go back to 1979 and are now updated annually. System data are made available through a user-friendly, menu-driven, online database network. The data can be accessed via the Internet through the Center's website at <http://povertycenter.cwru.edu>. Community groups can thus access and use the database directly. Center staff provide training and technical assistance to help them use it effectively in planning and program development.

The Piton Foundation, Denver

Institutional Setting. A piton (pē' tăn') is "a steel spike used by mountain climbers to secure their lifeline—an essential support as they ascend difficult terrain" (see www.piton.org). This image characterizes the purpose of The Piton Foundation, a private operating foundation (started in 1976) whose mission is to provide opportunities for children and their families to move from poverty and dependence to self-reliance.

Piton develops and manages a variety of programs addressing five interrelated areas affecting Denver's low-income families and neighborhoods: (1) improving public education; (2)

strengthening neighborhoods; (3) promoting economic opportunity; (4) supporting youth development; and (5) providing public information and technical support.

The Piton Foundation operates as the philanthropic investment division of the Gary-Williams Energy Corporation. The foundation is primarily supported by the company and its principals. In addition, because of Piton's experience in investing funds and human resources in community-based projects, other foundations, government entities, and nonprofits fund the foundation to manage projects related to Piton's mission.

The Data Initiative. Terri J. Bailey is the director of Piton's Data Initiative and has been its representative on the NNIP team. Started in 1991, the initiative was founded on Piton's belief that philanthropic and community-building efforts are durable only if they are based on reliable and objective information. Through the data initiative, the foundation gathers and organizes baseline information, conducts public information campaigns, trains neighborhood residents in the use of information for social action, and provides technical assistance and support to community-based efforts.

Piton maintains an inventory of information on factors affecting the quality of life in Denver, including up-to-date statistics on population, demographics, income, employment, crime, child care, welfare, child support, housing, health, and education. The data initiative works closely with program providers, researchers, policymakers, the media, and other foundations to provide accurate and timely data, as well as to develop the skills of other community stakeholders in the use of data analysis to effect beneficial change. The foundation also has developed a comprehensive communications strategy to expand the impact of its program investments and contribute to informed debates.

Traditionally, Data Initiative staff spent a considerable amount of time processing data to make it available in convenient form to users. That changed markedly in early 1998 when Piton launched its new website (www.piton.org), including Neighborhood Facts, a user-friendly, searchable database of neighborhood indicators, maps, and histories.

Piton's Data Initiative was also supported initially by The Rockefeller Foundation as a Community Planning and Action Project and after that by income received from data users. It is now considered a core function of the foundation and is supported entirely by the Gary-Williams Energy Corporation.

The Providence Plan

Institutional Setting. The Providence Plan was established jointly by Providence Mayor Vincent Cianci, Jr., and Rhode Island Governor Bruce Sundlun in April 1992 to become a central force in revitalizing Rhode Island's capital city. It is a nonprofit corporation, chartered to build

partnerships among government agencies, civic groups, and concerned residents in pursuit of six primary goals: (1) to put people to work; (2) to retain the city's middle class; (3) to make neighborhoods safe and livable; (4) to improve the quality of the public schools; (5) to provide decent and affordable housing; and (6) to increase jobs and tax yields in downtown Providence.

Its mission is to serve as "keeper of the vision" through efforts to direct a community-based strategic planning process that will translate ambitious city goals into specific program initiatives. The focus, however, is on distressed neighborhoods: "A holistic approach to community rebuilding has begun, focusing on the interrelated sources of urban poverty and decay."

The Providence Plan is funded by ongoing grants from the state and the city along with cash and in-kind contributions from private funders. It is obligated to raise at least one-third of its annual costs from sources other than the state and the city.

In addition to the provision of much improved information on the city's neighborhoods (see below), The Providence Plan has initiated a number of action projects to achieve its objectives. These have included working with the school system to improve school performance and partnering with citizen groups in neighborhood development efforts. Its broadest initiative has been its leadership role in the preparation of an overall strategy for the improvement of the city that formed the basis for Providence's application for the Federal Empowerment Zone/Enterprise Community Program. This entailed close collaboration with the city's Department of Planning and Development in analysis and in convening hundreds of residents to examine options for the city's future (State of Rhode Island and City of Providence 1994).

The Indicators Initiative. The director of the Providence Plan, Pat McGuigan, is its principal representative in NNIP. He and his predecessor, Michael Rich, have given strong emphasis to the use of neighborhood-level information as the foundation for many of their initiatives. They have accomplished this through a close collaboration with the Taubman Center for Public Policy at Brown University, which maintains the data system. The Center had begun developing an automated database on the city's neighborhoods even before The Providence Plan was initiated. Its director of research, Jack Combs (also a part of the NNIP team), is responsible for the Center's state-of-the-art computer facilities and many relevant data files. Extensive data files from a number of administrative agencies have been assembled, and most are being updated at least annually.

One of the most important products of this collaboration to date has been *The Providence Neighborhood Fact Book* (Providence Plan 1994), which contains a host of information (tables and maps) at the block-group and neighborhood levels, characterizing and comparing the city's communities. It was widely disseminated and now forms the basis for much of the community planning now under way in the city. The Providence Plan/Taubman collaboration has also laid the groundwork for a parcel-based GIS system for Providence, and maps for a substantial portion of the city have been digitized. Also, most of the system's neighborhood data have been installed in a World Wide Web site that can be accessed via the Internet.

The Urban Strategies Council, Oakland

Institutional Setting. The Urban Strategies Council (USC) is a private nonprofit organization founded in 1987 to work with key sectors in Oakland in comprehensive initiatives aimed at reducing persistent poverty. It was also supported initially by The Rockefeller Foundation as one of its Community Planning and Action Projects. Ongoing funding comes primarily from several local and national foundations, but income is also gained through contracts for the provision of data services.

USC builds community-wide coalitions that collaborate to bring about change in local systems such as health, social services, and the public schools with a focus on improving the outcomes for children and families. Its collaborations with agencies grow out of its advocacy of two principles: (1) that agencies shift from narrowly defined categorical services to comprehensive approaches that take aim at root causes of poverty, and (2) that agencies be held accountable not merely for "serving the poor" but for actually improving outcomes for the children and families they serve. Its programs have won it a national reputation as an innovative community-building intermediary (see, e.g., Walsh 1996).

The USC Data Group. From the outset, USC has used information as a central vehicle for achieving its objectives. Soon after it was founded, it prepared an influential report, *A Chance for Every Child*, which chronicled the conditions and challenges facing children in poverty in Oakland (USC published a similar report with more complete and updated information in 1995; Urban Strategies Council 1995). The Data Group now regularly assembles a sizable number of data files based on administrative records, and combines them with census data, for use in city-wide reporting and specific customized analyses and maps for community groups and other individual users. One of the reasons agencies are willing to share their administrative records with USC is to take advantage of the strong capacity it has built in data mapping. All products grow out of interactions with the users and are purposefully tailored to meet their needs. Joaquin Herranz was the director of USC's Data Group, and also its representative in NNIP, through late 1997. Cheryl Taylor has since taken over in both capacities.

Common Features

The six original NNIP partners were chosen to participate in this project primarily because they were judged to have the most sophisticated ongoing neighborhood-level data systems that existed in America's cities. The descriptions in this chapter make clear, however, that they also have other features in common. Below, we identify seven characteristics that characterize them. All of them

- 1. Maintain automated data systems with regularly updated neighborhood-level data from multiple sources.** These are the features that led to their selection to participate in NNIP.
- 2. Emphasize the application of data in action programs (not interested in data for its own sake).** None is a pure research institute—they are not primarily motivated by data assembly and research for their own sake. Each of the data initiatives was established as an instrument to serve the broader missions of the institutions of which they are a part.
- 3. Exist primarily to support community building and address persistent poverty.** In all cases, those institutional missions focus around the development of action programs to address the problems of persistent poverty, particularly as poverty may be understood and dealt with in the context of residential neighborhoods.
- 4. Serve as a one-stop shop for a variety of data users in the public interest.** Even with their focus on communities, many other institutions use their data to serve legitimate public purposes.
- 5. Emphasize democratizing information—facilitating data use by actual stakeholders—rather than using it themselves.** Perhaps this is their most special characteristic compared with research and planning organizations of the past.
- 6. Use information as a bridge to encourage collaboration among stakeholders.** In conjunction with the above, they are able to act as a comparatively neutral convenor whose primary asset is objective information. This allows them to bring stakeholders to the table solely because of their relevance to the policy issue at hand and often implies assembling parties who have seldom, if ever, worked collaboratively in the past.
- 7. Have developed a reputation as impartial providers of reliable information, not beholden to any short-term interests.** All of the NNIP partners make extra efforts (through data cleaning, adherence to confidentiality agreements, etc.) to provide accurate and reliable data for use in public discourse without bias. None represents an agency or branch of government or works exclusively for any one faction in its community. Although some now receive funds from governments for data work they perform under contract, all received their core funding from a mix of national foundations, local foundations, and private businesses that represent longer-term community interests.

Together these seven characteristics add up to a significant new force in, and approach to, local public policy. The importance of these commonalities will be examined further in Chapter 5 after we describe how the NNIP partners have built their information systems and what those systems now contain.

Chapter 4

**BUILDING A NEIGHBORHOOD
INDICATORS SYSTEM**

The purpose of this chapter is to explain how the NNIP partners have acquired data and how they built their indicators systems. It begins by discussing the general approach they have followed to build their systems—an approach that can be characterized by two terms: “strategic incrementalism” and “data warehousing.” It then notes techniques they have used to convince administrative agencies to share their data, including the steps they take to maintain confidentiality. Next it describes and compares the current contents of their systems. Finally, it reviews the approaches they have taken to selecting and defining indicators for ongoing monitoring of outcomes.

SYSTEMS-BUILDING APPROACH

Strategic Incrementalism

In theory, there are good reasons to avoid “fishing expeditions” in building an indicators system—that is, throwing in all the measures that come up in the net of ready availability. Doing so could be expensive because of the costs of collecting and storing a considerable amount of data that may not be relevant to or useful for the analytic purposes for which the system is being built.

To guard against this possibility, much of the traditional literature on social indicators recommends a more thoughtful approach up front: Review your purposes carefully in relation to relevant theory, define a limited set of indicators that will address your purposes, and then assemble only the data you need to construct that set.

It is interesting that the NNIP partners, while not ignoring this advice altogether, have not been very much constrained by it. Conditions in the 1990s have appropriately changed the rules of the game. First, there is more understanding now that important policy issues are likely to emerge in ways that are very difficult to predict ahead of time, implying the need to recurrently drop some old indicators and add new ones as priorities change. It is clearly desirable to maintain a sizable core set of indicators that does not change too dramatically, but the likelihood of the necessity of change around the edges needs to be recognized.

Second, the costs of assembling and storing data have been dramatically reduced. When the systems manager receives an updated tape on public assistance cases, for example, it may not be appropriate to copy and retain all of the administrative data on that tape. But it may well be reasonable to retain a broader range of data than is needed only to update the current set of accepted indicators. The cost of retaining some other variables that have a reasonable chance of being relevant to future policy dialogues is likely to be quite low.

Accordingly, none of the NNIP partners built its system on the basis of any grand design, listing all data that might be theoretically desirable beforehand. They were guided by theory and their experience with the real-world usefulness of various measures in making their selections. But they proceeded pragmatically, first reviewing data that could be acquired at a reasonable cost and then relying on their knowledge and experience to select measures they considered of value that could be derived from those sources. They were also guided by their knowledge of which policy issues were “hot” in the local dialogue at the moment. In all cases, their staffs conferred with outside sources in data selection, ranging from a series of individual interviews with various data users and providers in their localities in some cases to the broad process mounted in Boston (noted in the preceding chapter) involving a number of group meetings and a wide range of participants.

In the sequence of acquiring and using data sets, the importance of remaining relevant to the needs of local users (ranging from community leaders to government officials) cannot be stressed enough. If the data system does not help them come to grips with real problems and opportunities, community leadership is not likely to pay the bill required to sustain the system over the long term.

All NNIP partners take this orientation very seriously. They have been openly opportunistic in assembling their data, starting by acquiring data sets that were readily available, could be obtained at a comparatively low cost, and were known to be relevant to topics of interest in local policy discussions. They clearly recognize there were yet other topics, perhaps of equal significance, left untouched simply because the data were too difficult or expensive to obtain. Additions occur, mostly when there is a good match between expressed user needs and low-cost availability.

This incremental approach has much to recommend it. The alternative—designing some ideal model system first and then trying to build it all at once—has often been a recipe for disaster (see discussion in Chapter 2), setting an agenda so demanding that, in fact, no product is delivered.

Data Warehousing

It is helpful to distinguish between two tasks, both of which need to be taken seriously: (1) building a neighborhood data system and, based on that, (2) constructing a system of indicators. Maintaining a carefully defined core set of indicators (to support recurrent reports on changes in the overall state of the city's neighborhoods) is an important application. But maintaining a data system that is, within reasonable limits, broader than that would appear essential for effectiveness today—a data system that can support short-term analysis of emerging policy issues as well as the construction of indicators and permit you to revise your set of core indicators as local priorities change. Today this broader system is called a data warehouse and that, in essence, is what all NNIP partners have developed and use.

The NNIP system managers have assembled data from three types of sources: (1) the U.S. Censuses of 1980 and 1990; (2) administrative records regularly maintained and updated by local public agencies; and (3) special surveys and inventories. Of these, their use of administrative data has required the most innovation and best illustrates the advantages of data warehousing. The agencies provide the data to systems managers in one of two forms: (1) tables prepared by the agency with selected data already totaled for geographic subareas (e.g., block groups or census tracts) or, more commonly, (2) a copy of the complete administrative data file, which the system managers can manipulate themselves.

The latter form is potentially much more valuable. For example, instead of obtaining tables showing the total number of births in each neighborhood, with a limited number of characteristics, the complete vital statistics files give the NNIP partner access to a much richer array of information (with respect to births, the full files normally contain data on the age, race, marital status, and other characteristics of both the mother and father, as well as information on the baby's weight and condition at birth and the nature of the prenatal care the mother has received).

As noted earlier, the costs of retaining all of this information are now very low. In these circumstances, it would be extremely wasteful to throw the rest of the file away. It makes sense to keep the whole file at the ready so you can respond quickly as new data needs are expressed.

Over time, all of the NNIP partners have assembled a sizable collection of large data files, all parts of which they can access quickly and efficiently when they need to. Only a small share of the data in the warehouse is likely to be in use at any time—the rest is just sitting there. But since the costs of warehousing are now so low, and the benefits of rapid responsiveness in bringing good data to bear on new issues so high, it clearly pays to operate in this manner.

Actually, with regard to updating administrative data, NNIP partners have used two different approaches. Five of the original NNIP partners (Boston, Cleveland, Denver, Oakland, and Providence) have defined a core set of administrative data that they update regularly (normally once a year), acquiring the most recent administrative files or tabular summaries from the source agencies as required. Again, these sites retain considerably more data than they make available to the public. First, there is the "not regularly used" portion of the data in the administrative files they archive (for example, their files on vital statistics contain many individual and household characteristics that are not used in constructing their current set of indicators). Second, all have incrementally acquired data files on new topics that they are still examining and that have not yet yielded indicators to be added to their core system.

The other partner (Atlanta's DAPA) also maintains some time series, but it has more often added to, or updated, its system only when new requests from outside users, or new applications motivated internally, required it to do so. In other words, it does not attempt to define and regularly update and publish a comprehensive set of indicators. However, after DAPA uses a data file for one project, it retains it because of its potential usefulness for other projects later. Over time, DAPA has acquired data on most of the same topics covered by the six partners who do regular updates more consistently.

OBTAINING DATA AND SAFEGUARDING QUALITY AND CONFIDENTIALITY

Obtaining census data is easy. Tapes (or CD-ROMs) can be purchased at low prices from the Bureau of the Census. Obtaining administrative data files, however, is much more of a challenge. A decade ago, a main reason for doubt that integrated neighborhood data systems like those of the NNIP partners could ever be assembled, in fact, was the doubt that administrative agencies would actually be willing to provide their data files to outside groups.

Concerns That Had To Be Addressed

And yet, in several cities at least, agreements with numerous agencies for the recurrent provision of data have been reached and honored for the better part of a decade. To secure these agreements, the NNIP partners had to address three types of concerns on the part of the agencies: concern that (1) it would take extra work to provide the data; (2) confidential client data could be released to the public; and (3) the agency could be embarrassed by data that might reflect badly on its performance.

Concern that it would take extra work to provide the data. Before automated records, of course, this would have been a major barrier. To provide data to an outside group, an agency would have had to divert staff to copying records and preparing tabulations that could be released.

For agencies hard pressed by their regular workloads, such diversions would have been seen as far from trivial and hard to justify. But today, technology has largely overcome this barrier. In most cases, it is likely to take only a few minutes to copy an agency's complete client files and transaction records onto CD-ROMs.

Concern that confidential client data could be released to the public. This is a much more serious worry for the agencies. To obtain their data, the NNIP partners had to convince the agencies that they would take considerable precautions to avoid the release of personal information. The Boston Foundation, for example, signs a legally binding agreement with each of its data providers assuring that it will safeguard information about individual families. It then takes a number of precautions to implement those agreements, including (1) prohibiting access to the original file to anyone except the computer operators at Northeastern University, (2) making public only data that are aggregated at the block-group level or higher, and (3) suppressing even block-group data from public releases where they are based on fewer than five observations. All other NNIP partners employ similar arrangements.

Concern that the agency could be embarrassed by data that might reflect badly on its performance. This is the most troublesome concern. Even if the agency has a good record and trusts the NNIP partner, there is virtually no way to ensure that someone else might not misuse the data to cause possibly serious public relations problems. Ultimately, the NNIP partners had to convince the agencies of three things: first, that they themselves would act responsibly; second, that the benefits to the agencies and society more broadly would by far outweigh the risks; and third, that the leadership of the city saw the benefits and wanted the data to be available.

Overcoming the Concerns

Building confidence they would use the data responsibly. The NNIP partners carefully explained their mission statements to the agency heads when they requested the data. Missions call for responsible, unbiased use of data in the public interest; the partners are not investigative reporters interested in doing "hatchet jobs." Who the NNIP partners are was very helpful in this regard—that is, all are nonprofits that are not tied to any short-term political interests, but rather are aligned with what is locally regarded as long-term community leadership.

If they had been government agencies themselves, it might have been more difficult. All NNIP partners incorporate city, county, and state data in their systems—an agency of any one of these governments might well have had more trouble than an NNIP partner in reliably obtaining data from the other two. It should also be noted that, since their start-up phase, all of the NNIP partners have built a track record of responsible use over the years, generally making it easier to obtain data from agencies than it was at the beginning.

The case that the benefits outweigh the costs. There are two ways in which the existence of neighborhood data systems can directly benefit the agencies that provide the data. First, it can save them time and effort. When faced with a stream of calls asking for data on changing crime rates, police departments, for example, can refer them all to the local data intermediary (NNIP partner), saying legitimately that “their primary business is fulfilling data requests, whereas ours is not, and they are set up to do that efficiently.”

Second, it gives them efficient access to data they need from other agencies. Continuing the prior example, the police know that crime rates vary dramatically across neighborhoods and the factors that might let them predict future patterns include data on other social and physical trends as well as past levels of criminality—data that come from the records contributed to the system by other agencies. In other words, providing their own data to the system entitles them to gain the full benefit of the broader system for their own use in planning and monitoring change. Interestingly, almost all NNIP partners report that their major data providers have always been among the most active users of the systems they have built.

In addition, it would be wrong to assume that agency data providers act only out of their own self-interest. When the idea of an integrated system was described to them, many saw the broader advantages it could bring to local decisionmaking, and that was of substantial importance in their own decision to contribute their data regularly.

The role of city leaders. There is no doubt that in all NNIP cities, agencies were influenced by the fact that a great number of city leaders wanted the system to be built. The leaders involved included not only political officials but also leaders of business, philanthropic, and community groups—in other words, the key players in local civil society. Naturally, earning the joint support of such players up front is likely to be essential to the success of a neighborhood indicators capacity, well beyond just providing the sanctioning needed to get agency heads to contribute their data to it. More will be said about this in the last chapter of this report.

CONTENTS OF CURRENT NNIP SYSTEMS

As noted earlier, the NNIP partners maintain data from three types of sources: (1) the U.S. Censuses of 1980 and 1990; (2) administrative records regularly maintained and updated by local public agencies; and (3) special surveys and inventories. In the paragraphs below, we summarize the types of neighborhood-level information the partners now have in their systems under each of these sources. These data can, of course, be aggregated to form city- and county-level measures as well. (All of them maintain a number of other indicators that are available at city- or county-wide levels only; because of our focus on neighborhoods, we do not review them in this report.)

Data from the Decennial U.S. Census

All NNIP partners use 1990 U.S. Census data as a foundation for their indicator systems, and most use some comparable information from the 1980 Census as well.

The Bureau of the Census has made the 1990 data available in automated files that all of our partners can easily access and manipulate. Two primary census products have been used, both of which provide all data at both block-group and census-tract levels: (1) the STF-1A file (contains data from the full count enumeration, with counts and basic descriptors of the population—such as age, sex, race—households, and housing units), and (2) the STF-3A file (contains data from the census sample covering a broader range of topics such as social and economic characteristics of households and more detailed physical and economic characteristics of the housing stock).

Bureau of the Census documentation (1991, 1992) lists all of the variables on these files. The NNIP partners have relied on most of them in recurrent reports, mapping projects, and special studies. There is no need to list them all here since they are, by definition, comparable across sites and systems managers can access the full range as needed. Variables incorporated most frequently in regular indicator reports, however, are identified in Box 4.1.

Box 4.1

**Census Data Commonly Used
by NNIP Partners****Basic Descriptors**

- Number of people, households
- Population/household composition
 - Household types
 - Age structure
 - Race/ethnicity

Social and Economic Characteristics

- Adults by years/type of education
- Household income
- Poverty rate
- Labor force
- Employment (by type, occupation, and industry)
- Self-employment rate
- Unemployment rates
- Households receiving public assistance

Housing

- Number of housing units
- Housing units by type
 - Type of structure
 - Size of unit
 - Tenure (renter or owner)
- Rate of overcrowding
- Housing physical quality measures
- Housing affordability (ratio of housing expense to income)
- Value and rent levels
- Vacancy rate

Mobility

- Households moved, past 5 years

Administrative Data Sources

In the paragraphs below, we review the overall contents of administrative data sections of NNIP partner data systems. This description notes their status as of September 1997, evidencing considerable progress since the first review two years earlier.

Table 4.1 shows the data files that have been incorporated into the systems in each city by source. The table also shows whether data from each particular source, if available, have been obtained from the providing agency in a tabular form (open circle), or whether the partner system obtains data on individual cases linked to geography by address (solid circle).

Vital Statistics. All six maintain data on births, and all but one maintain data on deaths. Four of the six obtain data that are address-based.

Police/Crime Data. All six sites maintain data from police crime reports (address-based in four cases), and several have other related indicators that do not appear on those records (such as child abuse/neglect and police calls [911 system]).

Public Assistance. All but one of the sites have considerable information on the local participants in public assistance programs (Aid to Families with Dependent Children [AFDC], Food Stamps, General Assistance, Medicaid, Women, Infants, and Children [WIC], and Subsidized Child Care) at the neighborhood level. In almost all cases, where such data sets are available, they are address-based (indicating that the site also has a considerable amount of information about each participating household).

School Data. All six sites have some data on schools, such as enrollment levels, attendance, drop-out rates, and test scores. Four can provide indicators both for schools and for neighborhoods in which the students reside.

Hospitals and Health. Only one site (Boston) has assembled data on general hospital admissions. Also, only one site (Atlanta) has data on immunization rates.

Tax Assessor/Auditor Data on Land Parcels. All of the sites maintain some data in these categories. Tax records normally contain data on assessed values, tax status, area, and whether the parcel is or is not vacant. Other information, such as zoning, can sometimes also be derived from these records.

Building or Planning Departments. Only three sites currently maintain any data from these departments (code violations, building permits, demolitions) in their records, although several others suggest that such data could be easily added to their systems.

**Table 4.1
ADMINISTRATIVE DATA MAINTAINED BY NNIP PARTNERS**

SOURCE	ATL	BOS	CLE	DEN	OAK	PROV
VITAL STATISTICS AGENCIES						
Births	●	●	●	○	○	●
Deaths	●	—	●	○	○	●
POLICE DEPARTMENTS						
Crimes	●	●	●	○	○	●
Child Abuse/Neglect	—	—	●	●	—	●
Police Calls	—	●	●	—	○	●
PUBLIC ASSISTANCE AGENCIES						
AFDC	●	—	●	●	●	●
Food Stamps	●	—	●	●	●	●
General Assistance	—	○	●	—	●	●
Medicaid	—	—	●	●	●	●
WIC	—	—	—	—	●	●
Subsidized Child Care	—	—	●	●	●	●
SCHOOL SYSTEM						
Student Enrollment/Performance	●	●	●	○	●	●
Special Education	—	●	—	○	—	●
HOSPITALS, HEALTH AGENCIES						
Hospital Admissions	—	●	—	—	—	—
Immunization	●	—	—	—	—	—
TAX ASSESSOR/AUDITOR						
Parcel Characteristics	●	●	●	—	●	●
Tax Delinq. or Sales Prices	●	—	●	●	—	●
Vacant Parcels	●	●	●	○	●	●
BUILDING/PLANNING DEPARTMENTS						
Code Violations	●	—	—	—	—	—
Building Permits	—	—	●	○	—	—
Demolitions	—	—	—	○	—	—
PUBLIC HOUSING AUTHORITIES						
Public Housing Units	●	—	●	○	●	●
DEVELOPMENT/BUDGET DEPT.						
CDBG Expenditures	—	●	●	—	—	●
BUSINESS DIRECTORIES						
Employment/Economic Activity	●	●	●	●	●	●

●=Address-based; ○=Tabular; —=data not maintained

Public Housing Authorities. Five sites have data on the location of public housing projects, with some information on characteristics, such as number and types of housing units. In all but one case, the data are address-based. More complete data are now available for all sites through HUD's A Picture of Subsidized Housing database as of 1995–96.

Development Department. Three sites maintain data on Community Development Block Grant (CDBG) expenditures by neighborhood.

Business Directories. Before 1995, only two sites had neighborhood-level data on businesses and employment by type of industry (Standard Industrial Classification—SIC—code): Boston, which uses Cole's Business Directory for these purposes, and Denver, which uses the ES-202 data set. Now all sites have data of this type. Cleveland and Atlanta, in addition to Denver, have obtained and become skilled in using ES-202. Providence and Oakland use such data from the Dun and Bradstreet system.

The sources of these data, and the time periods for which NNIP partners have data from each source, are shown in Table 4.2. All of the partners maintain some annual time-series data, most often beginning in the late 1980s. Cleveland has built the most consistent set of historical records, with annual data for almost all variables going back to 1980. Denver and Providence also have extensive historical series for a sizable number of indicators.

Table 4.3 also shows the geographic coverage of their databases. These are not uniform in any site; most administrative data are typically available for the central city only, but some indicators are often available for larger areas, such as the county or the metropolis. Cleveland's system has the most complete data for a higher level of geography. Except for police data, all of its information is available for all parts of Cuyahoga County (which includes the city of Cleveland and many smaller surrounding jurisdictions).

Three comments about these listings seem relevant at this point. First, all of the sites have obtained an impressive array of information from a sizable number of agencies—particularly impressive given difficulties ranging from securing the willingness of agencies to provide access to their confidential files to the sophisticated processing work entailed in building it into a common system.

Table 4.2
ADMINISTRATIVE DATA: SOURCES AND TIME PERIODS

Data/Site	Source	Period	Area
Births			
Atlanta	GA Dept. of Human Services	1990–96	Metro
Boston	MA Dept. of Public Health	1990–95	City
Cleveland	OH Dept. of Health	1980–95	County
Denver	CO Dept. of Health	1980, 1990–97	Metro
Oakland	Alameda Co. Health Services	1988–95	City
Providence	RI Dept. of Health	1982–96	City
Deaths			
Atlanta	Fulton Co. Health Dept.	1996	County
Cleveland	OH Dept. of Health	1980–95	County
Denver	CO Dept. of Health	1980, 1990–97	Metro
Oakland	Alameda Co. Health Services	1988–95	City
Providence	RI Dept. of Health	1985–92	City
Crimes			
Atlanta	Atlanta Police Dept.	1990–94	City
Boston	Boston Police Dept.	1990, 1991, 1994	City
Cleveland	Cleveland Police Dept.	1984–96	City
Denver	Denver Dept. of Safety	1983–85, 1989–97	County
Oakland	Oakland Police Dept.	1990–94	City
Providence	Providence Police Dept.	72, 75, 79, 85, 89, 91–94	City
Public Assistance			
Atlanta	GA Dept. of Family/Children Services	1994–97	Metro
Cleveland	OH Dept. of Human Services	1980–96	County
Denver	Denver Dept. of Social Services	1995–96	County
Oakland	Alameda Co. Soc. Svcs. Agency	1989–94	City
Providence	RI Dept. of Human Services	1992–97	City
Schools			
Atlanta	Atlanta Public Schools	1994	City
Boston	Boston Public Schools	1992–94	City
Cleveland	Cleveland Public Schools	1995–96	City
Denver	Denver Public Schools	1988–98	County
Oakland	Oakland Unified School Dist.	1992–93, 1994–95	City
Providence	Providence School Dept.	1987–96	City

Table 4.2 (continued)
ADMINISTRATIVE DATA: SOURCES AND TIME PERIODS

Data/Site	Source	Period	Area
Hospitals/Health Agencies			
Atlanta	Fulton Co. Health Dept.	1992	City
Boston	MA Rate Setting Commission	1990, 1993, 1995	City
Denver	Denver Dept. Health and Hospital	1990–94	County
Tax Assessor			
Atlanta	Fulton Co. Tax Assessor	1994–96	County
Boston	Boston Tax Assessor	1992, 1996	City
Cleveland	Cuyahoga Co. Auditors Office	1989–92	County
Denver	Denver Assessors Office	1991–97	Country
Oakland	Alameda Co. Tax Assessor	1993	City
Providence	Providence Assessors Office	1993–96	City
Building/Planning Departments			
Atlanta	City of Atlanta PLANFILE	1994	City
Cleveland	Cleveland City Planning Commission	1980–92	City
Denver	Denver Building Department	1990, 1995–96	County
Public Housing Authorities			
Atlanta	US Dept. Housing and Urban Devel.	1995–96	Metro
Cleveland	Cuyahoga Metro. Housing Authority	1990, 1995–96	County
Denver	Denver Housing Authority	1988, 1992, 1995–96	County
Oakland	Oakland Housing Authority	1988, 1991, 1995–96	City
Providence	Providence Housing Authority	1993, 1996, 1997	City
Development Departments			
Boston	Boston Budget Office	1994	City
Cleveland	Cleveland Dept. Community Devel.	1989	City
Providence	Providence Dept. Community Devel.	1994	City
Business Directories			
Atlanta	ES-202	1996–97	Metro
Boston	Coles Business Directory	1993–94	Metro
Cleveland	ES-202	1996–97	Metro
Denver	ES-202	1990, 1993, 1996	Metro
Oakland	Dun and Bradstreet	1997	Metro
Providence	Dun and Bradstreet	1997	Metro

Second, while there are some notable differences, a substantial share of this information is comparable across sites (at least as to topic and type of source; further discussion of the comparability of the precise measures available appears later in this section).

Third, the patterns shown in Tables 4.1 and 4.2 help explain the comparability that has been attained. Data are most likely to be available where (1) the operating jurisdiction of the providing agency is large (i.e., state-, county-, or city-wide), and (2) legal requirements and/or professional traditions mandate comparable data collection and reporting. For example, records on births and deaths have to be maintained by counties and states, and basic reporting conventions are comparable nationally. The same is true for crime data (although nationally comparable FBI reporting standards do not apply for all types of crimes).

Data are less likely to be available where these conditions do not exist. Information on school and student performance, for example, is likely to be more obtainable in some urban areas (where the local school district encompasses the whole city or county) than others (where there are many small school districts within the city). Similar factors affect the availability of data on hospital admissions: Local indicator systems are not likely to be able to afford to collect this information where doing so would require them to work out agreements with every individual hospital in the city. They are likely to have it only where an agency with a larger jurisdiction has already taken on the job of assembling it in a comparable form.

Table 4.3 displays the types of data from surveys and inventories the NNIP partners have so far installed as a part of their systems. In all cases, these data identify the existence and location (by address) of some type of facility or service provider. Where such data are available, the systems generally contain very little additional descriptive information (e.g., size, performance characteristics) about these entities.

The first cluster on the table relates to the locations of various public facilities. To date, government agencies in only a few cities maintain fully automated geocoded inventories of such properties, although with the rapid development of parcel-based GIS systems, many more will likely be able to make such data available at low cost in the future.

The second cluster includes the location of churches, community institutions, and various service providers. Almost all of these are nongovernmental entities, and thus no one governmental agency will ever have the same responsibility for maintaining records on them that they do for properties they themselves own or rent. In virtually all American cities today, if such information is to be obtained, it will have to be obtained via special survey procedures.

Table 4.3
NNIP PARTNER DATA FROM SURVEYS AND INVENTORIES

	ATL	BOS	CLE	DEN	OAK	PROV
Schools	●	–	●	●	●	●
Recreation Centers	–	–	–	●	●	●
Fire Stations	–	–	–	●	–	●
Community Police Stations	–	–	–	●	–	●
Places of Worship	●	–	●	●	●	●
Child Care	●	●	●	●	●	–
Neigh./Commun. Orgs	–	–	●	●	●	●
Drug. Rehab. Svcs.	–	–	–	–	●	●
Family Plan. Svcs.	●	–	–	–	●	●
Drug Stores	●	●	●	●	●	●
Grocery Stores/Markets	●	●	●	●	●	●
Banks	●	●	●	●	●	●
Other Businesses	●	●	●	●	●	●

The final cluster relates to the locations of various types of private businesses. Local governments virtually never maintain and update data on business locations, but several commercial vendors are now producing and recurrently updating such data, in effect by automating the yellow pages.

As evidenced by Table 4.3, the various NNIP partners have taken different approaches to data in these categories. Five of them have seen such information as a high priority in relation to their own purposes and made substantial efforts to obtain it, at least in some categories. Given the momentum at the time of its founding, a number of public agencies collaborated with the Providence Plan to create a locational database covering the greatest number of these categories. Denver is a close second, followed by Atlanta. The Urban Strategies Council in Oakland has made the most impressive headway in assembling data in the most difficult category: nonprofit service providers. Cleveland also has extensive information in these areas and much of it is available county-wide.¹⁸

The Boston Persistent Poverty Project has not yet attempted to assemble information on public facilities and nonprofits, but it is the only site that uses one of the commercial surveys of business locations: the Coles Business Directory. It recognizes the need to be cautious regarding

accuracy with some variables from this source, but notes that the data have been very beneficial in offering some basic understanding of differences between neighborhood economies.

SELECTING NEIGHBORHOOD INDICATORS

Most of the advocates of social indicators since the 1960s have seen the primary use of indicators systems in monitoring trends in societal outcomes: A broad group of stakeholders jointly review their goals and select a set of clearly defined outcome indicators that reflects those goals. The data are then collected and examined and, after the initial cut, recurrently updated, probably annually. The indicators tell in what areas, and to what extent, things are getting better or worse, and that presumably tips the user off as to where policy changes and new action programs may be needed. The process also inherently supports accountability; the indicators often have a great deal to say about how well public agencies and officials are performing their jobs.

Earlier in this chapter we discussed the philosophy of data warehousing and said that the NNIP partners emphasize using their data in policy analysis and strategic planning (around individual issues and more comprehensively) as well as in this overall monitoring function. In fact, they have found that the policy analysis/strategic planning uses often have more direct payoffs. More will be said about this range of functions in the next chapter, but the overall monitoring function is certainly a part of the mix. How should a cross-cutting list of indicators for this purpose be selected?

Basic Guidelines

NNIP does not have a recommended list of outcome indicators. The partners have generally recognized that there is no one “correct” list. Stakeholders in each city ought to get together and devise a list based on their own local goals and the issues that are critical to them at the time as well as the range of reliable data that they can assemble at reasonable cost. Both immediate policy concerns and data availability are likely to vary across cities, so good local systems will always be different from each other.

Generally, the process needs to encourage stakeholders to identify their most important societal values—the societal goals that are most critical to them—and then devise concrete measures that would indicate how well each of these goals or values was being achieved. Beyond that, users would be sensible to follow a number of other criteria in selecting neighborhood indicators for a sound local system. The criteria adopted by the Piton Foundation Data Initiative are generally endorsed by all NNIP partners:

Timely and routinely gathered. Is the indicator readily available at least annually? Is the indicator current?

Reliable and stable. Can we be confident that the statistic will be compiled using a systematic and fair method, and that the same method will be used each year?

Understandable. Is the indicator simple enough to be interpreted by the general user and the public? Information that no one understands contributes nothing.

Relevant. Does the indicator reflect community realities and history? Is it capable of small-area analysis?

Useful. Does it tell us something important and, more important, is it possible to do anything about it? Is the indicator usable for policy and planning decisions? Does the indicator respond quickly and noticeably to real change?

Simple. Is the indicator relatively easy to obtain, or do complex confidentiality agreements have to be negotiated? Is it in a format that we can read and use?

Honest. Does the indicator accurately portray the issue? Is it capable of misinterpretation? Don't set out to prove a fact but, rather, to find the truth.

The Importance of an Asset Orientation

The basic orientation adopted in identifying goals and setting priorities (and thereby in selecting indicators) may be critical to the success of the effort. One of the principles of comprehensive community building to which all NNIP partners adhere is asset orientation. The importance of this view has probably been articulated most clearly so far by McKnight and Kretzmann (1993). They contrast it to the traditional approach in which city agencies and other outsiders assess a community's needs and problems and then use their existing programmatic tools to apply assistance to address the problems that are identified.

They characterize that approach as a "needs-driven dead end" resulting only in a perspective of long-term dependency inside the community. But it also distorts the way the neighborhood is viewed from the outside. Newspaper reporters often report the bad news about inner-city neighborhoods because that is the information they typically receive from standard sources (statistics on crime, infant mortality, etc.). In an initiative that will be discussed in Chapter 5, The Piton Foundation used its data to get the Denver press to pay attention to the more complete—and positive—story about the same communities.

In comprehensive community building, the community itself determines the agenda, and McKnight and Kretzmann suggest that this should occur by community residents first taking stock of their own assets and then finding ways to build on them. They categorize assets into three groups (in priority order):

1. Assets and capacities located inside the neighborhood and largely under neighborhood control. For example, the skills, talents, and experiences of the residents; individual businesses and home-based enterprises; resident income; community business, civic, and cultural associations; and religious organizations.

2. Assets located within the community but largely controlled by outsiders. Assets that can be brought under community influence with the right strategy, such as public schools, police, private hospitals, vacant land, and energy and waste resources.

3. Resources originating outside the neighborhood, controlled by outsiders. For example, welfare expenditures, public capital improvement expenditures, and public information.

What is the relevance of this orientation for city-wide neighborhood indicator systems? We draw three conclusions. First, while city-wide data systems could not, and should not, replace the process by which neighborhood residents identify and assess such assets for themselves (that process is a valuable community-organizing device, building community solidarity in and of itself), properly oriented city-wide data systems should be able to do much to facilitate it. In other words, the existence of a city-wide system with a broad range of neighborhood indicators should substantially reduce the cost and improve the reliability of the task for community residents if the system managers approach their role sensitively.

Second, much of the data that are most readily available from administrative records are deficit-oriented. This is an openly recognized problem with the data systems now operated by the NNIP partners (see the data listings earlier). This implies the need for extra effort for such initiatives to add more asset measures to their data sets.

Third, the managers of city-wide systems can use deficit measures in a productive manner if they make a definite effort to do so (see case examples presented in Chapter 5). McKnight and Kretzmann do not argue that no one should ever look at measures of problems in a neighborhood—such indicators are also a part of the reality and to pretend they do not exist would undermine serious planning. They simply say that such measures used alone lead to defeatism and should take a back seat to the more productive asset-based approach in strategy formulation. Deficit measures can be used positively to inform strategic processes that are dominantly asset driven.

The Current Challenge in Indicators System Development

Table 4.4 offers an illustrative list of indicators. It was prepared by neighborhood groups participating in the Cleveland Community Building Initiative in a process facilitated by NNIP's Cleveland partner (Milligan, Nario-Redmond, and Coulton 1997). This list highlights an important issue in this field at this point. It identifies 110 individual indicators the group would like to monitor. Indicators are grouped under five major goal-oriented domains: economic opportunity, institutions

and services, family and youth development, safety and security, and neighborhood identity and pride. Overall, this listing would be a good model as a starting point for indicator selection elsewhere.

The problem is that only about half of the indicators on this list can be derived from existing data sources (census and local administrative files). If they are to be monitored, the rest will require special surveys, which are always expensive. Clearly, even with the advances noted earlier, many of the possible indicators that are likely to interest local stakeholders cannot as yet be incorporated at low cost.

Table 4.4
LONG-TERM OUTCOME INDICATORS
CLEVELAND COMMUNITY BUILDING INITIATIVE

Benchmarks	Measures	Data Sources
<i>ECONOMIC OPPORTUNITY</i>		
Household income	Families below poverty line	Census Poverty estimates
	Median household income	Census
	Total neighborhood income	Census
	Public assistance households	DHS data
	Total public assistance payments	DHS data
Household assets	Homeownership	Census
	Median housing values	County auditor
	Automobile registration	State license bureau
Resident employment	Unemployment rate	Census
	Labor force participation rate	Census
	Residents with full-time year-round employment	Census
	Youth employment	Census
Job accessibility	Number of jobs within average commute times by skill level and quality	ES-202 RTA routes
	Residents' perceptions of job accessibility and quality	Resident survey
	Employer perceptions of residents	Business survey
	Availability of information about jobs in region	Institutional survey
	Availability of transportation to jobs throughout region	Resident survey Institutional survey
Neighborhood business activity	Jobs in neighborhood by industry	ES-202 Business survey
	Births and deaths of firms	ES-202 Business survey
	Perception of business vitality	Resident survey Business survey
Access to capital	Types of amounts of mortgage lending	HMDA data
	Sources of capital and credit for local businesses	Business survey
	Availability of banking services	Resident survey Institutional survey
Supports for human capital	Numbers and types of job training programs	Resident survey Institutional survey
	Number of training slots per unemployed and out-of-labor force residents	Institutional survey Census
	Numbers of residents in publicly supported training	Training program data
	Education attainment of adults	Census
	Education attainment of youth	Census
	High school graduation rates	Public schools database
	Residents' perceptions of employment and education programs	Resident survey

Table 4.4 (continued)
LONG-TERM OUTCOME INDICATORS
CLEVELAND COMMUNITY BUILDING INITIATIVE

Benchmarks	Measures	Data Sources
INSTITUTIONS AND SERVICES		
Quality of services and institutions	Accessibility of: health care child care employment training recreation transportation counseling/family support education police fire city services libraries/museums other	Resident survey Institutional survey
	Perceived quality of above services	Resident survey
	Perceived quality of facilities	Resident survey Observation
Influence over service agencies and local institutions	Resident participation on governance and advisory bodies	Resident survey Institutional survey
	Perceived responsiveness of service providers to neighborhood needs	Resident survey
Support for local services and institutions	Volunteer involvement in local institutions and service agencies	Resident survey Institutional survey
	Attendance at public meeting and agency/institution events	Resident survey Institutional survey
FAMILY, CHILD, AND YOUTH DEVELOPMENT		
Mobility of families with children	Turnover in schools	Board of Education
	Evictions	Resident survey Key informant interviews
	Residents' neighborhood tenure	Census Resident survey
Participation in cultural and recreational resources	Residents' perceptions of quality and convenience	Resident survey
	Number of slots in recreations programs by age	Institutional survey
	Proportion of youth involved in sports or other recreational activities	Resident survey
	Youth involvement in church and service activities	Resident survey Institutional survey
Need for child welfare intervention	Substantiated child maltreatment reports per 1,000 children	Cuyahoga County Department of Family and Children's Services
	Children in foster care	Cuyahoga County Department of Family and Children's Services
Maternal and child health	Low birth-weight births per 1,000 births	Ohio Department of Health
	Percent of births with adequate prenatal care	Ohio Department of Health

Table 4.4 (continued)
LONG-TERM OUTCOME INDICATORS
CLEVELAND COMMUNITY BUILDING INITIATIVE

Benchmarks	Measures	Data Sources
<i>FAMILY, CHILD, AND YOUTH DEVELOPMENT (continued)</i>		
Youth achievement	High school graduation rate	Cleveland Public Schools
	Post-high school education	Cleveland Public Schools Key informant interviews
School performance	Percent of children entering kindergarten who are school ready	Cleveland Public Schools
	Percent of children who are in the age-appropriate grade	Cleveland Public Schools
	School attendance	Cleveland Public Schools
Adult-child involvement	Parent involvement in monitoring their children's behavior	Resident survey
	Parental involvement in children's school work	Resident survey
	Adult monitoring of neighborhood children	Resident survey
	Parent involvement with school activities	Resident survey Cleveland Public Schools
	Adult volunteerism with children and youth	Resident survey Key informant interviews
<i>SAFETY AND SECURITY</i>		
Violent crime	Rate of violent incidents reported to police per 1,000 population	Cleveland police, VIN
	Number of incidents in which residents (children, adults, elderly) are victims of violent crime	Cleveland police, VIN
	Number of incidents in which residents are perpetrators of violent crime	Cleveland police, VIN
	Number of incidents in which outsiders are victims of violent crime	Cleveland police, VIN
	Number of incidents in which outsiders are perpetrators of violent crime	Cleveland police, VIN
	Residents' fear of neighborhood violence	Resident survey
	Business fear of neighborhood violence	Business survey
Domestic violence	Number of calls for domestic disputes	911 calls, VIN
	Child maltreatment reports per 1,000 children	Cuyahoga County Department of Family and Children's Services, VIN
Property crime	Rate of incidents of property crimes per 1,000 residents	Cleveland police, VIN
	Number of incidents of crimes against residential property	Cleveland police, VIN
	Number of incidents of crimes against commercial property	Cleveland police, VIN
Juvenile crime	Rate of delinquency filings per 1,000 population ages 10-18	Cuyahoga County Juvenile Court, VIN
	Number of delinquency filings for violent acts	Cuyahoga County Juvenile Court, VIN
Gang activity	Residents' perceptions of gang activity	Resident survey
	Incidence of gang activity in schools	Cleveland Public Schools, Security Department
	Symbols of gangs	Observation

Table 4.4 (continued)
LONG-TERM OUTCOME INDICATORS
CLEVELAND COMMUNITY BUILDING INITIATIVE

Benchmarks	Measures	Data Sources
<i>SAFETY AND SECURITY (continued)</i>		
Safe space	Parks, school yards, and other public spaces that are crime free	Cleveland police
	Housing complexes that are secure	Housing Authority
	Residents' perceptions of safety of public spaces	Resident survey
Community security programs/ activities	Proportion of streets with active block watch or clubs	Resident survey
	Community-police relations	Resident survey
<i>NEIGHBORHOOD IDENTITY AND PRIDE</i>		
Name and boundary identity	Signs and demarcations	Observation
	Boundary consensus	Resident survey
	External recognition	Key information interviews
	Community information availability	Resident survey Observation
Physical appearance	Physical condition of housing	Resident survey Observation Housing department
	Physical condition of public spaces	Resident survey Observation
	Physical condition of businesses	Resident survey Observation
	Physical condition of streets	Resident survey Observation
Civic involvement	Residents' participation in neighborhood affairs	Resident survey Meeting attendance
	Residents' political participation	Resident survey Board of Election
	Membership or activity in local organizations	Resident survey Institutional survey
	Support for local institutions	Resident survey Institutional survey
Neighborhood networks	Density of neighborhood acquaintanceships	Resident survey
	Perceived helpfulness of neighbors	Resident survey
Capacity for collective action	Perception of neighborhood ability to achieve its goals	Resident survey
	Perceived effectiveness of neighborhood leadership	Resident survey
	Resident involvement on citywide boards, commissions, etc.	Resident survey CCBI records Key informant interviews
	Ability to marshal support from diverse groups	Resident survey Key informant interviews
Strong community traditions	Participation in regular and special neighborhood events	Resident survey Key informant interviews
Note: RTA = Regional Transportation Authority; CCBI=Cleveland Community Building Initiative; VIN=Violence Information Network; HMDA=Home Mortgage Disclosure Act.		

*Chapter 5***USING A NEIGHBORHOOD
INDICATORS SYSTEM**

Having described the data systems that are maintained by the NNIP partners, we focus in this chapter on how they have used their data and what their applications have accomplished. We begin by reviewing the way their applications evolved in the context of their unifying operating characteristics introduced at the end of Chapter 3. We then classify their applications in a framework that exemplifies what we consider to be the appropriate core functions of an effective local neighborhood indicators data facility. A number of sample applications (in boxes) are provided to make this discussion more concrete.

The observations offered in this chapter are based on interviews with users in all six cities—city officials, nonprofit program managers, and community leaders—as well as on documents of, and stories told by, the NNIP partners themselves.

**A NEW PHILOSOPHY:
INFORMATION-LED COLLABORATIVE URBAN STRATEGIES**

In Chapter 3 we noted seven features that characterize operating styles of the NNIP partners. The first—assembling neighborhood-level data—is the baseline necessity. But these entities are clearly not ivory-tower research institutions. It is how they have used their data—the combination of the first with the other six characteristics (below)—that distinguishes them.

1. ***Maintain automated data systems with regularly updated neighborhood-level data from multiple sources.***
2. ***Emphasize the application of data in action programs.***

3. ***Exist primarily to support community building and address persistent poverty.***
4. ***Serve as a one-stop shop for a variety of data users in the public interest.***
5. ***Emphasize democratizing information—facilitating data use by actual stakeholders—rather than using it themselves.***
6. ***Use information as a bridge to encourage collaboration among stakeholders.***
7. ***Have developed a reputation as impartial providers of reliable information, not beholden to any short-term interests.***

As they began to develop their information systems, none adopted a first-come-first-served approach to selecting users and applications. The NNIP partners all chose uses carefully to ensure that their data would be legitimately applied in action programs (Characteristic 2) and, specifically, in programs and policies that supported community building and addressed the problems of poor communities (Characteristic 3).

Early on, most of the partners prepared city-wide multidimensional analyses of neighborhood change to heighten awareness of key policy issues and demonstrate the value of a neighborhood focus for dealing with many of them: for example, Boston's *In the Midst of Plenty* (Boston Persistent Poverty Project 1989), Cleveland's *Analysis of Poverty and Related Conditions in Cleveland Area Neighborhoods*, Denver's *Poverty in Denver—Facing the Facts*, Oakland's *Chance for Every Child*, and Providence's *Neighborhood Fact Book* (The Providence Plan 1994). These, and a number of other early applications, soon proved their worth, and all six partners have since had more requests for information—from a wide variety of possible users—than they can handle.

The partners have differed to some extent in the way they have charted their own course of action but, as noted, the similarities have been more important than the differences. Their remaining unifying characteristics warrant more explanation.

Democratizing Information

As noted earlier, all of the NNIP partners see their role primarily as facilitating the direct use of data by the stakeholders in the issue at hand (e.g., community groups, nongovernmental leadership groups, relevant government officials) rather than themselves serving as the primary actors in policy analysis and plan making. This approach (Characteristic 5) may be the feature that most distinguishes them from most of the professional research and planning organizations that have traditionally been the heaviest users of data about America's cities.

Generally accepted techniques for analyzing and otherwise manipulating statistical information for policy analysis have been derived largely from the social sciences, which in turn have adapted methods from physical science. Models of behavior are based on university research where the driving purpose is to tell the "truth" about something. University researchers and professional

policy analysts spend a great deal of time at school learning how to assess the accuracy of databases, techniques for manipulating them properly, and precautions so they will avoid drawing inappropriate inferences.¹⁹ Given their purpose and backgrounds, it is not surprising that many social scientists become nervous about extensive data use by people who do not have such training.

Indeed, all of the NNIP partner institutions are staffed by professionals who are well trained and highly credentialed in these techniques but who see their missions as mandating a different approach. Three points are relevant:

First, the stakeholders concerned with an issue may not be as strongly motivated to follow up on an analysis unless they have gone through it—step by step—themselves and internalized it. They need to feel that they created, and therefore own, the findings and conclusions. And they may well come up with different, and better, answers than an independent professional who does a study for them. Unlike the independent analyst, the stakeholders understand nuances related to purposes, values, and unquantifiable aspects of the situation that can guide them in adjusting an analytic sequence in process to better achieve their own ends.

Second, the purpose is different. After examining some factor relevant to policy, it is quite acceptable for an academic researcher to conclude that "we still do not know enough to say for sure" and leave it at that. Local stakeholders in community planning do not have that option. They have to act, and any action implies some assumption (explicit or implicit) about the factor in question. They have to make the best guesses they can, and if it is done properly, there is a good chance that taking a look at some imperfect data will lead them to make better guesses than if they do not look at any data at all. The techniques of strategic planning for businesses that have been developed over the past two decades are more applicable here—techniques that assist in using incomplete or imperfect information more reliably and assessing the risks associated with bad guesses resulting from those imperfections.

Third, the fact that local stakeholders have not had formal training in quantitative methods does not mean they do not have a good sense for numbers. Even in poor neighborhoods, families and workers have to make decisions based on comparing numbers (e.g., prices) every day and they are often quite shrewd in doing so. NNIP partners point out many cases where community residents have had insights about the meaning of data and ways to use it that professional analysts from the outside would surely have missed.

NNIP partners do have the requisite technical training. They, in turn, can train local stakeholders, at least in the main points to be considered in using data carefully and reliably. If they facilitate the planning process, they can also make suggestions and point out potential pitfalls as the analysis proceeds. They have become skilled at doing this without taking the sense of ownership or momentum away from those who will be taking the risks of acting on the analysis.

Information-Led Collaboration

This point (Characteristic 6) weaves together two themes. The first is the growing recognition in local policymaking of the importance of collaboration. Not too long ago, fixing the problems of its jurisdiction was generally assumed to be the job of the city government (and power brokers behind it). As we noted in Chapter 1, that top-down assumption is now seen as one of the factors that frustrated urban revitalization through the 1970s. Today, the bywords are collaboration and inclusiveness. Collaborations of public- and private-sector leaders are springing up to address local policy issues in many metropolitan areas (Wallis 1994), and they are being advocated within cities as well. With regard to solving inner-city problems, the National League of Cities states,

Such efforts will require shared power and responsibility among all sectors—community-based organizations, the philanthropic community, the private sector, and local government. Success will depend to a great extent on the willingness of each sector to form new relationships. Local elected and appointed officials can play pivotal roles. . . . They can convene and inspire people. . . . No single sector—public, private, or nonprofit—has the skills or the financial resources to win the war on urban poverty alone. . . . A key to designing more effective programs is inclusiveness. Decision making processes need to be opened up so that all stakeholders are able to come to the table together. . . . (Furdell 1995)

But how is such collaboration to be pursued? If the parties come to the table only to assert their old views and policy prescriptions, the chances for success would appear dim. But suppose they come, leaving their old versions of the conventional wisdom behind, willing to gain a new and deeper understanding of the urban reality around which they can then work together to build a new strategy.

The purpose of the initial meetings is to shake up old ways of looking at things and the institutional role-playing that accompanied them. And the most promising means for doing that is likely to be new information. This is the second theme in this connection and it is why the role of the NNIP partners has become so important in their communities. They have played this role—with a clear understanding of this way of looking at it—in many of their activities, several of which will be reviewed later in this chapter. Particularly illustrative in this regard is the Oakland Urban Strategy Council's initiative to integrate social services around schools (see Box 5.1 later in this chapter).

Entrepreneurial Impartiality

In connection with the characteristics of the NNIP partners just discussed, Characteristic 7 may be the most distinctive. It requires walking what is often a very fine line. On one hand, the partners are all entrepreneurial. They do spend a great deal of their time servicing requests from users as they come in (to be discussed more below), but they do not just sit back and wait for assignments to come to them. They work to bring important issues to the attention of key decisionmakers, they seek funding for analyses of those issues, and they take other steps to encourage stakeholders to develop strategies to address them. In this sense, they have an agenda, and it is focused on heightening the attention being paid to their central concerns: the search for realistic means of improving conditions for poor people and poor neighborhoods.

On the other hand, once an issue is being considered by the stakeholders, the partners try to remain impartial. They develop reliable information that is relevant to the issue and present it in a full and balanced manner, without bias. In conjunction with the theme of democratizing information, they encourage the stakeholders to form new positions based on the data, but they avoid being up front as advocates of particular institutional or programmatic approaches themselves.

In this sense, they are not agenda-driven. They recognize that if they were to be seen as "taking sides" on particular issues, they would quickly lose the core of their identity as institutions all players can trust to provide a useful and reliable factual base to assist in the assessment of alternatives, in the implementation of courses of action that have been selected, and in the monitoring and evaluation of progress. They also avoid using the data to "make headlines" about performance problems in government agencies. The agencies that provide information to them have come to feel confident that the NNIP partners will use data from which performance-related inferences could be drawn in a responsible manner.

Their institutional settings also have an effect on how they are viewed. All are the creatures of nonprofit institutions whose missions are locked around the long-term public interest in their localities and who characteristically avoid becoming aligned with any short-term factions or interests in the politics of the day.

We have noted that none of the NNIP partners is a part of any local government. It is not inconceivable that a neighborhood indicators data initiative with the characteristics we have been discussing could function effectively in a government agency, assuming it were highly professional and appropriately insulated from short-term political influence. The U.S. Bureau of the Census, for example, is a branch of government, yet it has earned a reputation for the rigorous and unbiased development of factual information and it works hard to maintain that reputation. It is worth observing that it would probably be at least somewhat more difficult to create an unbiased data initiative like those of the NNIP partners inside government than outside of it. And it is interesting to note that none of the fully operational neighborhood indicators initiatives we have identified in NNIP to date is managed by a government agency.

Denver, however, illustrates an important institutional alternative: partnership with government. The Piton Foundation's *Neighborhood Facts* website is operated in partnership with the Denver City Planning Office.

The Efficiency of the One-Stop Shop

We noted above that since the NNIP partners' data systems have been assembled, demand for their services has been tremendous and, while they shape their own agenda in critical ways in response to their underlying missions, they all spend a considerable amount of time responding to the requests for data they receive, many of which are not precisely aligned with their highest priority policy concerns.

That such a large number of users ask them for data is explained by a number of factors:

1. They work hard to check, clean, and document the data they receive from source agencies; that is, they provide data you can trust.
2. All of them are customer-oriented. Systems staff spend time talking over needs with users to specify data requests that will meet those needs effectively. Then, they pride themselves on filling these requests as rapidly as they can.
3. For some types of users (i.e., community organizations in low-income neighborhoods), they provide the data free of charge, and for others they charge reasonable prices.
4. The partners have become a one-stop shop. A user can now go to them and obtain virtually all reliable data that exists at the neighborhood level for their city (combined in a compatible format), rather than having to call several different agencies to piece together information as had been required in the past.

This last point deserves emphasis because it implies important efficiencies. Traditionally, it has been difficult enough for someone outside to obtain neighborhood-level data even from one city operating agency. Sometimes this has been because of a cumbersome process for approving the release or simply because of bureaucratic inefficiency. But the underlying problem is that most government agencies (consider the police department, for example) are not, and probably should not be, set up to be efficient providers of information to serve a broad array of users.

The existence of a trustworthy NNIP partner in a city saves money for everyone. The police department can give its full data file to the NNIP system (a low-cost transfer under accepted protocols regarding release to others) and from then on, simply refer all requests for police data to the NNIP system. Even other city agencies should find it more efficient to obtain police data from the NNIP partner than from the police department directly. The savings are compounded for anyone who needs neighborhood data from multiple sources. In the past, the cost (time as well as money) of obtaining such data for any individual study has frequently been prohibitive.²⁰

In short, the economies of having a one-stop data shop like those operated by the NNIP partners in a city are substantial. And this is an important part of the explanation of the substantial demand for their services.

Table 5.1 THE PITON FOUNDATION DATA INITIATIVE DATA USERS AND PURPOSES		
User	Data	Purpose
Boys and Girls Clubs of Denver	Indicators of high-risk youth (e.g., teen pregnancy, poverty, single parenting, juvenile arrests) geographically mapped	Select site for expansion clubs
Regional staff of HHS	Poverty and associated characteristics by neighborhood	General information
Community members and CSBG applicants	Poverty and associated characteristics by neighborhood	Select priority issues and areas for targeting CSBG funds
Sloan Lake Neighborhood Association	Neighborhood characteristics associated with increase in poverty (neighborhood classified as "at risk for poverty")	Decide neighborhood actions to combat increase in poverty and negotiate with city for support and resources
Brothers Redevelopment Corporation	Poverty and associated characteristics by neighborhood; housing statistics by neighborhood	Board of directors planning retreat
Goodwill Industries	Poverty and associated characteristics	Board retreat; community meeting
Denver Public Schools: elementary school principals	At-risk profile of children by school attendance area (e.g., single parenting, free school lunch participation, English proficiency)	General information and data support to school collaborative decisionmaking teams
Fifty for Housing	Poverty and associated characteristics	Presentation to housing membership organization
Mile High United Way senior management and program staff	Poverty and associated characteristics by neighborhood	Develop neighborhood-based grant-making strategy
Denver City Council	Poverty and associated characteristics by neighborhood	General information
Metropolitan Organization for People	Child poverty, juvenile justice statistics, educational attainment by neighborhood	Planning committee developing proposals for community organizing strategy
Denver Urban Ministries	Poverty and associated characteristics by neighborhood	Ministers designing poverty alleviation strategy
Northeast Denver Neighbors Connecting for a Healthy Community	Poverty and associated characteristics by neighborhood	Neighborhood scanning for Healthy Communities Initiative

<p style="text-align: center;">Table 5.1 THE PITON FOUNDATION DATA INITIATIVE DATA USERS AND PURPOSES</p>		
User	Data	Purpose
Mercy Housing	Poverty and associated characteristics by neighborhood	Target housing support strategies
St. Anthony Hospital Central Community Outreach Team	Poverty and associated characteristics by neighborhood	Develop outreach strategy for meeting needs of community residents
Planned Parenthood Board of Directors	At-risk characteristics (e.g., poverty, single parenting, low birth weight) of children by neighborhood	Program development and geographic targeting
Denver City Club	Poverty and associated characteristics by neighborhood	General information
National Civilian Community Corps	Poverty and associated characteristics by neighborhood	Educate community service volunteers working in Denver's poor neighborhoods
Westside Neighborhood Leadership Initiative (class of 1993, 1994, 1995)	Assorted neighborhood data by request of leadership class participants (e.g., education, crime and violence, arts and culture, recreation)	Participants and graduates use for varied individual projects
Arapahoe County Employment and Training Division	Indicators of high-risk youth (e.g., poverty, single parenting, violence, juvenile arrests) for Aurora and east Denver	In support of proposal to place 100 high-risk youth in work in energy conservation field (proposal awarded)
Chamber of Commerce	Wage and employment data by neighborhood	Development of Chamber's job development strategies
Jerusalem Church	Neighborhood characteristics associated with at-risk children (e.g., poverty, teen birthrate, dropout rate) for 5 northeast Denver neighborhoods	Program development activities
Family Resource School	Location and breakdown of Denver's Asian Pacific Islander population	Target culturally appropriate program development activities
Colorado Coalition for the Homeless	Housing and income characteristics by census tract for tracts located in or near Lowry Air Force Base	Develop plan for services for homeless populations on closing military base
Denver Office of Child Welfare Services	Profile of risk factors for children by neighborhood (e.g., poverty, mobility)	Geographic targeting of community-based child welfare reform effort
Mi Casa Family Resource Center	Characteristics of high-risk youth for 10 Westside neighborhoods	Program development activities for youth on Denver's Westside

<p style="text-align: center;">Table 5.1 THE PITON FOUNDATION DATA INITIATIVE DATA USERS AND PURPOSES</p>		
User	Data	Purpose
Hunt Alternatives Fund	Teen birthrates and associated indicators by neighborhood	Inform foundation's teen pregnancy initiative
Mile High United Way	Household characteristics of elderly by neighborhood	Geographic targeting of funding decisions for programs/agencies serving the elderly
Knapp Elementary School	Indicators of population, income, labor force, and educational attainment for neighborhoods served by school	Plans for involving parents and community in school
Clayton Trust	1. Demographic data 2. Birth data	1. Program development 2. Fund-raising
Cheesman Neighborhood Association	Crime data	Neighborhood planning
Archdiocese of Denver, Justice and Peace Office	Juveniles as victims and perpetrators of crime	Advocacy and policy
Denver Planning Office	Housing and income characteristics of Denver neighborhoods	Neighborhood planning efforts
Metropolitan State College	Income and marital status by neighborhood	Classroom instruction
Archdiocese of Denver	Education characteristics by neighborhood	African-American Catholics for Youth Build proposal
Capitol Hill United Neighbors	Characteristics of at-risk children by neighborhood	Advocacy and policy
Denver Parks and Recreation	Violent crime and violent death data by neighborhood	Program development and geographic targeting
Greater Denver Local Development Corporation	Education, labor force, housing, and income characteristics by neighborhood	Fund-raising
Colorado Department of Health	Labor force and disability data	Program development
Colorado Children's Campaign	Income and household composition	Policy and advocacy with Denver Public Schools
Governor's Family Center Initiative	Characteristics of at-risk children and families	Geographic targeting and training for applicants

<p style="text-align: center;">Table 5.1 THE PITON FOUNDATION DATA INITIATIVE DATA USERS AND PURPOSES</p>		
User	Data	Purpose
Auraria Community College	Births and household composition	Program development and geographic targeting
Colorado Trust	General community characteristics	Healthy Communities planning and training
Young Americans Education Fund	Income and poverty by neighborhood	Fund-raising
Denver Indian Health and Family Services	Public assistance participation by race and neighborhood	Fund-raising
The Women's Foundation	Birth, education, and income characteristics	Report on status of girls and women
Colorado Uplift	Teen births by race/ethnicity	Fund-raising
Five Points Community Development Corporation	Violence, crime, juvenile data	Fund-raising
Colorado Trust Teen Pregnancy Initiative	Birth, income, and demographic data	Geographic targeting
Philadelphia Inquirer	Income and poverty	News story
Washington Post	Income and poverty	News story
Rocky Mountain News	Income and poverty; school mobility; household composition for children; youth and crime	Various news stories
Denver Post	Teen pregnancy; labor and employment; income and poverty; juvenile crime	Various news stories
Montview Presbyterian Church	Income and poverty by neighborhood	General information
Park Hill Congregational Church	Income and poverty by neighborhood	General information
Office of State Planning and Budget	Indicators of child poverty by age	Budget planning
Uptown Partnership	Population, public assistance, earnings, education, and violent crime for two central neighborhoods	Program development
Sunrise Youth Center	Child maltreatment risk indicators	Program development

<p style="text-align: center;">Table 5.1 THE PITON FOUNDATION DATA INITIATIVE DATA USERS AND PURPOSES</p>		
User	Data	Purpose
Office of Community Services, HHS	Poverty, free school lunch participation, employment, teen births, and family composition of children	Program development
Food Bank of the Rockies	Poverty and associated characteristics by neighborhood for metro area	Keynote address at annual conference of food bank providers
Northwest Denver Ministerial Alliance	Poverty and educational statistics for northwest Denver	Program development for church organization
Knapp Elementary School	Neighborhood characteristics	Planning by school collaborative decisionmaking team
Greater Park Hill Neighborhood Organization	Neighborhood poverty and education data	General information
Neighborhood Funders Group	Income and poverty data by neighborhood	Targeting decisions of pooled grant funds
Safe City Summit	Neighborhood crime and poverty data	Planning for grant distribution of city violence prevention money

The NNIP partners respond to the needs of users in several ways. The easiest, for both parties, is when the user can simply access and manipulate the database directly (as is possible with the Boston, Cleveland, and Providence systems). In these cases, the job gets done with no additional time being spent on it by the systems staff. At the next level, a request comes in for tables and maps that the user does not have the capacity to prepare. Meeting these requests is generally fairly straightforward for the staff, given the equipment they now have available. At a yet higher level, the user wants not only a printout of information in the existing database, but also some professional analysis of the data and, in some cases, relation of the existing variables to some new sources of information. These assignments, of course, require much more time from the NNIP partner, and they are usually done under a contract with the user for a fee.

In all sites, the characteristics of users, purposes, and specific applications have varied considerably. As one illustration, Table 5.1 identifies 65 specific applications provided by The Piton Foundation Initiative in Denver, showing for each the user, the data requested, and the nature of the application.

The items in the table represent only a subset of all applications Piton has provided since it began making information available to the public. Its full log (1991–95) showed information requests having been filled for 116 different users: 14 percent were grassroots neighborhood organizations;

5 percent were church-based programs; 26 percent were nonprofit health and social service providers; 13 percent were boards of education and individual schools; 20 percent were local government agencies; 7 percent were state and federal government agencies; 7 percent were newspapers and other media representatives; and the remaining 8 percent were foundations and other interest groups.

It appears that demand for such information in Denver remains high. Piton's *Neighborhood Facts* website was visited by 3,480 users during its first 10 months of operation (March–December, 1998), an average of 12 visits per day.

Data applications and users in the other sites have been similarly sizable and diverse. Another example is the Cleveland CAN DO system, which was accessed by 373 separate users during the eight-month period from April through November 1995.

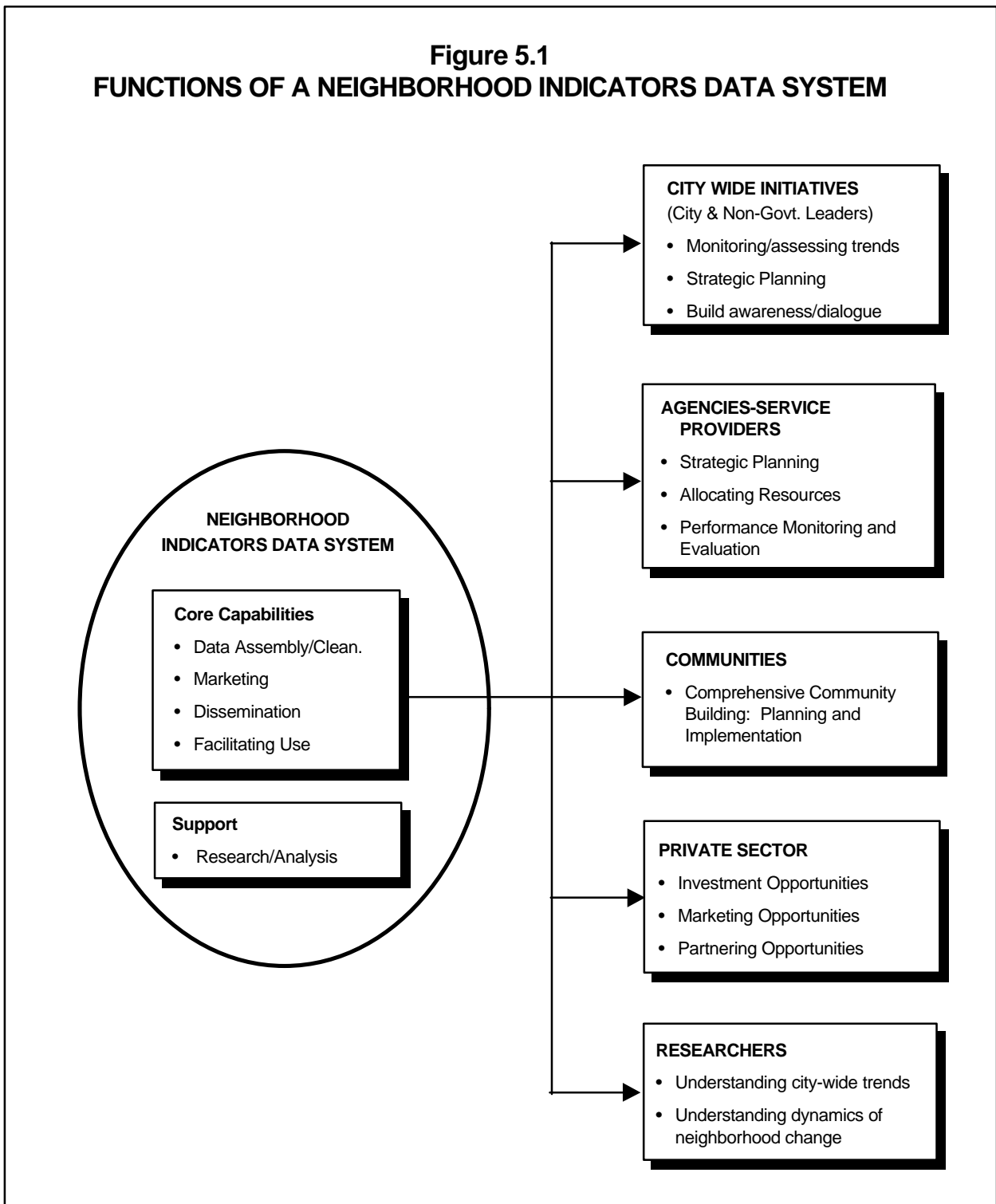
FUNCTIONS OF A NEIGHBORHOOD INDICATORS SYSTEM

Based on a review of both uses and users in the seven NNIP cities, a classification of functions has been developed as shown in Figure 5.1. While patterns of emphasis differ across the sites, the capabilities and functions identified are reasonably consistent with both the current realities and the aspirations of all of them.

Neighborhood Indicators Data System Capabilities

The rectangle on the left side of Figure 5.1 notes basic capabilities required of any NNIP partner. Those identified as "core capabilities" are fairly obvious given the materials already presented, but are worth stating clearly in this form.

Figure 5.1
FUNCTIONS OF A NEIGHBORHOOD INDICATORS DATA SYSTEM



1. Data Assembly and Cleaning. This will probably always be the most extensive element of their workloads. Defining characteristics entail (a) obtaining data at the neighborhood level; (b) obtaining such data from multiple sources, with the intention of covering all topics that contribute to or affect the definition of healthy communities; (c) checking and cleaning the data received and storing it in a form that is logically consistent and easy to use; and (d) recurrently updating data from these sources.

2. Marketing. This activity is not a substantial one in the seven NNIP sites because the "product" is now largely selling itself. As noted, a broad array of users are now aware that the data systems exist and are taking advantage of them with no need for the system managers to devote much attention to advertising. However, marketing in relation to their underlying mission is something the partners still emphasize. They are always on the lookout for new data and new ways of looking at old data that provide new insights about poverty and poor neighborhoods. They work actively to bring these ideas to the attention of appropriate leadership groups, and they then work with those groups to ensure that new issues and opportunities they discover will be given consideration in contexts that lead to action.

3. Dissemination. This continues as a major part of the workload of all NNIP partners. The term implies not only making the data available (e.g., servicing websites) and preparing and mailing out reports and data summaries, but also giving briefings to a broad variety of audiences. Today, all sites are exploring a mix of newer approaches to getting their information out to the public. These range from videos to more interesting forms of presentation on the World Wide Web to interactive "town-meeting" environments.

4. Facilitating Use. As the earlier discussion of characteristics implies, this should be an important activity for any institution operating a neighborhood indicators data system. Some of the NNIP partners devote more effort to it than others, but all feel their responsibility goes beyond pure dissemination. They all interact with users in various ways to ensure that the data will be used and interpreted appropriately and that it will be applied creatively in helping to address relevant policy problems and opportunities. Activities here range from programs to train users to use information independently (e.g., neighborhood groups—see Box 5.7 for a description of a relevant Piton Foundation application), to extensive interactive involvements, providing ongoing guidance and insights as partners in processes of strategic and program planning.

Research and Analysis: A Supporting Role. Traditionally, the entities that assembled sizable amounts of urban data were planning agencies and research institutions whose primary motivation in collecting the data was to use it themselves. All of the NNIP partners are quite capable of conducting highly professional policy research—indeed, some of them have earned prominent national reputations for doing so. However, that is not their driving motivation in operating a neighborhood indicators data system. The staffs of such systems need to be trained in research and analysis—otherwise they cannot train and assist other local stakeholders. It is quite likely that they will be asked to conduct some research independently themselves. However, in this context, such work is a supporting role, rather than a central one.

The following paragraphs discuss the functions of a neighborhood indicators system in terms of different users and types of substantive applications. The fact that communities represent only one of several types of users shown on Figure 5.1 does not undermine the position that strengthening communities is the central mission of all NNIP partners. As they work with the other types of users they do so in a manner that supports that mission.

City-Wide Initiatives

In these applications, the user could be the city or county government, but it has most often been a nongovernmental (or public and private) leadership coalition.

Monitoring and Assessing Trends. Most of the advocates of social indicators since the 1960s have seen the primary use of indicator systems in monitoring and assessing trends in societal outcomes: A broad group of stakeholders jointly review their goals and select a set of clearly defined outcome indicators that reflects those goals. The data are then collected and examined and, after the initial cut, recurrently updated, probably on an annual basis. The indicators tell you in what areas, and to what extent, things are getting better or worse, and that presumably tips you off as to where policy changes and new action programs may be needed.

Some NNIP partners first became noted in their cities for publishing comprehensive data like this (e.g., Cleveland, Boston, Denver, Providence), but none has supported a regular monitoring and review process since then. Atlanta has never published a comprehensive set. Why is this the case? Most important, while they all understand the activity could be valuable, they do not see it as an end in itself, but only as an instrument to contribute to their true objective: improving social outcomes, or changing things. For them, the focus has been on addressing urban poverty, particularly concentrated poverty in inner-city neighborhoods. In this context, comprehensive monitoring has not warranted a high enough priority.

They have spent most of their time instead helping neighborhood groups use data and working on analyses of city-wide policy issues with stakeholders at that level. While most would like to do a broader update in the future, they have recognized that (1) the communication processes in getting broadscale comprehensive community understanding of the trends is arduous and would be hard to motivate annually; and (2) year-to-year changes in many indicators can be erratic and not indicative of real trends—that is, it may be better to wait for at least two or three more years of data before drawing interpretations.²¹

Strategic Planning. It is in this area that several of the NNIP partners have made their most noteworthy contributions. Here, they provide data to and work with city-level leadership coalitions in planning strategically to address important social issues. Influential examples include the Oakland Urban Strategies Council's work with the local school system and social service agencies to develop new approaches for integrating services around children in needy families (Box 5.1) and the Cleveland Center for Urban Poverty and Social Change effort, supporting the Cleveland Foundation Commission on Poverty and others over several years, in shifting the city's overall approach to

dealing with inner-city poverty to one that is driven by the varying characteristics (problems and opportunities) of different neighborhoods (Box 5.2).

A culmination of use at this level to date for all NNIP partners with operative systems (Atlanta, Boston, Cleveland, Denver, Oakland, and Providence) was the use of their data as the primary basis for their cities' Empowerment Zone/Enterprise Community (EZ/EC) application processes. The federal requirements for this program emphasized themes that resonated well with the philosophies of the NNIP partners, including collaborative and inclusive planning processes and neighborhood-based approaches as well as strategic thinking based on the analysis of objective data (The President's Community Enterprise Board 1994). All of these cities were in fact successful in receiving designations under this program, and the NNIP partners there continue to provide support in local EZ/EC implementation. Those in Boston and Providence have been playing central roles in meeting current requirements to establish quantitative benchmarks for program monitoring.

In addition to Cleveland, the EZ/EC approaches in several other cities also recognize the importance of greater sensitivity to neighborhood differences in programming public and private action to help the poor. In such cases, neither effective strategic planning nor implementation monitoring would have been possible without a reliable neighborhood-based information system.

Building Awareness and Dialogue. The two functions discussed above refer to comprehensive uses of data to influence change in city-wide policies. The NNIP partners, however, issue frequent reports on special topics that, over time, build greater public understanding (city- and metropolitan-wide) of policy topics with which they are concerned. An example is the collaboration between The Piton Foundation, neighborhood groups, and metropolitan newspapers to cover newsworthy events in Denver's neighborhoods proactively and thereby avoid the negative distortion that is typical with the selective reporting on the nightly news (Box 5.3).

Box 5.1

Integrating Social Services Around Schools
(City-Wide Initiatives—Oakland)

In 1990, the Urban Strategies Council (USC) and the superintendent of the Oakland Unified School District recognized a common challenge. The school system and the city's array of social service agencies were not dealing with children holistically. Students' difficulties at school often emanated from problems at home, but the efforts of the schools and other agencies to help were fragmented and sometimes contradictory. They normally become involved only at times of crisis, rather than working coherently to address root causes so as to prevent crises. The response is documented by Casey (1995) and summarized below.

Because of the recognition of its advanced data processing capabilities, and the fact that it already had some of the relevant information on hand, the USC was able to secure, process, and link school and social agency data files for the students of one elementary school and their families. The results were presented to agency representatives in a 1991 meeting called "The Same Client." The results on the overlap of service provision were striking and motivated agreement to conduct a similar study for a much larger population (students at eight schools). In 1992, USC published the results in the report *Partnership for Change* (Urban Strategies Council 1992). USC showed that almost two out of three students used public services, and more than a third used at least two different services. It also documented that the system was investing much more in crisis services than in prevention, and that there were important differences in the nature of service needs and provision for different racial groups.

Study findings were presented to the County Board of Supervisors and other high-level officials, but their most important use was in the work of Oakland's Interagency Group (convened and facilitated by USC). The process established new working relationships between representatives of different agencies and forced them to recognize their common challenge. They had to "acquaint themselves with agencies outside of their normal scope of work" in defining the questions they hoped the data-match would answer, and then, after the results were in, "discuss the kinds of joint action they might undertake, patterns of service use, relationships among agencies, and the ultimate effectiveness of existing programs" (Casey 1995).

The process resulted in the idea of redeploying staff from different agencies to form a Family Support Team around individual schools. The Team would "develop new collaborative strategies for working with troubled families, taking on the crisis situations most taxing for schools, and leaving school resources to be focused on prevention, on establishing more positive activities, and on outreach to parents." This concept has since been tested in several schools and wider-scale implementation is under way. USC continues to be involved in monitoring performance and providing ongoing guidance and support.

Box 5.2

Neighborhood-Based Strategy for Urban Improvement
(City-Wide Initiatives—Cleveland)

In 1990, the Mandel School's Center on Urban Poverty and Social Change (CUPSC) issued its first full analysis of trends in Cleveland's neighborhoods (Coulton et al. 1990). The report used the Center's expanding system of administrative indicators but also relied on census data back to 1970. The report was widely disseminated and discussed and raised the consciousness of local leaders about the growth of concentrated poverty and its impact on poor people and poor communities. It uncovered, however, substantial diversity of conditions and circumstances even among poor neighborhoods—facts suggesting that the "one-size-fits-all" approach of many past city initiatives was never likely to be workable.

This report motivated the Cleveland Foundation to support the creation of the Cleveland Poverty Commission (directed by Arthur Naparstek, dean of the Mandel School). The Commission worked to devise a new strategy to revitalize poor communities, and the Center's neighborhood indicators were drawn upon frequently in the process. Several special analyses were performed to focus on pertinent topics such as education, health, housing, and investment.

The Commission's conclusions called for a framework of comprehensive community building—improvement strategies for individual neighborhoods (or "urban villages"), designed and managed by resident groups, based on community assets, spurring integrated priority setting across traditional programs, and with public agencies in supporting roles (see further discussion of these principles in Chapter 3). A Cleveland Community Building Initiative (CCBI) was created to spearhead implementation, and CUPSC data was again relied upon extensively in the process of selecting the initial neighborhoods to participate and by the selected Village Councils as they developed their strategies. Maps, trend graphs, and profiles have been prepared by CUPSC, CCBI, and Village Council representatives, working collaboratively. CUPSC is also working with CCBI on plans for evaluating the process which, given the nature of the strategy, would of course be impossible without recurrently updated information on outcomes at the neighborhood level.

This approach was later used as the basis for Cleveland's successful application for funding under the federal Empowerment Zone/Enterprise Community Program. In short, Cleveland's entire strategy for urban improvement was motivated by neighborhood data and such data continue to be instrumental to its implementation.

Agencies/Service Providers

The conclusions of the EZ/EC strategies noted above reflect a growing recognition of program operators in many cities that, particularly with today's resource constraints, sensitive spatial targeting is a necessity. Whether it is community policing or the deployment of health workers or child care centers, variations in neighborhood conditions mandate variation in program strategies. This is true for the many new nonprofit service providers that have emerged over the past decade as well as city agencies.

Box 5.3

Another Generation/Neighborhood Facts
(City-Wide Initiatives—Denver)

One of the most difficult issues low-income neighborhoods face is getting others outside their community to look at both their assets and their problems realistically. Not only is there not a place to share the stories of your neighborhood's successes and struggles, but people outside assume "facts" about low-income neighborhoods regardless of their truth or context. The only news about Denver neighborhoods that routinely made it into the newspapers was once a year when the police department released their neighborhood crime rates showing, of course, disproportionately high rates in low-income neighborhoods. Everyone outside those neighborhoods thought the story said it all. What else was there to say? The residents those neighborhoods knew there was a great deal more to say but had no venue in which they could speak.

In late 1991, The Piton Foundation entered into a partnership with the *Rocky Mountain News*, the largest newspaper serving Colorado. Together, staff of the newspaper and the data initiative meet and decide on issues that portray the realities of Denver neighborhoods. The data initiative then develops a data profile for Denver neighborhoods, the *Rocky Mountain News* usually provides headline and detailed coverage of the data in the newspaper, and the data initiative follows with a newsletter (called *Another Generation*) sent to key local and state leaders. In addition, the data initiative issues well-timed press releases on neighborhood issues as data become available and follows up with a fact sheet entitled Neighborhood Facts to the same mailing list.

Both Colorado major newspapers, the *Rocky Mountain News* and the *Denver Post*, are now accustomed to reporting on neighborhood issues. While they still routinely report the latest crime rates, they also now know enough to contact local residents for their views. But more important, neighborhood news gets headlines and the newspapers cry for more.

Strategic Planning and Resource Allocation. The most obvious first application in this category is the provision of neighborhood data to assist in strategic planning. All NNIP partners have served a variety of program managers in this way—see, for example, the list of Piton Foundation applications in Table 5.1. Two cases, focusing on the spatial allocation of resources, are discussed in more detail in Box 5.4 (the allocation of job tax credits in Georgia) and Box 5.5 (the implementation of the Family Preservation and Support Act in Denver). In both instances, serious misallocations of resources, in relation to program intent, would have occurred if data at the neighborhood level had not been available.

Box 5.4

Allocating Job Tax Credits
(Program Targeting—Atlanta)

In 1989, the Georgia General Assembly created the Georgia Job Tax Credit Program (GJTCP) to encourage job creation in the least developed areas of the state. Initially, the state's 159 counties were ranked according to their comparative economic strength, based on four indicators: (1) unemployment; (2) per capita income; (3) percentage of persons in poverty; and (4) average manufacturing wage. Of the total, 40 counties were selected as the least developed. Under GJTCP, firms in qualifying industries operating in these counties would be eligible to claim a job tax credit (initially \$1,000, later increased to \$2,000) for each new full-time job they created.

A number of observers saw that this scheme created serious inequities. Several counties not qualified for the program (i.e., whose average conditions did not meet the "least developed" criteria) had within them pockets of poverty (mostly clusters of inner-city neighborhoods) that represented some of the most economically distressed areas in the state. Data and Policy Analysis (DAPA) was asked to analyze the same indicators, state-wide, on a census-tract basis. It identified 236 tracts in these other counties whose economic conditions were worse (sometimes by a substantial margin) than existed in the qualified counties.

In 1993, legislation was passed to extend the tax credit to residents of these concentrated poverty zones in urban areas, defined on the basis of DAPA statistics, in addition to those in the counties already qualified. DAPA has since provided information assistance to businesses (scans to determine which of their job applicants live within the specified zone) to help them take advantage of the program in Atlanta.

Performance Monitoring. Over the past several years, there has been a growing acceptance of the need to develop and maintain quantified measures of the performance of government programs. This practice has been emphasized in Osborne and Gaebler's (1992) *Reinventing Government*, reinforced at the federal level by the passage of the 1993 Government Performance and Results Act, furthered by the publication of guidelines on useful approaches and techniques (Hatry et al. 1992) and collaborative efforts to spur action by professional groups (like the International City Management Association), and popularized by some notable monitoring achievements (e.g., the Oregon Progress Board's (1992) *Oregon Benchmarks*).

What does all of this mean for neighborhood indicators systems? Actually, not much use has been made of data from NNIP partner systems for performance measurement as yet, but we suspect that will change over the next few years. We do not expect that institutions like the NNIP partners will take on the task directly in any formal sense. In fact, there is much to suggest that if they are actually to have an effect in improving performance, performance measurements systems have to be designed and operated ("owned") by the program managers themselves (Hatry et al. 1992). However, program managers (in nonprofits as well as governments) are likely to want access to more neighborhood-level data as their own systems become more sophisticated.

Box 5.5

Implementing the Family Preservation and Support Act
(Program Planning and Targeting—Denver)

This 1993 federal legislation requires that states engage in a community assessment and planning process to determine community characteristics that influence risks of child maltreatment. The Colorado Department of Human Services requested The Piton Foundation Data Initiative to provide information to help assess community need as a basis for program planning and resource targeting.

The Initiative performed a literature search; identified 16 indicators of economic, family, stress, and violence risks as well as 10 indicators of children- and family-service capacity; and provided risk profiles using these indicators for all Colorado counties and neighborhoods in Denver. These profiles formed the basis for decisions to target federal resources to 10 Colorado communities, 3 of them in Denver inner-city neighborhoods. The decision to pass funds through to inner-city neighborhood organizations represented a major departure from previous state practice, which had relied solely on county government for implementation.

The profiles are now being used within the targeted communities to help inform organizations, prepare plans, and benchmark improvements they intend to demonstrate as a result of their efforts. Staff of the Piton Data Initiative continue to provide guidance and data updates, working directly with community organizations. Copies of updated community profiles are sent to legislators, county commissioners, mayors, chiefs of police, and interested citizens.

For some types of programs, the neighborhood context should not greatly influence performance. For example, with measures of the current condition of different roads being repaired and some related data we should be able to assess the cost-effectiveness of the work of different street repair crews regardless of what neighborhood they are working in. But for many other programs it is not so easy. Suppose, for example, that trends in the rates of child maltreatment, structural fires, and student test scores vary substantially in two different neighborhoods. On the surface, it is impossible to attribute such variances to differences in the performance of the public interventions that are charged with dealing with these issues. Performance can be inferred only by examining measures of program activity in relation to data on trends in neighborhood social, economic, and physical conditions.

Program Evaluation. Similar arguments can be made about formal program evaluations. Governments and foundations have spent a great deal of money on evaluations whose results turn out to be inconclusive, mainly because the evaluators did not have the resources to collect all of the data on the changing neighborhood context they need to properly interpret the program's effects. And it would clearly be wasteful to provide substantially more money to each in a series of one-shot assessments to collect similar data over and over again. It seems likely that the only way an adequate range of information on changing neighborhood contexts—so necessary to sorting out the impacts of many programs—will ever be provided is through the development in each city of a single

efficient ongoing data assembly system like those that have been developed by the NNIP partners—systems that exist to serve multiple users, including program evaluators.

Communities

As noted, most NNIP partners give their highest priority to providing data to community groups to use in designing their own revitalization initiatives. In doing so, they endorse the principles of comprehensive community building, but they also approach the task via their own principle of information-led collaboration. The notion is to encourage community residents to learn about their neighborhood—its comparative advantages and disadvantages—as a part of the process of designing action programs, and to use the process of joint learning and discussion as a vehicle for organizing and building a collaborative tradition.

In some cases they are not involved directly themselves—that is, they provide the data to community leaders and other facilitators who take it from there. Where they are directly involved, they do not enter the engagement with any formula approach. The concept of democratizing information means encouraging the users to select the issues and the kinds of information they want to look at, as well as controlling the processes of analysis and strategic planning. They of course explain the data they have available and options for analyzing it, and offer suggestions as they go along, but they do so in a way that encourages—rather than stifles—choice by the participants.

Also, they make clear that their systems contain only a part of the information that is relevant for such processes and encourage the residents to collect more. Most endorse the idea of asset mapping, which entails neighborhood interviews and surveys to discover detailed information about potential strengths that, in many cases, are never likely to be captured in recurrent administrative record keeping.²² They see these two approaches as complementary. The statistical information is an important part of what anyone needs to know to design a sensible community improvement strategy. For a community group, the costs of assembling such data on their own would be substantial (in most cases, probably prohibitive). The fact that they can obtain this data at virtually no cost from the neighborhood indicators systems thus frees up resources to permit the community to probe more deeply in areas the statistical data cannot address.

The use of systems data goes beyond their use in strategic planning, however. Box 5.6 shows how communities have used parcel-level data provided by DAPA in Atlanta as the basis for day-to-day implementation of a major component of their revitalization initiative. Box 5.7 offers a quite different example: one Denver community's use of Piton Foundation data as a basis for training community leaders, and thereby encouraging creative data use by the graduates later on in various ways to improve conditions in their neighborhoods.

Box 5.6

Neighborhood Tax Delinquency and Redevelopment Studies
(Community Building—Atlanta)

On the basis of programmatic interests expressed by resident groups, Data and Policy Analysis (DAPA) has provided considerable parcel-level data to 11 Atlanta Plan clusters to assist in planning for redevelopment and reinvestment. The work entailed (1) preparing data on the status of property tax delinquency for all parcels within each cluster; (2) analyzing the effectiveness of the Homestead Exemption Program; (3) locating properties with buildings which had potential for redevelopment; (4) identifying elderly homeowners in jeopardy of losing their homes because of outstanding tax liens; and (5) identifying, by name, absentee property owners whose decaying and abandoned properties hamper the residents' quality of life. The data have been presented in tables and listings and also via DAPA's ATLAS*GIS system in a series of parcel-level maps for each cluster.

This information has been used to facilitate cluster-wide resident planning processes, which have resulted in the design of new code enforcement initiatives and programs through which religious organizations and others assist elderly homeowners in repaying delinquent taxes. The work has also caused the county commissioners to revisit their policy of selling tax liens to outside third parties and the state legislature to pass new laws expediting foreclosure processes when communities are prepared to redevelop sites with nonprofit housing.

The Private Sector

So far, none of the NNIP partners have made much effort to formulate their data in a way that would make it more marketable to private firms. The private sector should be mentioned as a potential user, however, since there are some private applications that would contribute to the improvement of poor communities. Such applications are worth considering particularly in light of recent evidence that some private interests (particularly retailers) are now reconsidering inner-city locations for investment.

With the vast expansion of suburban shopping facilities that occurred over the past several decades, the suburbs no longer offer such attractive locations for further growth. But over the same period, many old retail establishments pulled out of the inner city, creating what is today a sizable pool of unsatisfied demand. This is true even though inner-city incomes are low on average. In one of Boston's core areas, for example, the average household income is 21 percent lower than that in the rest of the city, but spending power per square mile is 6 percent higher (Porter 1994). And a number of retailers who have recently opened inner-city stores (including Woolworth and Pathmark) have found that some of their urban locations are now more profitable than their suburban ones.

Box 5.7

Neighborhood Leadership Program
(Community Building—Denver)

The Westside Neighborhood Leadership Program is a grassroots leadership effort housed in five of Denver's poorest, largely Latino, neighborhoods. With a long history of activism and a strong sense of community, its founders believed that among their residents were latent leaders, the next generation of activists who had the motivation but lacked some of the skills to assert their place in local leadership. They developed a curriculum, negotiated approvals, and obtained the funding they needed to move ahead. Now their own 501(c)(3), the Program has more than 100 graduates, most of whom have assumed key leadership roles within the community. Seventeen graduates serve as parent representatives on their local school's collaborative decisionmaking teams. Many serve as board members for various nonprofit organizations.

Initially, the Piton Data Initiative assisted the Program only by providing data to help its staff prepare grant applications. However, struck with the frustration residents felt when they found their neighborhood again and again the topic of disparaging news reports and the difficulty they faced when attempting to gain access to complete information, the Program board asked the Initiative to develop a component of the leadership curriculum to teach people how to obtain and use neighborhood data effectively. The Piton Initiative now trains each new class on what data are available about their neighborhood, how to obtain and interpret those data, how to develop their own data, and how to use those data in specific policy initiatives. In addition, all participants are provided individual consultations in which they select the issue or issues to which they plan to devote their energies once they graduate, and the Initiative helps them explore both the information available relevant to the topic and possible links between information and action.

This program has yielded many concrete results. One parent used school-specific special education data provided by Piton to argue successfully for more effective screening for behavioral and emotional disabilities to avoid the disproportionate tracking of children of color into special education programs. Another parent, concerned about extremely high mobility rates among children in her local school, used Piton data to create special programs to identify children at risk of high mobility, work with the parents to stabilize them, and work with the children to ensure continuity of education when they did have to change schools. Another graduate used data to expand recreational and sporting activities in evening hours at the local recreation center. Yet another founded a youth arts recognition program and used the data to encourage local businesses to support their efforts by making donations and opening up business facilities to display artwork. Still others used the data to encourage neighborhood residents to vote and to explain some of the key issues facing the community. On the basis of the success of this initiative, Piton has established a similar program in Denver's Northside, serving largely African-American neighborhoods.

Data from neighborhood indicators systems could help in at least three ways. First, data on the location, tax status, and other characteristics of vacant parcels could be used to help investors select appropriate locations for development. Second, spatial data on consumer characteristics and preferences in inner-city communities could guide private firms in deciding how best to market their products or services in these areas. Finally, information on the characteristics of local institutions could reveal attractive partnering opportunities for joint ventures in local development.

Researchers

Finally, we note that researchers from universities and research institutes (local and national) have already taken advantage of data from the systems developed by the NNIP partners. Providing information to outside researchers is clearly an appropriate and valuable function of a neighborhood indicators data system.

In the 1990s, there has been surprisingly little research on the dynamics of neighborhood change in America's cities. Even though census data are more comprehensively accessible and easier to manipulate than ever before, there have been few studies to describe the changes that occurred at the neighborhood level in the 1980s, to examine how those trends differed from those of the preceding decade and between cities, or thereby to gain understanding of the forces most likely to be influential in altering neighborhood outcomes in the next few years.

One of the reasons for the lack of attention recently given to neighborhoods by researchers may be their recognition that the only nationally comparable data source—the census—lacks measures of some of the most critical concerns in contemporary urban society, both negative (e.g., rates of crime or drug use) and positive (rates of reinvestment). Since they have begun to flesh out measures in these directions and incorporate all census measures as well, the systems developed by the NNIP partners should be extremely valuable bases for fresh research over the next few years.

Chapter 6

COSTS AND PROSPECTS

So far, this report has given emphasis to documenting how the local NNIP partners have built and used integrated neighborhood indicators systems. This final chapter examines what all of this may mean for establishing similar capacities in other cities. It begins by looking at the costs of NNIP operations. The question here is obviously whether the cost is reasonable enough in relation to the benefits to make the idea attractive for adoption elsewhere. It then reviews what is known about how these approaches have already spread to other locations. Finally, it offers suggestions on how other interested cities might best get started.

THE COSTS OF BUILDING AND OPERATING INDICATORS SYSTEMS

The two preceding chapters suggest that the NNIP partners are institutional models that should be attractive for replication. Their missions, the way they have built their data systems, and the functions they perform—all should be able to serve as models for the development of similar capacities in other cities.

But what about their costs? Their stories indicate that they have taken advantage of impressive advances in computer and telecommunications technology to collect and analyze data at a much lower per-unit cost than would have been possible even a few years ago. But, still, is the aggregate expense too high to be affordable in most cities?

The conclusion reached in this report is that, while the costs are not trivial, the development of similar neighborhood indicators systems should be affordable, given the internal resource-mobilization capacities of most of American's mid-size and larger metropolitan areas.

All of the NNIP partners have worked hard to keep operating expenses low. Four of them (Atlanta, Boston, Cleveland, Providence) are either part of, or do their work in affiliation with, local universities. In these cases, they have benefited from the ability to use existing university computer

facilities (without having to pay the full cost) and from varying amounts of contributed time from professors and graduate students whose work on the indicators systems also supported their academic pursuits. All of them have also benefited from the work of other unpaid volunteers to some extent.

Because of the institutional mixes involved—with relevant accounting records in different places—none of the partners has complete financial statements exhibiting the full costs of operating its neighborhood indicators system per se. All, however, have a reasonably good sense of their outlays. With selected data on some, and comments and guesstimates from the others, we have been able to piece together what we believe is a reasonable sense of expectations.

The Composition of Project Costs

The operating costs of a neighborhood indicators system fall into three broad categories: (1) staffing, (2) data acquisition, and (3) computer hardware and software. The following paragraphs discuss cost determinants in each category.

Staffing. Ultimately, personnel costs are now by far the most expensive component of system operations. The lowest staffing level among the NNIP partners currently is 1.2 full-time equivalents (see discussion of Piton Foundation below). The most important set of skills required relates to the work in conceptualizing the system and its uses, working out arrangements with data providers, marketing outputs to various users, and providing assistance to users in applying data. This work needs to be done by someone who knows about computers and what they can do and can operate today's user-friendly software packages, but it does not require a high level of technical computer training. Full-time computer specialists are not likely to be required within the core unit; computer specialists can always be obtained as needed on a consulting basis.

In short, the starting point for a new system is acquiring the services of someone skilled at management, community outreach, and applications (for example, policy analysis, strategic planning) on a full-time (or almost full-time) basis. This could be someone locally who is already working in community building or local policy issues and could phase into the task of systems development. Ideally it would be someone with a master's level of education in planning, public policy, social work, or the social sciences. Most people with this type of background will be able to learn the skills needed to develop a neighborhood indicators system. The data analysis and mapping software that is available today is very user-friendly and can be learned fairly easily even by people without a college education.

In addition to full-time staff people, the local neighborhood indicators project can also use temporary or part-time consultants on an as-needed basis. This would be especially useful in the early stages of developing the system, when a lot of work must be done to clean and process new data sets. Joaquin Herranz, former director of the system at the Urban Strategies Council, estimates that it typically takes one to two person-months to incorporate a new data set into the neighborhood indicators system. Graduate students are good candidates for this type of work, especially if work on the neighborhood indicators system can be incorporated into their academic

interests. If the indicators system is affiliated with a local university, this type of analytic and support work can often be obtained at no cost.

Data Acquisition. Data acquisition costs in most cases are low compared with the other outlays for a neighborhood indicators system. Data from the Census Bureau are now available on economical and convenient CD-ROMs. American Housing Survey Metro data can be obtained for \$175, while Census STF3A data (both long- and short-form data) for an entire state can be bought for between \$50 and \$200, depending on the population of the state.

The NNIP partners report that they obtain most of their administrative data (such as from social service agencies) at no cost. In some cases, the administrative agency charges a fee for providing the data; this seems to be most typical for vital statistics records. Depending on the form of the data, they may need to be converted from one format to another and further transformed before they are ready to be incorporated into the neighborhood indicators system, which may entail additional expense.

Some of the NNIP partners have the agency providing the data do any necessary manipulation so that the data files can be added directly to the neighborhood indicators system. Because the agency staff know their own data files better than anyone else, they are well equipped to process the data files and convert them to the needed format. This saves the organization that is maintaining the neighborhood indicators system from having to devote staff time to learning about the intricacies of such files and then directly manipulating them before incorporation and use.

A disadvantage to having the agency manipulate the files is that one may not be aware of certain weaknesses or characteristics of the data that are exposed only by examining it in disaggregated form. Generally, much can be learned during the data manipulation process that can be hidden in aggregated data files. Another problem is that if one later needs to have the data in a different form from that originally requested (say, aggregated by block group instead of by census tract), it would be necessary to go back to the agency and ask it to reprocess the data files.

Computer Hardware and Software. Not too many years ago, operating even a basic GIS system would have required a mainframe computer (or at least a mini-computer). As discussed earlier, that is no longer the case. Personal computer technology has been progressing by leaps and bounds over the past decade, to the point where very powerful computer systems capable of storing and processing large amounts of data are well within the budgets of even modestly funded organizations. This change has made developing a neighborhood indicators data system both technologically and financially feasible for many communities.

A basic neighborhood indicators data system consists of a variety of information assembled from different sources. Some of this information may be at the address level, such as birth records for individual children. Other information may be available only summarized for a larger area, such as U.S. Census data at the tract or block-group level. These various types of information must be integrated by matching records from different data sources on common units of geography. Once

the data from the different sources have been linked together, they can then be displayed and summarized through descriptive tables, charts, graphs, and maps.

The technology needed to perform these tasks is now readily available and quite affordable. A typical collection of hardware and software needed for supporting a basic neighborhood indicators data system is given in Box 6.1. At current prices, this prototypical system would cost between \$5,000 and \$8,000.

The list in Box 6.1 is intended to be primarily illustrative and not the definitive collection of necessary technology. Obviously, the current capacities of the organization should be taken into account before actually deciding on purchases of additional hardware and software. In some cases, it may be possible to upgrade or adapt existing equipment rather than buy new hardware.

An additional issue in terms of computer hardware and software needs is that of the format in which those data are available from other organizations. For example, if crime report data can be obtained from the police department only on nine-inch tape spools, then one needs to have some way to convert the data from that format to a form that can be read by a personal computer. It should be noted, however, that most commercially available data sources, such as almost all Census data and the American Housing Survey, are now available on CD-ROMs.

Box 6.1

**Minimum Hardware and Software Requirements
for Local Neighborhood Indicators System****Hardware:**

Pentium II-based personal computer (\$2,000-\$4,000):

96 to 128 megabytes of RAM

10 to 20 gigabyte hard disk drive

Large (21") monitor

CD-ROM reader

Tape cartridge backup system

Modem (V.90.56K)

Black and white laser printer (around \$360)

Color inkjet printer (around \$500)

Software:

Windows 95

Software suite with word processing, graphics, and spreadsheet packages (such as Microsoft Office, Novell PerfectOffice, or Lotus SmartSuite)

For data processing: a database package (such as Paradox, dBase, or FoxPro) or a statistical software package (such as SPSS, SAS, Stata, or Systat)

Mapping software (such as MapInfo, Atlas GIS, or ArcView)

Total Cost = \$ 5,000 to \$8,000

We estimated the costs of a system roughly comparable to that in Box 6.1 in our first-year report (National Neighborhood Indicators Partnership 1996). We assumed a system with the smaller capacities that were typically available at that time—for example, 32 megabytes of RAM and a 2 gigabyte hard disk, parameters substantially increased in the current model. Nonetheless, the cost range estimated then (\$7,000–\$10,000) was substantially above what we estimate the greater-capacity system would cost today.

It should be clear, however, that while the basic system described in Box 6.1 provides support for displaying indicators geographically using mapping software, it is not sufficient for a full

parcel-based GIS as defined in Chapter 2. With respect to the Box 6.1 prototype, we assume that the user will rely on externally produced geographical boundary files and that the user will not be digitizing geographical information, such as parcel maps, directly. Files containing the boundaries for census tracts, counties, states, places, ZIP codes, and other units of geography are readily available commercially for most brands of mapping software.

Total Costs

What are the implications for total costs? To examine this issue, we reviewed the cost data that were available for our partner institutions.

The Base Case. The review indicated that The Piton Foundation Data Initiative, which has among the most coherent expense records for its system, operates at the lowest annual cost among the NNIP partners. As such, its cost structure serves as a reasonable base case for expectations elsewhere.

In the first year of its start-up period (1990–91), Piton spent about \$78,000: 37 percent for direct labor (including benefits), 6 percent for data acquisition, 31 percent for the purchase of computer equipment and software, and the remaining 26 percent for producing and disseminating reports and other data products.

Now that the Initiative is fully operational, the cost structure has changed substantially. Personnel costs are now dominant. Staffing levels have increased to 1.1 full-time equivalents (30 percent of the time of the director, 60 percent of a research associate, and 20 percent of a clerical/communications support person). Less is spent for data acquisition and much less for equipment. Report production and dissemination costs are also lower, because of both producing less extensive reports than initially and efficiencies gained in these functions.

Expenditure levels have increased gradually since 1991. In 1998, the total cost reached \$100,000 (28 percent above the first-year total). The breakdown was 66 percent for labor, 15 percent for website development and hosting (though much of this was attributable to the initial development and will not recur in subsequent years), 8 percent for hardware and software purchases and upgrades, 7 percent for reports and dissemination, and just 1 percent for data acquisition. Only 3 percent went for overhead (e.g., supplies). However, this figure does not include space rent, utilities, and liability insurance, the costs of which are covered in full by Piton's corporate sponsor. Assuming those items might represent 15–25 percent of all other costs, the full 1998 costs of the operation would have ranged from \$115,000 to \$125,000.

The Piton Initiative financial data are interesting from the point of view of revenues as well as expenditures. Again, the structure has changed dramatically. In its first year, 87 percent of the Initiative's operating costs (excluding overhead) were covered by start-up grants from a national foundation (Rockefeller), and the remaining 13 percent derived from Piton Foundation support. In subsequent years, the Data Initiative was required to seek most of its revenue from contracts and fees for services charged to organizations that could afford to pay for them (small nonprofits,

grassroots organizations, and neighborhood residents were never charged). Between 1993 and 1996, Piton covered roughly 15 percent of ongoing costs and the remaining 85 percent was covered by these contracts and fees.

However, beginning in 1996 and in the years since, Piton began to view the Data Initiative as a core function of the Foundation, and contract and fee-for-service work is now taken on only if it furthers the mission of the Foundation or the vision of the Data Initiative. Piton now covers an estimated 85 percent of the costs of the Initiative from ongoing annual support provided by its corporate sponsor, while income from outside contracts covers the remaining 15 percent.

Higher Cost Options. The cost of operating a neighborhood indicators data system can, of course, exceed these levels, depending on the workloads involved. Costs will certainly be higher where more research projects are taken on internally (as in Cleveland) or where the initiative chooses to develop a more extensive automated data system.

DAPA in Atlanta is an example of the latter, given its decision to develop a full parcel-based GIS system. Recall that Denver obtains the largest share of data in the form of census-tract level summaries, pretabulated by the providing agencies. Thus DAPA, with geocoded data for individual parcels, is moving along a path that requires it to obtain, clean, and store a much larger amount of information.

Costs, however, are not necessarily proportional to the size of the database. For DAPA, annual personnel costs charged to the Atlanta project are now running at about \$143,000 annually (covering a mix of levels of research and administrative staff adding to about 3.1 full-time equivalents). Additional staff time is contributed by Georgia Tech. This figure does not include outlays to cover for space rental, other overhead, equipment, publication, and dissemination expenses.

We cannot extrapolate from these data meaningfully, but they are suggestive. Our guess is that while a basic neighborhood indicators data system can be provided for much less, some cities are likely to find value in spending at annual rates in the \$200,000–\$300,000 range.

Conclusions

We think the experience of The Piton Foundation may offer relevant guidance for a number of metropolitan areas of a roughly similar size. Three years have passed since our original estimates, and the base was probably defined on the tight side then. We think that, today, minimum total costs for the first two years are likely to be in the neighborhood of \$125,000 per year. In this start-up period, the bulk of this amount would have to be raised in the form of general support from national and local foundations and the local business community, although contributions (office space, clerical help, etc.) could substantially reduce the cash component of this total. During the second year, it should be possible to begin to bring in fee income from data services. As we noted in Chapter 5, there has been sizable demand for such services in all partner cities, and the level of

demand is likely to grow rapidly once local entities become aware that the basic capability has been established.

It would probably be possible to develop a local system in a way that fee and contract income would cover the full costs over the long term. However, the notion of such systems in NNIP is that their fundamental mission must relate to local public purposes. We think that a metropolitan community (local philanthropic and business sectors) should be willing to make a commitment to cover a reasonable part of the operating costs over the long term. However, this may not need to be extensive. On the basis of the Denver model, about \$25,000 might serve as a reasonable minimum contribution.

As we have emphasized throughout this report, however, the state of the technology and data access in this field is advancing rapidly. Our guess is that lower-cost modules may be possible in the near future.

NEIGHBORHOOD INDICATORS CAPACITIES IN OTHER CITIES

The recurrent monitoring of changing neighborhood conditions has become an activity of growing importance in the NNIP partner cities. But what about the rest of the nation? To what extent have other cities recognized a need for better information about neighborhood trends and circumstances to guide their own policy planning? To what extent have they taken action to develop similar capabilities? To what extent—and how—do they think they could benefit from outside assistance to move more rapidly in this direction?

To respond to these questions, we conducted an informal telephone survey in late 1995 with respondents in 33 major U.S. cities (excluding the six NNIP cities). This section summarizes the results of that survey and then reports less systematic evidence on what has happened since.

1995 Survey Respondents and Questions

No attempt was made to contact a representative sample of all U.S. cities. Rather, we started by trying to obtain information about the central cities of the largest U.S. metropolitan areas, contacting as many as we could, given the time and resources available. Our reasoning was that those cities contain the most significant concentrations of urban poverty in America and, because of their size and complexity, they would be most likely to recognize a need for monitoring neighborhood change. We also contacted a few other (smaller) cities, and learned in our interviews that they had an interesting indicators project under way.

Altogether, we obtained information on the situations in 33 cities, including 29 in the largest 50 metropolitan areas. Adding the cities of our 6 NNIP partners (all of which are in that category), the total accounts for 70 percent of the central cities in the top-50 group.

As expected, we normally had to talk with more than one person in each city to find answers to the questions that interested us. We began by contacting individuals known to one or more of the NNIP team members as being generally familiar with policy research issues in the city at hand (most often, local researchers that had worked as affiliates on Urban Institute studies in the past). We asked them a series of questions and, when they did not know the answers, we asked them to suggest names of other local contacts who could help round out the story. In some cities, we had to talk with as many as four respondents before we felt we had sufficient information (and verification). Respondents included leaders of community foundations, university professors, city officials (mostly in city planning or community development departments), EZ/EC offices, and other knowledgeable civic leaders.²³

The exact pattern of inquiry varied depending on the respondent, but the basic questions were (1) Has a system of social indicators been established in your city, either at the city-wide or neighborhood level? (We defined this system as the collection, and recurrent updating, of intercensal data from multiple sources, intended to monitor changes in city or community "health" or "quality of life.") (2) If so, what institution operates the system and why was it established? What plans are under way to enhance the system (including plans to add neighborhood-level data if it is not already provided)? (3) If not, are there definite plans to establish such a system? (If plans are under way, what institutions are involved, what is their motivation, and what characteristics are desired?) (4) If there are no such plans, has there been an explicit recognition of the need for a neighborhood indicators system on the part of some important local institution? (5) What do you see as the key barriers to establishing (or sustaining and expanding) a system of social indicators in your city? Do you think a project like NNIP could help you overcome those barriers and, if so, how?

Summary of Results

Responses to the survey make clear that the notion of local social indicators systems is currently of substantial interest in urban America. In every city we contacted, at least one respondent advocated the idea for his or her city. More important, in 82 percent of them (27), an indicators system either existed or was being developed, or some local institution (or partnership) was seriously planning to develop one (Table 6.1).

- 14 cities (42 percent) already have established basic indicators systems that meet our criteria, but most of these are still primarily oriented to city-wide (rather than neighborhood) information. Only 2 of them (Indianapolis and Milwaukee) have extensive neighborhood data that come close to matching the capacity in the NNIP partner cities—7 more have "some" neighborhood-level indicators. The remaining 5 still maintain indicators for larger geographic areas only (e.g., city or county); however, all but two of these either definitely plan to extend their systems to the neighborhood level or are in the midst of doing so.

- 6 cities (18 percent) have projects to develop neighborhood-level indicators systems under way.

**Table 6.1
SURVEY RESULTS—33 CITIES**

	Established System		Development Under Way		Plan to Develop System	Responsible Institution				
	Some Neighborhood Data	City or County Only	Expansion	New System		Gov't	Non-profit	University	Non-profit + Univ.	Univ. + Gov't
Baltimore, MD	-	-	-	-	•	-	-	•	-	-
Birmingham, AL	-	-	-	-	-	-	-	-	-	-
Cincinnati, OH	-	-	-	•	-	-	•	-	-	-
Columbus, OH	•	-	•	-	-	-	•	-	-	-
Dallas, TX	-	-	-	-	•	-	-	•	-	-
Dayton, OH	-	-	-	•	-	•	-	-	-	-
Detroit, MI	-	•	•	-	-	-	-	•	-	-
Ft. Lauderdale, FL	-	-	-	-	-	-	-	-	-	-
Honolulu, HI	-	-	-	•	-	-	•	-	-	-
Houston, TX	•	-	•	-	-	-	-	•	-	-
Indianapolis, IN	•	-	-	-	-	-	-	-	•	-
Jacksonville, FL	-	•	•	-	-	-	•	-	-	-
Kansas City, KS	-	•	•	-	-	-	•	-	-	-
Los Angeles, CA	-	-	-	-	•	-	•	-	-	-
Memphis, TN	-	-	-	•	-	-	•	-	-	-
Miami, FL	-	-	-	-	•	•	-	-	-	-
Milwaukee, WI	•	-	•	-	-	-	•	-	-	-
Minneapolis, MN	•	-	•	-	-	-	-	-	-	•
New Haven, CT	•	-	-	-	-	-	-	•	-	-
New Orleans, LA	-	-	-	-	-	-	-	-	-	-
New York, NY	•	-	-	-	-	-	•	-	-	-
Norfolk, VA	-	-	-	-	-	-	-	-	-	-
Philadelphia, PA	-	-	-	-	•	-	-	•	-	-
Phoenix, AZ	-	-	-	•	-	-	-	-	-	•
Pittsburgh, PA	-	-	-	-	•	-	-	•	-	-
Portland, OR	-	•	-	-	-	•	-	-	-	-
Rochester, NY	•	-	-	-	-	-	•	-	-	-
St. Louis, MO	•	-	•	-	-	•	-	-	-	-
Salt Lake City, UT	-	-	-	•	-	•	-	-	-	-
San Antonio, TX	-	-	-	-	•	-	•	-	-	-
Seattle, WA	-	•	-	-	-	-	•	-	-	-
Tampa, FL	-	-	-	-	-	-	-	-	-	-
Washington, DC	-	-	-	-	•	-	•	-	-	-

- 8 cities (24 percent) have institutions that have the development of neighborhood indicators on their agendas but have not yet started the work.
- The 5 cities that remain (16 percent) have no current plans to develop full systems of the type we noted above. In each of these, however, the city planning department is incrementally expanding the inventory of neighborhood data it maintains.

The Mix of Institutions

As with the NNIP cities, the primary momentum behind the development of indicators systems in the cities we surveyed has most often come from outside of government—although the work has typically occurred with local government support or collaboration.

Among the 14 cities that already have indicators capacity, that capacity is maintained solely by a government agency in only 2 cases (Portland and St. Louis). Of the others, those with primary operating responsibilities include 7 nonprofit civic interest organizations, 3 universities, 1 nonprofit/university partnership, and 1 university/government partnership.

Among the 14 cities that are either developing new systems or plan to do so, the composition is similar: 6 nonprofits, 4 universities, 1 university/government partnership, and 3 local government agencies.

Motivations

The reasons so many of these cities are building indicators capacity appear similar to those that motivated the systems of our seven NNIP partners. In a number of cases, the idea was supported by outside stimulants, such as the National Civic League's *Healthy Cities* movement, national promotion by the United Way, the general growth of interest in performance measurement, or the need to establish benchmarks for the federal EZ/EC program. But more important everywhere was an internal awareness of the need for better data on the part of one or more key local institutions.

Support for Indicator Systems Generally. One story we heard frequently relates to the recognition over the past few years of the inadequacy of many well-intended local efforts to alleviate poverty, mounted in response to federal funding cutbacks in the early 1980s. One respondent said, "We spent a lot of money trying to help the poor in the 1980s—it didn't work and we still don't understand enough about how to focus initiatives for results. We have to have more and better information and then study it more carefully to find new approaches that will really work."

In some cases, the recognition of the need for better data was spurred by collaborative attempts to create city-wide "visions for the future" and "improvement strategies." Over the past decade, collaborations in many American cities (often including local government officials but dominated by nongovernmental leaders representing a variety of local stakeholders) have mounted such initiatives. These forced the participants to try to learn about directions of change and the

forces behind them, and to identify and assess problems and opportunities across traditional programs. It appears that the lack of information to perform these tasks well often became a major frustration, as reflected in the remark of one survey respondent: "We still don't know what conditions are getting worse or better . . . have no clear basis for setting priorities." Another said, ". . . we find that much of what communities are interested in are relationships that aren't measured directly or well through conventional means or sources."

Another respondent gave prominence to the difficulty of conducting responsible program evaluations without reliable and current multiple indicators of social conditions. Outcomes of interest are jointly determined by (1) program interventions, interacting with (2) a host of ongoing social and economic forces operating in the community. Normally so little information is available on the latter that one cannot unambiguously determine the effects of the former: "One-shot data collection doesn't work. . . . You never get enough information on changing context to really understand what is happening. You need a recurring system."

Remarks we heard in the survey suggest that two other factors have given the data issue a greater sense of urgency in the 1990s. Both emanate from perceptions of the likelihood of reduced federal funding for cities. First is the feeling that localities are going to have to assume more responsibility for thinking up and implementing solutions to their own problems. The current political environment in Washington seems to be heightening this orientation. As one respondent put it, "With block grants and welfare reform, well-informed local action will be much more urgent."

Second was the feeling that resources had to be used much more carefully than in the past, that every dollar now has to be spent with maximum efficiency. The only way to do that is to work smarter—to apply information intelligently in all phases of program development and operation.

Several respondents were also quite aware of the point emphasized in Chapter 5 about the work of the NNIP partners—that is, the potential of information as a leading force in breaking down traditional barriers to collaboration and forming the basis for more innovative and participative strategies. One said, "Having everybody work off the same information base is key to collaborative strategies . . . building bridges."

Interest in Neighborhood Indicators. The reasons for the current interest in indicators at the neighborhood level are also generally similar to those reflected in the experience of the NNIP partners. Some of the surveyed institutions that first established city-wide indicators systems said they always wanted data on neighborhoods—they just started with city-wide information to raise awareness and begin a dialogue using indicators that they expected would build support for finer-grained data later on. Others have realized the importance of neighborhood-level indicators more recently. In a follow-up letter, one survey respondent who was involved in a state-wide benchmarking process wrote to us, ". . . in using a community-based approach, it has become clear that neighborhood-level indicators will become critical for future decisionmaking."

The main point, as discussed in Chapter 2, is that the recognition that city- or county-wide trends, on average, may markedly misrepresent what is actually occurring in different neighborhoods

and, as such, are likely to be a poor guide for program planning at the community level. Survey results suggest that this issue has become more important lately because more cities seem to be working toward making a number of their programs more community sensitive, including public works, policing, and some aspects of social service provision as well as traditional community development activities. This sometimes means decentralizing operating responsibilities within agencies, and it almost always means giving community residents more of a voice in program planning and priority setting. We did not ask about this approach directly in the survey, but a number of respondents volunteered that it was an important factor locally. (A review of efforts of a number of cities to decentralize and delegate more responsibility to community groups is found in Kingsley, McNeely, and Gibson 1997.)

CONCLUSIONS: TAKING ADVANTAGE OF THE POTENTIALS ²⁴

Evidence on the recent emergence of neighborhood indicators systems and their uses remains patchy at best. Certainly, none of it has been subjected to careful evaluation. Nonetheless, on the surface the developments discussed here seem to hold considerable potential. One way of stating the conclusions of this report is to offer them in the form of tentative lessons—lessons drawn from the experience of the NNIP partners that we believe are important to guiding the work of others in this field. Ten such lessons are as follows:

1. *Design indicator systems for the explicit purpose of changing things—not just to monitor trends.* Monitoring trends in outcomes is the most commonly understood purpose of indicators systems. The NNIP partners, however, do not see that as an end in itself, but only as an instrument to contribute to their true objective: improving social outcomes—that is, changing things. For them, the focus has been on addressing urban poverty, particularly concentrated poverty in inner-city neighborhoods, although they are clearly interested in other outcomes (e.g., improving environmental conditions) as well.

More than anything else, this means that you need to plan ahead so that as you go through a phase of using indicators in monitoring (stakeholders reviewing new indicator values to see what is getting better and worse), you immediately link the learnings from that into follow-on steps involving the selection of priorities for action and the design of new policy and programmatic responses. If they are to be productive, those steps are likely to rely further on the indicators system, probably using more detailed data about selected issues to explore them further and test ideas about alternative ways to address them.

This need for the direct linking of monitoring to action may seem obvious to some or like nit-picking to others, but surprisingly little of the growing literature on indicators acknowledges the point. Why is it important? Among other things, indicators systems cost money and it seems unlikely that local funders will support them over the long term unless they prove useful. Monitoring indicators must move beyond being an interesting “exercise” and show that it can contribute to better solutions to real problems. There are already a number of examples of importantly successful local initiatives

that would never have been discovered or designed without indicators (see Chapter 5). Future work in other cities ought to follow those examples.

2. Develop a single integrated system that can support one-stop shopping. What happens now in most cities is extremely inefficient. Most community groups and service providers now recognize the need for data, to prepare winning grant applications if not to prepare competent action plans. Some city representatives we have interviewed describe the scene as one of a great number of local players constantly “falling all over each other,” all spending a great deal of time and effort trying to assemble the woefully inadequate data that are presently available, but with none of them able to take on the task of building an adequate system on their own.

Assigning that task to one intermediary (individual institution or partnership) and getting an adequate system built will of course entail some cost, but it is almost sure to represent a net savings in relation to the current resources so many local groups are now spending on data with such unsatisfying results. This is to say nothing of the substantial benefit that should be realized with all users having access to much richer and higher-quality data than are available now.

3. Develop indicators at the neighborhood level—not just for the city as a whole. Closely related to the first lesson above is the conclusion that city-wide indicators, while they can be valuable for some purposes, turn out not to be very useful in designing solutions to many of today’s urban problems. Suppose, for example, we find that the value of an indicator for the city as a whole, say the teen pregnancy rate, went down by 0.5 percent over the past year. What would you do about that finding? Sit back and relax? Hardly! It is well known that there is tremendous variation in teen pregnancy rates across neighborhoods in almost all American cities. It is quite possible that the problem got much worse in some neighborhoods and much better in others. That could imply that the average change for the city did not represent what happened in any actual place.

To know whether and how to take action to address the issue, you need to be able to assess how rates for all of the city’s neighborhoods increased or decreased, and by how much. The issue of teen pregnancy (like so many others) is not one you deal with by sitting in an office at city hall or by spreading resources equally across neighborhoods. You need to know *where* to deploy your resources and in what proportions, and for this, neighborhood-level data are essential.

This observation would not be very helpful, of course, if assembling automated neighborhood-level data was still many times more costly than collecting the same indicators for the city as a whole as was the case not too many years ago. But with the dramatic technological advantages noted earlier, neighborhood data no longer cost that much more. Today, if you are serious about using local indicators, it is hard to see any justification for not doing so at the neighborhood level.

4. Build a data warehouse—not just a set of files on indicators. The list of possible outcome indicators that might be of interest in any city or neighborhood is quite long. Indicator gurus normally advise that to operate the periodic monitoring function successfully, you have to cut the presentation list down to a manageable number or you will risk overloading review panels and the

public. What is seldom mentioned, however, is the difference between the contents of the system you ought to maintain and the list of indicators you want to present to the stakeholders in their recurrent reviews. The former ought to be much more expansive than the latter. If it is not, given today's technology, the system is not likely to be cost-effective.

An example should help to clarify why this is the case. Automated vital statistics files (records of births and deaths) are at the core of the systems maintained by all NNIP partners. They can be used to calculate many indicators that have proven valuable for a variety of uses, such as births to teen mothers, infant mortality rates, and teen deaths due to violent causes. They can also generally provide such data by race and other household characteristics as well as location.

At any point in time, your streamlined list of indicators for trend monitoring might contain only one or two derived from the vital statistics files. But it is very likely you will want to use more of the data from those files for more detailed policy analysis later as new issues emerge. It is also likely that policymakers will revise their short list of indicators for recurrent monitoring as their priorities change, and you might need to use other data from those files to meet their new requests. You have to go to some expense to regularly obtain, clean, and integrate the whole file in order to update those one or two indicators you are now monitoring, and the costs of storing the whole file are negligible. In these circumstances, throwing the rest of the file away would be extremely wasteful. It makes sense to keep the whole file at the ready so you can respond quickly as new data needs are expressed.

This is the concept of a data warehouse. All of the NNIP partners actually operate data warehouses from which indicators reports can be derived, rather than just indicators systems. They have a sizable collection of large data files, all parts of which they can access quickly and efficiently when they need to. Only a small share of the data in the warehouse is likely to be in use at any time—the rest are just sitting there. But since the costs of warehousing are now so low, and the benefits of rapid responsiveness in bringing good data to bear on new issues so high, it clearly pays to operate in this manner.

5. Serve multiple users but emphasize using information to build capacity in poor communities. The NNIP experience suggests that once an integrated system of neighborhood-level data exists in a city, there will not be a problem in finding users. For the users, the efficiency associated with being able to obtain a wide variety of neighborhood indicators all in one place (all carefully checked and in a consistent format) are substantial. All of the NNIP partners provide data to a number of types of users—government agencies, nonprofits, and private firms. For users that can afford it, they sometimes charge fees for data assembly and analysis, which helps cover their basic operating costs. All of them have recognized, however, that their data systems are a device through which they can promote equity. One of the ways in which poor inner city neighborhoods have been disadvantaged in the past is their lack of access to information. Accordingly, all NNIP partners give the highest priority to using their data to support community building in those neighborhoods.

6. Democratize information—help stakeholders use information directly themselves. As noted earlier, all NNIP partners see their role primarily as facilitating the direct use of data by the stakeholders working on an issue, rather than themselves serving as the primary actors in policy analysis and plan making. This contrasts sharply with the traditional model in which researchers and planners prepare the report for the users to read and review after it has been compiled. In fact, a recognition of the high share of such reports that are ignored was one of the strongest motivations for democratizing information.

The stakeholders concerned with an analysis may not be as strongly motivated to follow up on it unless they have helped to create it—step by step—themselves. They need to feel they “own” the findings and conclusions. And they may well come up with different, and better, answers than professionals who might do a study for them. They understand the nuances of the situation and are able to see options that the professionals might not recognize. They can benefit from professional facilitation as they do the work (e.g., advice on how to handle and interpret data correctly or on policy and program ideas that have worked well in similar situations elsewhere) but they need to be the ones who make the decisions that they—not the professionals—are going to have to live with.

7. Help stakeholders use data to tackle individual issues, but do so in a way that leads toward more comprehensive strategies. There is now a broad consensus that, given its multifaceted nature, the problem of concentrated inner city poverty is not likely to be addressed effectively by single-purpose social programs. A holistic—comprehensive—approach will ultimately be required (Kingsley, McNeely, and Gibson 1997). But as suggested by the earlier discussion and examples, that does not mean that starting with a comprehensive strategy is always essential or even desirable. In many cases, it may make sense to start by using indicators to help design and implement solutions to one or two pressing issues. We are hopeful that this will yield early results that will build confidence, encouraging a more ambitious agenda in the next stage. Indicator analysis can be particularly helpful in showing how current issues, and the means of addressing them, can link to others down the line.

Alternatively, the circumstances may suggest that stakeholders are ready for more comprehensive strategy making at the outset. If so, an integrated data system can of course provide strong support for accomplishing that effectively. But if this approach is selected, it will be risky to let it postpone too long at least some of the actions that will begin to change things for the better.

The most important conclusion here may be that planning and implementation should no longer be viewed as separate stages, but rather as interrelated concurrent processes that influence and alter each other as they move along.

8. Use information as a bridge to promote local collaboration. Another opportunity the NNIP partners regularly take advantage of is using indicators systems to establish further collaboration between individuals and groups that have often been at odds in the past. Collaboration is tough. If players from different groups come to the table holding tightly to their old beliefs and policy prescriptions, it may not work. Something is needed at the outset to shake up the old ways of looking at things. On a number of occasions, NNIP partners have been able to use fresh

presentations of data on local conditions and trends to accomplish that (see Chapter 5). People can, of course, really disagree. Yet it is surprising how often urban policy disagreements exist only because of faulty perceptions of what is really going on (maybe by both parties), and those can be fixed by facts.

9. Use available indicators but recognize their inadequacies—particularly the lack of sufficient data on community assets. Initiatives to improve conditions in poor neighborhoods need to mobilize residents around a positive agenda, making them recognize that they do have assets and can use those assets to change things (McKnight and Kretzmann 1993). Accordingly, indicator systems that support such initiatives ought to emphasize measures of assets. Yet the bulk of the indicators that can be derived from administrative records deal with negative events (crime, infant mortality, etc.). Most of the asset-oriented indicators of interest to the Cleveland Community Building Initiative (Table 4.4) can be obtained only via special surveys—those that are available now (mostly from administrative data) are largely in the negative category.

How should planners and community building practitioners respond to this issue? First and foremost, they should use all the data that are available to track things, but keep reminding residents of the assets that are out there but not yet incorporated in the system. In other words, they should use the negative measures in the system but not move residents off an asset-oriented agenda. Certainly we do not want to suppress those measures—we all have to face reality—but we just need to keep them in perspective. This is, of course, easier to do now that crime rates, teen pregnancy rates, and several other negative indicators are dropping in many urban communities, but NNIP partners were able to accomplish it even in 1990 when trends were not so benign. Second, planners and others engaged in local public policy should be raising funds to support the surveys needed to expand asset measures in their local indicator systems.

10. Ensure integrity in the data and the institution that provides them. In the 1960s, if anyone had asked who should be responsible for building an information system with neighborhood-level data, the most common answer probably would have been the city planning department or some other unit in city government. It is interesting in this light that none of the NNIP partners are city agencies. One is a center affiliated with a university and the rest are community foundations or other nonprofit intermediaries whose missions center around a broad view of furthering public interest in their cities. This type of institution does offer advantages for operating local information systems serving multiple users. Most important, they are not seen as beholden to any short-term political interests that might have incentives to either withhold or misrepresent the facts. Also, a good local system needs to obtain a variety of data from county and state agencies, and possibly some suburban jurisdictions, as well as city departments. A nonprofit might be able to bridge across all of those sources more effectively than any single city or county agency could.

Ultimately, however, whether the central institution is public, private, or nonprofit is not as important as how it behaves and the reputation it develops. The institution (or partnership) that operates the system must maintain the trust of both data providers and a wide array of users over the long term. The NNIP partners are very careful about cleaning data, maintaining confidentiality,

and guiding responsible use of their data. While they advocate using data in policy debates that are often controversial, they avoid taking sides politically in those debates.

ENDNOTES

1. The six original local partners in NNIP are the Atlanta Project, the Boston Foundation's Boston Persistent Poverty Project, the Center for Urban Poverty and Social Change at Case Western Reserve University in Cleveland, the Piton Foundation in Denver, the Urban Strategies Council in Oakland, and the Providence Plan. A seventh partner, which has recently joined NNIP and is developing similar capacities, is the DC Agenda Project in Washington, DC.
2. Jointly funded by the BankAmerica, Annie E. Casey, James Irvine, John D. and Catherine T. MacArthur, Rockefeller, and Surdna Foundations; Citibank; and the Neighborhood Reinvestment Corporation.
3. Funded jointly by the Annie E. Casey and Rockefeller Foundations.
4. One of the first was a systematic study of slum conditions in Baltimore, Chicago, New York, and Philadelphia in the 1890s by the U.S. Bureau of Labor (1894).
5. This committee assembled information from prior surveys on a sizable range of social conditions and is the first major national study to do so in an attempt to present a comprehensive picture of social change in the country (Research Committee on Social Trends 1933).
6. A more complete discussion of national activities related to social indicators in this period is provided in Land and Spillerman (1975).
7. The National Civic League's *Healthy Communities Handbook* (1993) describes an approach to the development of local indicators and notes cities that have implemented the approach. The work of the Jacksonville Community Council (1994) is highlighted. See also Andrews (1996).
8. This is the *Community 2020*TM software package developed by HUD's Office of Community Planning and Development. See Kingsley et al. (1997).
9. A listing and description of 42 types of automated administrative data files useful for indicators development and typically available in most cities was prepared by Claudia J. Coulton. See Kingsley et al. (1997).
10. In addition to the NNIP partners cited earlier, neighborhood data systems are already being operated by The Nonprofit Center of Milwaukee (Michael Barndt, manager) and the United Way/Community Service Council, working jointly with the Polis Center at Indianapolis University-Purdue University, in Indianapolis—the latter is the Social Assets and Vulnerabilities Indicators (SAVI) system (manager of development was Robert Hoek). The Delaware Valley Grantmakers Associations (Philadelphia) and the Association of Baltimore

- Area Grantmakers are now in the midst of processes to design and fund similar institutional capacities for their cities. A survey of 33 cities during the first year of NNIP found that key institutions in most of the cities were aware of the concept and interested in exploring it further (National Neighborhood Indicators Partnership 1996).
11. In selecting these, The National Civic League in its *Healthy Communities Handbook* (1994) recommends asking, "If the indicator moves, would a diverse group of people agree on how the movement affects the quality of life—positively or negatively?"
 12. Institutions in six of the seven partner cities are members of the National Community Building Network (NCBN); the only city that is not a member—Providence—endorses the same principles.
 13. This conclusion was reached and explained by Peter Rossi a quarter century ago; see Rossi (1970).
 14. It should be pointed out that in most of these schemes, the "neighborhoods" have been made up of aggregates of several census tracts. Since tracts have an average population of about 4,000, such aggregates are often much larger than would seem appropriate given the traditional-sense scale implied by the term.
 15. Useful information on GIS technology can be found in Antenucci et al. (1991), Huxley (1991), Public Technology, Inc. (1995), and the monthly publication, *GIS World*. Texts describing analytic techniques available to GIS users include Fischer and Nijkamp (1993) and Anselin (1992).
 16. For more detailed information about MapMarker, see the MapInfo Express website <http://www.mapxpress.com/>.
 17. Ideally, one would want to look at the *accuracy* of these matches; that is, how close to the real coordinates the geocoding software comes. In practice this is very difficult to do because one would need to have the "correct" latitude and longitude coordinates for the address to be able to compare those to the geocoding software.
 18. Since data on facility locations are not "indicators" as such, Cleveland's CUPSC does not make such data available as a part of its CAN DO system.
 19. A useful guide to the potential dangers involved in developing social measures was provided by Etzioni and Lehman (1967). A summary of their ideas is provided in Sawicki and Flynn (1996).
 20. Would it be more efficient to set up a multiple-source data provider in city government? The problem is that the types of data that are relevant to understanding neighborhood change come from separate local governments—counties and special agencies as well as the city

itself (see Table 4.1). In interviews, several local officials told us they would prefer to obtain the neighborhood data they need from a broadly accountable entity like the NNIP partners than rely on an agency in a sister government.

21. See discussion of this issue in Coulton (1995).
22. Chapter 3 pointed out that this orientation is explained fully in McKnight and Kretzmann (1993). Its relevance for neighborhood indicators data systems will be discussed further in Chapter 5.
23. Even when we talked to several people in a city, of course, we could not be sure we did not miss something. Metropolitan areas in this size class have a great number of public interest organizations developing their own agendas, and no small set of individuals could be fully up-to-date on all of them. However, given our purpose—to depict general patterns of interest across cities—we do not think this possibility is of concern.
24. Conclusions given here were initially presented in Kingsley (1998).

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