Pettit

Neighborhood Indicators 2000

July 12-14, 2000

Hilton Washington Embassy Row
2015 Massachusetts Avenue, NW
Washington, DC 20036

Organized by the
National Neighborhood Indicators Partnership

with support from the
Annie E. Casey Foundation

nnip
National Neighborhood Indicators Partnership

Neighborhood Indicators 2000

- A by-invitation conference held Wednesday evening, July 12 through Friday, July 14, 2000, at the Embassy Row Hilton Hotel, 2015 Massachusetts Avenue N.W., Washington D.C.

- Organized by National Neighborhood Indicators Partnership (NNIP) with support from the Annie E. Casey Foundation.

Purpose

Through the 1980s, if you wanted to obtain good data on what neighborhoods were like and how they were changing, you pretty much had to wait for the next decennial census. That all changed in the next decade when groups in a number of cities took advantage of new technologies to harness the potential of locally available administrative data. They built advanced GIS systems with recurrently updated neighborhood level information on a variety of topics. And with the theme of democratizing information, they found new ways to help community stakeholders use the data to further their empowerment. Twelve of these groups are the current local partners of NNIP, and they are committed to sharing what they have learned with others.

The trouble is, nothing is standing still. The technology of assembling and applying data continues to advance and local civil society, the institutional context in which they work, is developing dynamically everywhere. The purpose of this conference is to learn about key changes occurring in the environment and explore what they are likely to mean for best practices in the field -- in particular, what they imply for our work in community and furthering a change agenda.

Also, during the 1990s, the KIDS COUNT network of state grantees elevated the use of indicators to a new level by publishing and disseminating regular data books on the well-being of children. Through this work, they have learned many relevant lessons about institutionalizing indicators and using indicators to increase public awareness. The conference should help the KIDS COUNT network see how the skills and experiences they have gained using indicators at the state level can be transferred to cities and neighborhoods.

Structure

There will be four main substantive sessions. The first three will open with a plenary in which specialists will tell us about innovations and trends that are likely to change the state of the art. After each of these, we will divide into small working groups with facilitators that will help us think through the implications of what we have just heard for local practice.

The first of these sessions deals with changes in the availability of information, focusing on new census products but also on new ways of recording and processing observational data. The second is centered around the capacities of GIS technology. New ways of analyzing and presenting neighborhood data to support policy change are the focus of the third.

The fourth session will be a plenary that considers overall challenges in building and sustaining the local institutions that have assumed responsibility for developing and applying neighborhood information systems. That will be followed by a final plenary: a "fish bowl" in which all participants are invited to raise issues and offer viewpoints they feel are critical to the field and, in particular, to institutional sustainability.

Workshops

The workshops following the first three plenary session may be the most important learning opportunities of this conference. All participants will be assigned to one of four working groups. While there will be time for some questions at the end of each plenary session, speakers from those sessions will also visit the workshops to respond more fully to interests that arise.

Leaders from local NNIP Partner organizations have been divided across these groups (see below) and asked to facilitate discussion, one of them being designated as the Lead Facilitator. The Lead Facilitator will chair the first session and take the lead in establishing rules and objectives, adjusting the flow, etc. Someone will also be present in each group to record the flow of the discussion.

Group 1: Terri Bailey, Lead (Denver); Craig Totaro (Philadelphia); Bill Sabol (Cleveland)
Group 2: David Sawicki, Lead (Atlanta); Junious Williams (Oakland); Ann Sherril (Baltimore)
Group 3: Charlotte Kahn, Lead (Boston); Michael Barndt (Milwaukee); Carrie Thornhill (Wash.DC)
Group 4: Pat McGuigan, Lead (Providence); Allison Luthe (Indianapolis); Dwight Danie (Miami)

As noted, the working groups will be asked to think through what the innovations, trends and issues presented in the plenary may imply for local practice. We are interested in how new challenges and opportunities may affect the way local data intermediaries develop and maintain their information systems, but we are more centrally concerned with explicating what these changes may mean for their work in building the capacity of neighborhood groups and furthering local action initiatives. The results of the workshops will be the featured components of a post-conference report to be prepared by the Urban Institute and sent to all participants.

CONFERENCE AGENDA

Wednesday, July 12

5:00-7:00 ***Registration and Reception***

Thursday, July 13

8:00-9:00 Registration and Continental Breakfast (Foyer)

(All plenary sessions will be held in the Ambassador Room)

9:00-9:30 ***Welcome and Introduction.*** Bill O'Hare, Annie E. Casey Foundation
Conference Purposes and Approach. Tom Kingsley, The Urban Institute
Organization. Kathy Pettit, The Urban Institute

9:30-10:40 ***Panel 1: New Sources of Information***

Chair: Tom Kingsley, The Urban Institute
Ken Bryson, U.S. Bureau of the Census -- *The American Community Survey*
Cynthia Taeuber, University of Baltimore -- *Using Census 2000 and Products from the American Community Survey*
Ryan Goodness, Telesis, San Diego -- *The GPS -- Turning Physical Observations into Useable Data*

10:40-11:00 *Break*

11:00-12:30 *Workshops on Panel 1:*
Group 1 - (Lincoln Room) - Lead facilitator: Terri Bailey, The Piton Foundation
Group 2 - (Consulate Ballroom) - Lead facilitator: David Sawicki, The Atlanta Project
Group 3 - (Board Room) - Lead facilitator: Charlotte Kahn, The Boston Foundation
Group 4 - (Council Room) - - Lead facilitator: Pat McGuigan, The Providence Plan

12:30-2:00 ***Lunch*** (Consulate Ballroom)

Thresholds and Tipping Points in Neighborhood Change. George Galster, Hilberry Professor of Urban Affairs, Wayne State University

2:20-3:30 ***Panel 2: Mapping the Future***

Chair: Peter Tatian, The Urban Institute
Lyna Wiggins, Associate Professor, Rutgers University -- *Desktop GIS*
Mark Woodall, Senior Planner, SANDAG -- *Web-based GIS*
S. J. Camarata, Director of Corporate Strategies, ESRI, -- *Future Directions in GIS*

3:30-3:50 *Break*

3:50-5:20 *Workshops on Panel 2:* (Same groups and locations as Thursday morning workshops)

6:30-9:00 ***Dinner: Marrakesh***
Buses will depart at 6:30 from the front of the Embassy Row Hilton to take all participants to the Morroccan restaurant Marrakesh located at 617 New York Avenue, NW, Washington, D.C. The phone number is (202) 393-9393.

Friday, July 14

8:00-9:00 Continental breakfast (Foyer)

9:00-10:10 ***Panel 3: The Meaning of Scale in Policy Analysis***

Chair: Kathy Pettit, The Urban Institute
Claudia Coulton, Case Western Reserve University -- *Trends in Social Conditions and Movement Out of High Welfare Neighborhoods in Four Cities*
Margery Austin Turner, The Urban Institute -- *Exploring Welfare to Work Challenges in Five Metropolitan Regions*
Calvin Johnson, The Urban Institute -- *Using Police Data to Assess the Temporal and Spatial Patterns of Youth Victimization*

10:10-10:30 *Break*

10:30-12:00 *Workshops on Panel 3.* (Same groups and locations as Thursday morning workshops)

12:00-1:00 ***Lunch*** (Consulate Ballroom)

1:00-2:10 ***Panel 4: Building and Sustaining Local Institutional Capacity***

Chair: Jim Gibson, DC Agenda/The Urban Institute
Panel of Neighborhood Indicator Project Directors
Charlotte Kahn, The Boston Foundation
Terri Bailey, The Piton Foundation, Denver
Pat McGuigan, The Providence Plan

2:10-2:30 *Break*

2:30-4:00 ***Fish-Bowl Wrap-Up***

Facilitator: Jim Gibson

All participants are invited to raise issues and offer viewpoints they feel are critical to the field and, in particular, to institutional sustainability.

DEMOCRATIZING INFORMATION

The ***National Neighborhood Indicators Partnership (NNIP)*** is a collaborative effort by the Urban Institute and local NNIP partners to further the development and use of neighborhood-level information systems in local policymaking and community building. Current NNIP activities are sponsored by the Annie E. Casey Foundation and the Rockefeller Foundation.

NNIP local partners have built ***advanced information systems*** with integrated and recurrently updated information on neighborhood conditions in their cities. Creation of this capacity, which did not exist in any U.S. city a decade ago, represents an important technical and institutional breakthrough. To succeed, NNIP partners needed to overcome the resistance of local public agencies to sharing administrative data. Because of major cost reductions made possible through new information technologies, they have shown that such systems can be locally self-sustaining. Their indicators cover topics such as ***births, deaths, crime, health status, educational performance, public assistance***, and ***property conditions***.

Perhaps most 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 more complete review of the NNIP concept and the approaches of its partners can be found in "***Neighborhood Indicators: Taking Advantage of the New Potential***," by Tom Kingsley, available on the NNIP web site (www.urban.org/nnip/publications.html).

NNIP also maintains an email discussion list called ***NNIP News***. NNIP News is being offered to allow people interested in the development and use of neighborhood indicators to exchange ideas on how neighborhood-level information can be used to bring about community change. In addition, NNIP staff monitor several other relevant online information sources and posts particularly interesting excerpts on NNIP News in the *NNIP News Flash!* newsletter.

To subscribe to NNIP News, send an email to nnip@ui.urban.org or fill out the registration form on the NNIP web site.

NNIP PARTNERS

NNIP currently has twelve full partner organizations that either have, or intend to, set up and operate neighborhood indicator systems. The current partners are:

The Atlanta Project
Atlanta, Georgia
www.gpc-fc.org

Baltimore Neighborhood Indicators Alliance
The Association of Baltimore Area Grantmakers
Baltimore, Maryland

The Boston Foundation Boston Community Building Network
Boston, Massachusetts
www.tbf.org

Center for Urban Poverty and Social Change
Mandel School for Applied Social Science
Case Western Reserve University
Cleveland, Ohio
povertycenter.cwru.edu

The Piton Foundation
Denver, Colorado
www.piton.org

United Way Community Service Council, Indianapolis
Indianapolis, Indiana
www.savi.org

Community Services Planning Center
Florida Department of Children and Families
Miami, Florida
www.state.fl.us/cf_web/district11

The Nonprofit Center of Milwaukee
Neighborhood Data Center
Milwaukee, Wisconsin
www.uwm.edu/people/mbarndt/mindex.htm

Urban Strategies Council
Oakland, California
www.urbanstrategies.org

The Reinvestment Fund, Philadelphia
Philadelphia, Pennsylvania
www.trfund.com

The Providence Plan
Providence, Rhode Island
www.providenceplan.org

DC Agenda
Washington, DC
www.dcagenda.org

The Urban Institute is a nonprofit policy research organization established in Washington, DC in 1968. The Institute's goals are to sharpen thinking about society's problems and efforts to solve them, improve government decisions and their implementation, and increase citizens' awareness about important public choices. The Urban Institute serves a coordinator for the collaborative activities of NNIP.

Contact us: Tom Kingsley, NNIP Director
The Urban Institute
2100 M Street NW
Washington, DC 20037

Email: nnip@ui.urban.org

Web site: www.urban.org/nnip

Neighborhood Indicators 2000 Conference
Workshop Assignments

Name	Group
Gregory Allen	4
Katherine Allen	1
Lori Allio	1
Andrea Anderson	1
Terri Bailey	1
Michael Barndt	3
Lisa Bates	2
Laura Beavers	3
Diane Benjamin	2
John Berlanga	3
Brett Brown	1
Pam Brown	3
Eric Bruns	1
Kenneth Bryson	X
S.J. Camarata, Jr.	X
Ayse Can-Talen	2
Terri Carlson	2
Delia Carmen	2
Cynthia Chambers	4
David Chase	1
Becky Cheslow	4
Hartzell Cobbs	1
Barbara Cohn	2
Claudia Coulton	X
Martha Cranley	2
Michael Crawford	3
Gloria Cross	X
Charlotte Cunliffe	1
Dwight Danie	4
David Eberbach	4
K. Dewitt Edwards	2
Michele Elbrand	4
Judith Erickson	1
George Galster	4
Jim Gatz	4
James Gibson	X
Jason Goldberg	2
Ira Goldstein	4
Ryan Goodness	4
Margaret Grieve	1
Jennifer Gross	1
Cindy Guy	4
Tony Hall	3
Matthew Hamilton	3
Ginny Hancock	1
Allen Harden	3
Jerome Harris	1
Laura Harris	2
Terry Haven	3
Chris Hayes	3
Eloisa Hernandez	1
A. Baron Holmes	4
Pam Hormuth	2
Richard Huddleston	3
Maria-Rosario Jackson	X
Stephanie Jennings	4
Calvin Johnson	X
Shannon Johnson	4
Mark Jordan	X
David Julian	2
Charlotte Kahn	3
Leah Kalinosky	2

Name	Group
Thomas Kelly	1
Tom Kingsley	X
Josh Kirschenbaum	2
Tanna Klein	1
Allison Luthe	4
Betsy Marmaras	2
Ann Marston	3
Brian Matakis	4
Michelle McDonough	2
Patrick McGuigan	4
Ken Meter	3
Kurt Metzger	3
Rudeen Monte	1
Debbie Morgan	1
Rhonda Nelson Muse	2
John Neal	2
David Norris	3
David Nystrom	3
Kelly O'Donnell	4
Bill O'Hare	X
Yung Ouyang	4
Shanta Pandey	2
Kathryn Pettit	X
Bonnie Politz	1
Leilah Powell	4
Odette Ramos	4
Lynette Rawlings	1
Susan Rees	3
Kristopher Rengert	3
Amy Ritualo	4
Kerri Rivers	2
Victor Rubin	4
William Sabol	1
F. J. Omowale Satterwhite	3

Name	Group
David Sawicki	2
Juliet Scarpa	3
Ann Sherrill	2
Damian Smith	4
Amy Solomon	2
Matt Stagner	2
David Stevens	2
Cynthia Taeuber	X
Peter Tatian	4
Richard Thomas	1
Shawnise Thompson	X
Carrie Thornhill	3
Craig Totaro	1
Maria Townsend	2
Huong Tran	1
Margery Turner	X
Jim Vandermillen	1
Verna Vasquez	3
Lee Nelson Weber	3
Angie Wei	3
Betty Weiss	3
Monique Wheeler	3
David Wheitner	3
K. Deborah Whittle	4
Lyna Wiggins	1
Junious Williams	2
Laura Winterfield	4
Mark Woodall	2

PANEL ONE

New Sources of Information for Neighborhood Indicator Systems

Theme: Groups in a number of U.S. cities made impressive strides in the 1990s in developing neighborhood information systems for use in community building and local policy formulation. Progress relied most on harnessing the potential of locally available administrative data. New ways of obtaining information over the coming decade, however, may significantly alter both operating modes and application possibilities for these systems. This panel will provide information about the nature and scope of some new information sources and subsequent workshops will explore their potential impacts for community work.

Questions for Workshop:

- How can these new products enhance the services neighborhood indicators intermediaries provide to users in communities? What new applications will be possible?
- What are the institutional and technical implications of adding these new products into existing systems? What changes in approach are implied?
- What are the most important challenges to taking advantage of the new potentials? -- barriers that must be overcome?
- What are the most important indicators that will still be missing after these new products and approaches are implemented? How would you rank the priorities and what approaches would you recommend to fill the gaps?
- Given improved data availability from other sources over the next decade, what is the role for surveys? We will still need them, but can we reduce their scope? If so, how?
- With these new products (and the old ones), do we need better rules as to how we interpret data (e.g., telling the difference between a real trend and just a random blip)? How can we measure the significance of the data we use? How should we train community users about confidence levels and similar issues?

PANEL ONE SPEAKERS

Kenneth R. Bryson is Program Analyst for the American Community Survey in the Demographic Surveys Division of the U.S. Census Bureau. In this position he is responsible for coordinating the development of demographic, social, economic, and housing applications of data from this new survey program. He represents the American Community Survey by making presentations at conferences, local town hall meetings, and other meetings.

Mr. Bryson has been employed at the U.S. Census Bureau for 26 years. During that time he has worked as a demographer, training advisor, and manager in the domestic and international programs of the Bureau. He has a doctorate from the University of Wisconsin-Madison.

Ryan Goodness received his B.A. in Urban Studies and Planning from the University of California at San Diego after serving 4 years in the military. His practical knowledge of city planning and policy issues were gained while employed with two local government planning departments.

Ryan is currently employed with the TELESIS Corporation a private non-profit MIS consulting firm. As a GIS Analyst with the Telesis Corporation, Ryan has delivered consulting services in the areas of project management, systems design, and systems development to the Annie E. Casey Neighborhood Mapping Project. As a technical advisor to the Annie E. Casey mapping team, Ryan has provided technical training, guidance and assistance to a group of nine community mappers who are residents of the Casey project area. His expertise in ArcView 3.2, has contributed to TELESIS Corporation's technical group to transform the data collected by the community mappers into a rich and user friendly on-line interactive mapping application. This unique website includes a base map, separate layers for each mapping variables, aerial photographs, and query building capabilities and allows community groups to design maps of their community that will help to leverage community change by using democratized granular street level neighborhood data.

Cynthia Taeuber has a joint appointment with the University of Baltimore and the Census Bureau to develop state and community uses of the American Community Survey. From 1996-99, she was Chief of the American Community Survey Analytic Staff. She integrated the needs of data users with the statistical design and operational plans for the American Community Survey. She had technical and policy responsibilities for major statistical issues, marketing plans, the design and content of data products, data dissemination, and dealings with the Congress, Federal statistical and program agencies, State and local governments, and private organizations. She helped develop frequent data for communities through surveys and community program records for statistical purposes and statistical modeling.

Cynthia Taeuber (cont.)

Ms. Taeuber held positions (1994-96) related to communications policy with technical and program policy responsibilities. She was the Director of the Census Bureau's Customer Liaison Office where she planned, coordinated, and administered a comprehensive data dissemination and user program. As Senior Program Advisor to the Census Bureau's Deputy Director, she provided technical and policy advice on program activities and organization in the demographic, economic, and decennial areas. She also served in the Statistical Policy Office of the Office of Management and Budget where she participated in work on statistical standards for racial and ethnic categories (OMB Directive No. 15). Ms. Taeuber was a Congressional Associate in the Congressional Affairs Office of the U.S. Bureau of the Census (1994-95) where she assisted on demographic issues and Congressional use of Census Bureau statistics.

Ms. Taeuber was Chief of the Age and Sex Statistics Branch in the population Division (1983-94). She was responsible for development and analysis of data in the demography of the older population, women, and the homeless. Ms. Taeuber has been at the Census Bureau since 1974.

Ms. Taeuber received the Census Bureau's Bronze Medal Award for Superior Federal Service in 1987, the Department of Commerce's Silver Medal Award for Meritorious Federal Service in 1991, and the Hammer Award from Vice President Gore in 1999 for her work on the American Community Survey.

Chair:

Tom Kingsley is a senior researcher in housing, urban policy, and governance issues at the Urban Institute, where he served as Director of the Center for Public Finance and Housing from 1986 through 1997.

He currently directs the National Neighborhood Indicators Project--a foundation sponsored initiative to expand the development of advanced data systems for policy analysis and community planning in U.S. cities--and other research projects concerned with reforms in subsidized housing programs. In recent shorter term assignments, he has advised HUD on strategy guidelines for the Empowerment Zone and Consolidated Planning Programs, and assisted HUD Secretary Cisneros in developing a series of essays on the future of American cities. His recent work on urbanization in developing countries and Eastern Europe has focused on decentralization policy, local economic development, and land and infrastructure planning and financing.

Earlier, Mr. Kingsley served as director for several major policy research programs, including: testing the market effects of housing allowance programs (1974-80, the HUD sponsored Housing Assistance Supply Experiment); analyzing the structure and potentials of metropolitan Cleveland's economy (1980-82, for the Cleveland Foundation); preparing a national urban development strategy for Indonesia (1982-85, for the United Nations); helping the Czech and Slovak Republics design and implement policy reforms in housing and municipal infrastructure (1991-95, for USAID); and assessing American Indian housing needs and programs (1993-95, for HUD).

Kingsley (cont.)

He was also co-director for the Ford Foundation sponsored Urban Opportunity Program, which produced four books on the status of urban policy issues in America in the early 1990s.

Mr. Kingsley previously served as Director of the Rand Corporation's Housing and Urban Policy Program, and as Assistant Administrator for the New York City Housing and Development Administration, where he was responsible for the agency's budgeting and policy analysis functions. He has also taught on the faculties of the graduate urban planning programs at the University of California, Berkeley, and the University of Southern California.

MEETING STATE AND COMMUNITY NEEDS FOR SOCIAL, ECONOMIC, AND HOUSING INFORMATION:

The Why, What, and How of Converting Program Records and Summarized Survey Data to State and Community Information Systems

Cynthia M. Taeuber
Jacob France Center, University of Baltimore
Bureau of the Census

Julia Lane
Urban Institute

David Stevens
Jacob France Center, University of Baltimore

Background prepared paper for:

Conference on "Developing Public Policy Applications with Summarized Survey Data and Community Administrative Records"
June 6-7, 2000

MEETING STATE AND COMMUNITY NEEDS FOR SOCIAL, ECONOMIC, AND HOUSING INFORMATION:

The Why, What, and How of Converting Program Records and Summarized Survey Data to State and Community Information Systems

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Abstract

This paper addresses the why, what, and how of creating modern state and community information systems, that is, multiple data sets that are geographically based, to better inform those who make decisions about program effectiveness and direction. Some states and communities have developed their Management Information Systems (MIS) for secondary use as a longitudinal data base for statistical analyses of the overall characteristics of groups of clients, the effects of client groups on other public services, and to evaluate the effectiveness (performance) of program policies. A new information resource profiles the population and housing of communities. That is the American Community Survey. It is a new survey the Census Bureau is developing to provide demographic, social, economic, and housing profiles of areas every year, eventually down to the neighborhood level.

The dynamic picture multiple information sources provide can help communities better understand the interactions between changes in a community's population and other factors such as its industrial mix, economic development potential, health profile, and physical environment. With multiple sources of information, communities can move beyond program administration and performance measures to strategic decisionmaking. Communication of research results to those who make decisions about community policies can improve through new technology such as the layered mapping of Geographic Information Systems (GIS).

This paper describes administrative records as a source for statistical analyses, the new American Community Survey, and other information sources that describe a community's situation compared with other areas. Using current information about population and housing trends from the American Community Survey, we illustrate how administrative records could be merged in econometric models with these summarized survey data to provide improved estimates and probability statements of events. This system protects individual privacy by using data sets matched to small geographic levels rather than individual people. There are other useful additions to econometric models such as the Economic Censuses to describe the economic conditions of metropolitan areas and regions. We address data quality issues in the various data sets and what needs to be done to convert program records to files that are useful for statistical analyses of communities.

Introduction

Need for current information at the community level to track change

Primary responsibility for government program strategies and results has shifted from the federal level to state, county, and community governments in recent years. At a minimum, state and local governments are responsible for reporting measures of

performance to indicate the results of programs paid for with federal tax dollars (Government Performance Requirements Act of 1996). A report from the Committee on National Statistics of the National Academy of Sciences stated: "The devolution of program responsibility ...has led to wide variation in programs across states and within states....[this] imposes the need for a significant data infrastructure ... [that would] capture state variations in policies and outcomes...." [Moffitt and Ver Ploeg, p. 2]. Further, local governments say that federal reporting requirements are the beginning, not the end – they want solid information they can use for strategic decisionmaking.

We have a system of statistics for the nation as a whole

The United States has a statistical system that provides current information about demographic, social, economic, health, and housing trends for the nation as a whole. This is a system of information based on aggregated data from the decennial census and surveys with a nationally representative design. Census and survey data are collected through a decentralized statistical system of federal agencies coordinated by the Statistical Policy Office of the Office of Management and Budget (OMB). There is a concerted effort by OMB to consult the Congress and other federal policy makers about their information needs and to identify the parts of the data collection system that can most efficiently address national policy questions. Additionally, for statistical purposes only, a very limited group of researchers, who are subject to severe legal restrictions that protect confidentiality, have access to computerized records of individuals who participate in some federal programs.

The national statistical system is designed to address *federal* concerns and meet the requirements of federal laws and court cases. National surveys follow, at best, only general population and economic trends for states. States and sub-states areas can use publicly available data, but the system is designed first and foremost to meet federal data needs to administer programs and distribute funding.

There is no overall system of statistics for states or communities

For geographic subunits of the nation, there is no coordinated "system" to consider overall information needs at the community level or how to meet them. The decennial census, the intercensal population estimates program, and other data sets (usually at the county level) assembled by various federal agencies are the only means the national statistical system provides for examining population, economic, and housing trends among and within communities.

Community policymakers sometimes compensate by using out-of-date census results and current averages from national surveys as ratios to estimate change in their area. Even when the nation is said to be "doing well" economically, there are parts of the country that are not doing well. The extent and distribution of trouble spots is not easy to determine from the statistical system, however. Some liken the situation to putting one's head in a freezer and feet in a fire and then saying, "on average, I feel just fine." The problem is how to determine where the fire is and where the freezer is – that is, which

areas need what and when. Communities want to be proactive rather than reactive, to prevent situations rather than try to mop up after the fact. Without an information system that is current, of high quality, and comparable across areas, it is difficult to adjust policies in time to meet needs, establish priorities, and evaluate results.

New opportunities – data and technology

There are new opportunities to develop community information systems with multiple data sets that provide current and comparable information for models, as well as new software that better organizes data for analysis. This can provide research that better informs those making federal, state, and community policies.

With enhanced models, new software, and the new data sets that are becoming available, we are beginning to have the components for the type of information system at the community level that a modern nation demands. We have the potential to go far beyond traditional uses of decennial census data, to a system that uses multivariate statistical techniques with multiple sources of information to provide improved current descriptions of geographic units as well as predictive models. Time series analyses can be useful in evaluating the impact of a policy change. Researchers have a powerful tool in Geographic Information Systems (GIS) for communicating the results of their analyses to state and community policymakers through the layered mapping of sets of information.

Basic concept of a state and community information system

The basic concepts and a flowchart showing an enhanced state and community information system are shown in Figure 1. The enhanced system is a suite of tools that supplements community administrative records with community profiles based on summarized survey data in models (such as econometric or needs assessment models) to inform policy questions. Among the tools is software that would help community groups with limited resources. For example, such software might organize data for analysis and include automated statistical techniques. Another tool would be improved, inexpensive media for data dissemination (the internet, CD-ROMs, DVDs) and mapping the data.

A system of community information would track the direction of population and housing and compare situations among areas across the nation. It would be able to "generate a profile of short- and long-term outcomes" of programs, produce information about population subgroups at risk of requiring assistance, the duration of episodes, and improve our understanding of how the economic environment affects program success [David, pg. 212; Culhane and Metraux, pp. 345-6].

Such a system would use distributions of the data that are geographically based and aggregated. Rather than relying solely on matching the records of individual people across multiple data files, models would also use aggregated population distributions from different data sets that are matched for small geographic areas. Matching aggregated data at the small geographic level resolves the dilemma of threats to individual confidentiality, as records are anonymous and used at the group level rather

than the individual level. Because access to the confidential records of individuals would no longer be the only means of sophisticated data analyses, more researchers could contribute to the needs of communities for information.

To take advantage of the new data sets and technology, we need to adjust our paradigms for the collection, organization, dissemination, and analysis of the data. And, we need strong laws and protocols that include coordinated statistical policies and using an array of statistical techniques for protecting the confidentiality of information about individual people.

Figure 1. Basic Concepts

WHAT ARE THE POLICY QUESTIONS?

- What is the pattern of relationships among key variables?
- What is the potential future pattern of relationships among key variables?
- What are the results of policy decisions? Can we identify unexpected consequences?

MERGED INFORMATION

- Match to small geography, not individual people, to maintain confidentiality.
- Use summarized profiles from multiple data sets, as appropriate, such as from:

  - ✓ The American Community Survey of the demographic, social, economic, and housing characteristics of areas and changes in areas over time;
  - ✓ Census 2000 and operational tests;
  - ✓ Business and economic profiles from economic censuses and surveys;
  - ✓ Other nationally available, comparable data sets on specific topics;
  - ✓ Multiple sources of administrative records on population groups receiving benefits and services (e.g., food stamps; welfare; subsidies such as transportation, housing, and childcare; unemployment); and
  - ✓ Site locations and information about an area's physical environment (e.g., schools, childcare facilities, public transportation routes, toxic waste dumps, abandoned housing, high crime spots).

MODELS

Develop econometric, needs assessment, and other types of models designed to inform specific policy questions. Establish procedures to ensure that models are evaluated and updated as appropriate. Establish opportunities for coordination and sharing of methods across fields of interest.

ANALYZE IMPLICATIONS OF MODEL RESULTS FOR POLICY

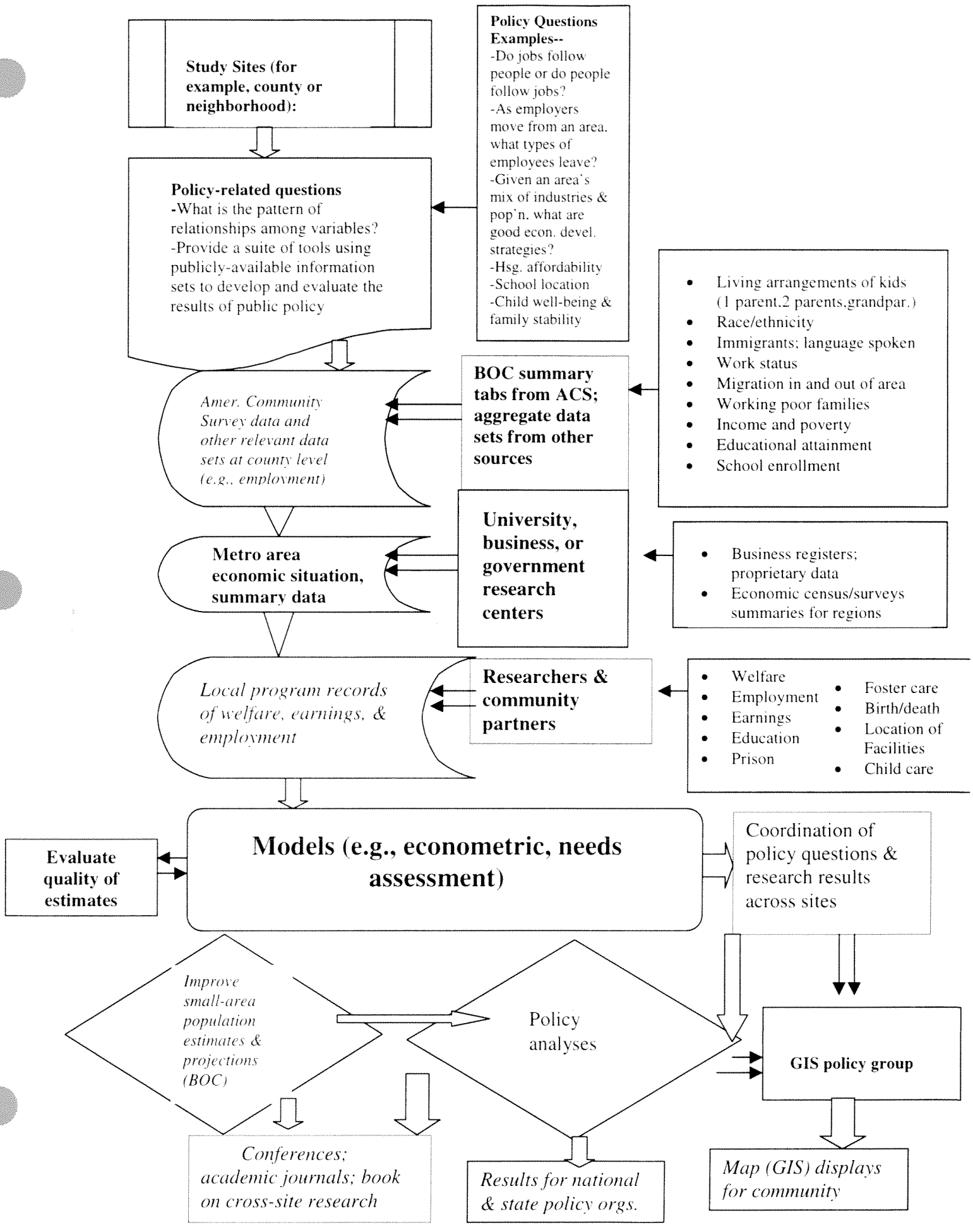
Establish research for specific areas and topics as well as research that reviews and summarizes across individual studies (that is, micro- and macro-level research).

COMMUNICATE RESULTS TO POLICY MAKERS

Establish clear, simple communication of results so they are useful to and used by community groups as well as policy makers at all levels of government, business, and nonprofit organizations.

- Provide a picture of the results through computerized, layered mapping (GIS).
- Automated text and charts in plain language for quick, regular distribution of results.

Figure 1 (continued): System Flowchart



An Enhanced State and Community Information System

There are various data sets that can be used as part of an enhanced state and community information system. These include:

- National surveys that produce limited state and sub-state data;
- decennial censuses;
- the American Community Survey the Census Bureau is developing to replace the decennial census long form;
- surveys state or local governments conduct themselves (produces data that cannot be compared with other areas);
- data sets collected by federal agencies on particular topics such as health or crime;
- estimate programs such as for population counts, poverty, and unemployment;
- lists of physical attributes and the location of facilities; and
- administrative records collected for the management of programs to provide services.

We describe aspects of these data products below. Characteristics of illustrative data sets are shown in Figure 2. Figure 3 compares surveys and administrative records.

Surveys: The American Community Survey and Census 2000

The American Community Survey is being developed by the Census Bureau to replace, the decennial census "long form," that is, the demographic, social, economic, and housing information required by hundreds of federal laws and court cases. The data collection by the American Community Survey will occur throughout the decade rather than just once in ten years. Thus, eventually, the American Community Survey will provide estimates, updated *every year*, of the distribution of *characteristics* of the population and housing in small areas (such as census tracts).

Between censuses, the American Community Survey will improve current estimates of the *number* of people in small areas (such as census tracts and school districts) by furnishing current demographic distributions for use in the population estimate models. What communities have not had previously to inform policy issues and evaluate results, but what the American Community Survey will provide, are estimates of population and housing *characteristics*, and measurements of the level and direction of *change* among areas.

In addition to updated estimates for small geographic areas, the survey will provide estimates for *small population groups* in states and regions. Profiles for small population groups, such as specific Asian and Hispanic nationality groups, children under age 5, people 85 and older, and teenage mothers and whether they are in school or working or unemployed, has previously been available only from the decennial census. With the American Community Survey, we will be able to track trends and the direction of change for population groups. Development of the American Community Survey was started in 1996, and since 1999, is being conducted in 31 diverse sites across the country. The Census Bureau plans to fully implement the survey in every county in the nation

beginning in 2003. Beginning in 2004, and every year thereafter, the American Community Survey plans to have population and housing profiles for areas and population groups of 65,000 or more. For smaller areas and population groups, it will take 3 to 5 years to accumulate information to provide accurate estimates. Information for areas of 20,000 or more people will be available (the 3-year average for the period 2003-05) starting in 2006 and will be updated every year thereafter. Information for areas below 20,000 in population first becomes available in 2008 (the 5-year average for years 2003-2007). After that, the United States will finally have a community information resource that shows change over time, even for neighborhoods and America's small rural areas. Detailed information about the American Community Survey is on the Census Bureau's web site at www.census.gov . American Community Survey data releases to date are available through the American FactFinder at the Census Bureau's web site. Select "Subjects A-Z," then "A," and choose "American FactFinder." A free CD-ROM is available with multiple years of data for sites where data has been collected since 1996 (request by calling 1-888-456-7215 or by e-mail at www.census.gov/acs/www/) .

The data products from Census 2000 (see Attachment B) will be essential resources for state and community researchers while they are waiting for full implementation of the American Community Survey. The first data the census releases tell us about the number of people in geographic areas. By December 31, 2000, the Census Bureau will release the count of the population of states. By April 1, 2001, data users will have counts of the total population and the population 18 years and older tabulated by 63 categories of race – six single race groups and 57 combinations of race.

Throughout 2001 and 2002, various Census 2000 products will be released that provide us with progressively more detailed information about the population and housing characteristics of areas. As part of the decennial census operations, the Census Bureau conducts tests and evaluations and eventually releases information from those studies. One test of interest involves a small national sample that collects information that is essentially the same as the demographic, social, economic, and housing questions on the census long form. This sample provides the Census Bureau an early look at long-form results and essential information about its operational feasibility as they prepare to convert from the long form to the American Community Survey. The data, which will start to become available in mid-2001, is for states, large counties, and the remaining area within each state. Researchers will be able to use this Census 2000 test data as they develop the attributes of the policy-specific models they will use once the American Community Survey is fully operational later in the decade.

Figure 2. Characteristics of Illustrative Data Sets

Data set	Surveys			Model-based estimates	Admin. Records		Physical address of locations; attributes
	Nationally comparable results		Results unique to area		Nationally comparable items	Items unique to area	
	State	Sub-State					
Current Pop. Survey	3-year avg for most	*NYC, LA-Long Beach metro*					No
Am. Hsg. Survey	No	Selected metro areas					No
Decennial census	Yes, every 10 years	Yes, most demogr to block; socio-econ to BG					No
Amer. Community Survey	Yes, 2004+	Yes[1]					No
State-sponsored survey			Current; small sample; high nonresp.				
Population estimates				Including counties, MCDs, incorp. places			No
Local Area Unemploy-Ment Statistics				Incl. metro, nonmetro labor markets, counties, med.cities			No
Poverty Estimates				Counties, school districts			No
School bldg.					No	Yes	Yes
AFDC/ TANF					Yes	Yes	Yes[2]
ES-202					Yes	Yes	Yes[2]
New hires					Yes	Yes	Yes[2]
Crime, type					Yes	Yes	Yes[2]
Health conditions					Yes	Yes	No
Abandoned housing					No	Yes	Yes

[1] Beginning in 2004, and every year thereafter, areas and population groups of 65,000+ will have annual averages. Beginning in 2006, places of 20,000 – 65,000 will have 3-year average estimates updated every year; for areas of 20,000 or less, updated 5-year averages will start to be available in 2008.

[2] Available to researchers only under the rules of confidentiality and laws or agency practices.

Other surveys

As indicated in Figure 2, some national surveys provide sub-national data. The American Housing Survey, for example, includes selected metropolitan areas. The sample size of the Current Population Survey (CPS) is sufficient for annual estimates of the characteristics of the population at the national level and for the largest states. For most states, however, the CPS sample is not large enough to provide annual estimates for their state. Rather, they use 3-year averages from the CPS that are updated each year for characteristics such as income and poverty, educational attainment, patterns of migration, and age distributions. The margin of error is often unacceptably large for measuring year-to-year change such as poverty rates of children in the smallest states.

Some states and communities do their own surveys [Moffitt and Ver Ploeg, p.2]. Advantages include obtaining information that is current and for the total population of the community defined by the survey design. Disadvantages are significant. Surveys are expensive and the results cannot be compared with other areas. Most community surveys have a relatively small sample. Thus, such surveys can provide information only for the total population and broad demographic groups (e.g., "65 and older" rather than information about those with different needs and resources such as the age groups 65-74, 75-84, and 85+). Because classifications are broad and the sample is generally not large enough to include explanatory characteristics (such as teenage mothers and whether they are in school or working), it can be difficult to identify trends that would direct policy choices.

One common way to reduce the cost of state and community surveys is to use untested questionnaires and employ a random digit dialing (RDD) design. RDD surveys are a less expensive way to conduct surveys by telephone than designs that require a field staff and development of a complete list of current households. People without telephones are not included in RDD surveys even though they are often poor and the ones many public policy programs are often meant to serve. Some conduct such surveys in English only, another potential bias depending on the area and the programs for which the information is to be used. Such surveys tend to have high nonresponse rates, a potentially serious data quality issue.

Other nationally comparable data sets

Other nationally comparable data sets are produced by federal agencies for geographic areas (states, counties, and sometimes communities) that researchers can use. For example, at the county level, researchers can use summarized information to describe patterns of school enrollment, income and poverty, employment and unemployment, per capita personal income, sources of earnings, Social Security recipiency, births and deaths, the environment, the number and types of crimes reported, transportation projects, and the incidence of health conditions (for example, low birth weight, substance abuse, and cancer mortality). A useful web site for finding many nationally-available information sets is www.fedstats.gov

Administrative records

Administrative records that are geographically based and result from the administration of federal, state, and local programs have enormous promise as part of an enhanced state and community information system [Stevens, 2000]. Figure 3 compares surveys and administrative records.

Administrative records are created for the management of a program, not for statistical analyses. Often, variables are not comparable among areas, especially across state lines. Nevertheless, states and communities have begun to realize and act on their potential for current, albeit incomplete information of varying quality, about segments of the population [for example, see Culhane and Metraux 1997; Mueser, et. al., 1999]. For example, there are records about an area's housing, such as age of the house and property taxes. Such tracking systems provide longitudinal information that researchers can use to calculate prevalence rates, determine the characteristics of people who use services over time, and measure the effectiveness of various programs and how changes in one program affect the use of other programs [Culhane and Metraux, 1997, p. 343]. As Martin David has pointed out, the use of multiple sets of administrative records would better inform us about "how government activities in several agencies relate to each other, what government services cost, what groups are covered by benefits, and what groups are excluded from benefits" [pg. 214].

Gaining access to publicly-available survey results is becoming easier every year. As Culhane and Metraux say in a mild understatement, "Gaining access to data from other agencies is often fraught with difficulties...and in many cases will be impossible." [p. 351]. The legal restrictions and compatibility issues are obvious barriers. State agency heads determine whether the administrative records of their agency can be used. They sometimes see research as a "report card" that may cause them more problems than benefits.

As we discuss in the sections that follow, by increasing the ability to use multiple sources of information with confidentiality protocols, the nation could realize both a community information system and research that is useful for planning and evaluation of programs. The significant benefit of expanded research opportunities to answer policy questions is counterbalanced by concerns for and the need to develop strict protocols, both legal and technical, to protect the confidentiality and safety of the individuals within the data systems. Along with addressing confidentiality concerns, there are technical steps that should be taken to make program files useful and of acceptable quality for statistical analyses. This ideally includes, for example, standardization of definitions across files and protocols for handling missing and conflicting information.

Figure 3. Comparison of Surveys and Administrative Records

Characteristics	Surveys w/substate data	Administrative records (AR)
Currency of data	Release varies (e.g., 6 months after data collection year for the American Community Survey but 2 years for decennial census long form)	Release varies but generally within a year
Time frame of survey design	Usually cross-sectional	Usually longitudinal
Universe	Total population for federally sponsored surveys. State/local sponsored often telephone surveys to reduce cost (bias of not including people without phones; English language only; nonresponse often high).	Program participants; no information about remainder of population of area. As compared with surveys, greater risk of double counting. Does not include those eligible but not receiving services.
Confidentiality protocols	Public-use summary and sample of micro-data files regularly prepared. Access to full micro data files strictly limited. Social Security Number (SSN) generally not collected.	Varies according to state laws and practices. Profiles for small areas not generally available or comparable across areas. SSN usually available as identifier across files.
Margin of error from sampling	Increases the smaller the geographic area; often must use multi-year averages to obtain reliable data. May be unacceptably large for measuring year-to-year change.	Not applicable as all members of subgroup receiving services are represented.
Comparability across areas	Federal surveys comparable across areas. State surveys unique to area.	Only a few nationally comparable AR files (e.g., food stamps; AFDC/TANF)
Geo-coding of addresses	Census Bureau provides consistent sampling frame and geocoding for most federal surveys	Conventions and quality vary although this is key to correct assignment of characteristics to specific areas.

Data collection and processing procedures	• Interviewers formally trained on questionnaire • Information usually from self report of respondent • Statistical techniques used for item nonresponse and inconsistent information • Standards for data entry errors	• Interviewers trained to collect information for program management, not statistics • Information usually observation of interviewer mixed with self reports • Nonresponse and inconsistencies in data set • Definitional differences across data sets significant
Detail of information	Usually broad profiles	Rich detail on topic of data set, Usually includes dates, duration of service use, some personal characteristics of clients.
Cost	Relatively expensive as compared with administrative records	Data required for program management; cost in converting to statistical files (e.g., geocoding addresses, edits, software)

Filling data gaps with both surveys and administrative records

The great promise for developing a statistical system for states and communities lies in taking advantage of the characteristics of administrative records and surveys. Together, surveys and administrative records fill gaps that cannot be met when researchers can use only one or the other. For example, school enrollment records provide information about students aged 5 to 18 years. School officials have a difficult time projecting where to locate future schools because they have no current information about the numbers or characteristics of the population under age 5 or the age ranges or the demographic and economic characteristics of children moving in and out of the school district. That information will be provided by the American Community Survey, as described above.

Using administrative records with survey information that can be compared among areas can be useful for both state and federal policy decisions about funding allocations and the direction of policy. For example, the Jacob France Center at the University of Baltimore is working with a consortium of university research centers in six urban areas to analyze welfare-related transitions. Each center uses confidential administrative records (such as welfare, employment, and earnings records) that have been converted to use as statistical files for use in econometric models to inform policy. Once they can add current population trends from the American Community Survey, the researchers can incorporate the current demographic distributions into their econometric models and hereby broaden the types of questions they can address. For example, as welfare caseloads drop nationally, they can better consider the heterogeneity among areas to judge what types of areas follow national trends and which do not. They can ask questions such as, "Are the working poor and welfare recipients more likely to combine households to cope with their economic situations and is that correlated with changes in the welfare system?" or "Do housing and transportation subsidies help the working poor remain in the workforce?"

Another use of multiple data sets is to obtain information at the community level that would be unreasonably expensive if collected by a survey alone. For example, HUD has initiatives to encourage inner city economic development. Likewise, the Department of Agriculture has programs to encourage economic development in rural areas. The decisionmakers they work with to meet the objectives of the programs are frustrated by the lack of information about consumer expenditure patterns to describe community buying power. Standard sales forecasting models do not work for inner city markets, for example, and need to be adapted to show whether a neighborhood can support retail stores such as grocery stores and pharmacies. The information that would help is similar to that found in a national-level Consumer Expenditure Survey. Replicating it at the community level would be a prohibitive cost and burden on the public. It is conceivable, however, that indicators from the American Community Survey (e.g., age distributions, educational attainment, home ownership, and employment) in combination with data businesses collect (such as sales in a similar area), could provide a sufficiently reliable

model of buying power to inform the strategy of those seeking to develop the economy of a particular inner city.

Traditionally, the input for models is a record of information for individual people collected from one or more sets of administrative records. While it is cost-efficient for researchers to have access to individual records to evaluate interaction effects among programs, American society places high value on protection of individual confidentiality and our legal system reflects that. For example, sworn Census employees (including with Special Sworn Status) are subject to fines up to $5,000 and five years in prison if they reveal any individual information from the American Community Survey, the decennial census, the Economic Censuses, and other surveys protected by Title 13 of the U.S. Code. The confidentiality of individual information in administrative records is also protected under various federal and state laws. This severely limits the number of researchers who can use these sources for complex questions.

There is a substantial new tool for providing an enhanced information system for states and communities. It is supplementing the information from administrative records (whether at the unit level or aggregated) with aggregated summaries derived from publicly available survey data for small geographic areas as input for models. Under this method, it is not necessary to match individuals across files. Therefore, many researchers, rather than only a few, can use aggregated summaries to work on questions important to communities. This approach does not answer all questions, but it will afford researchers new opportunities to understand the interactive effects of events and for policymakers to consider preventive actions. A second expectation is that such research goes beyond the traditional methods of historical descriptions to significantly improve our ability to predict the course of population and economic events through probabilistic modeling.

A system that uses multiple data sets furnishes insight into the interactions between changes in an area's population and industrial mix, and other factors such as health conditions [Craney, Padgett, and Lorimer], service systems [Culhane and Metraux, p. 342], and the environment. Examples from federal programs include the Census Bureau's Small Area Income and Poverty Estimates Program (SAIPE) and program to make population estimates between censuses, and the Local Area Unemployment Statistics (LAUS) program of the Bureau of Labor Statistics (see Attachment A for more information on both programs). Basically, the concept is to merge aggregated data systems on population and housing characteristics, metropolitan-area economic situations, and locally available computerized records on clients who use various community programs into models to answer policy questions (see Figure 1). This methodology allows predictive modeling and provides estimates of population characteristics that are an improvement over those available from any one data system alone. The results can help meet community needs for social, economic, and housing information for making policy decisions and evaluating program progress and direction. The improved estimates and methods can help communities make projections of their outlook that could help them as they look towards investments in their future.

The models do need to be benchmarked and updated. In particular, it is important to compare the summary information derived from the merged aggregate data with that which can be derived from merged micro data. How might this be done? Such micro data exist at the Census Bureau, but the sensitive nature of the data dictates that access is extremely restricted – the data are within a firewall behind a firewall behind a firewall. However, validation of models is certainly feasible for approved Title 13 projects and researchers with Special Sworn Status at Census Bureau headquarters in Suitland, MD.

Along with modified models, new software that better organizes data for analysis is rapidly being developed. There is need for easier access to data and improved displays of research results. For example, a difficult issue is how to help decisionmakers understand the limits of the data they are using by including information about the size of sample errors from surveys in reports, charts, and communication media such as GIS. The American Community Survey reports the 90-percent confidence interval in its data products to alert data users to the reliability provided by the sample size for the subject matter detail and geographic area of interest. Leitner and Buttenfield [2000] suggest graphical guidelines that should be incorporated as defaults in GIS software.

Another need is for a "more accurate nationwide shared geographic database that can alternately use both address and geographic coordinate as entry points or match keys ...[because of] the increasing need to integrate environmental, health, and population databases at local and regional and state levels..." [Sperling and Sharp, p. 38]

One powerful new tool is the ability to overlay maps of data on different topics with the software, Geographic Information Systems (GIS). Nancy LaVigne (National Institute of Justice) has pointed out that GIS can serve as a data integrator, an analysis tool, and a presentation vehicle. She says, "As a data integrator, GIS enables researchers to merge community-level data from disparate sources based on common geographic references. The analysis capabilities of GIS offer a powerful means of examining spatial clustering, correlation, and adjacency effects. In addition to these analysis functions, the power of the visual display of data in map form makes GIS an ideal tool for communicating research findings to policymakers and practitioners" (LaVigne, June 7, 2000]. Culhane, Lee, and Wachter, for example, used multivariate analyses to examine housing and neighborhood conditions, such as housing code violations and crime, in relation to the last home addresses of people who had subsequently become homeless. Dynamic models of neighborhood change (population characteristics, housing stock, physical condition) could inform those designing, targeting, and siting prevention programs or suggest whether other strategies, such as targeting high crime areas to reduce residential instability, would be effective [Culhane, Lee, and Song].

Examples of the types of policy questions communities could answer with multiple data sets merged in econometric models:

Generally, a community information system could provide:

- Time series data for analyzing community trends.
- Estimates of the size and composition of population groups.
- Evaluations of the effectiveness of programs and policies.
- Improved understanding of the effect of population group dynamics on service systems (public and private) and related service systems (for example, the effect of welfare leavers on service systems for the homeless population, and on the health care and justice systems)
- Predictors of events, population changes, prevalence, and relative risks of events.
- Neighborhood and other small-area indicators.

Some specific examples of the types of policy questions communities could answer with multiple data sets merged in econometric models are shown below:

- Economic development:

  ✓ Which population groups benefit the most from the types of jobs being created (or lost) in an area? Who are the winners and losers?

  ✓ To what extent do jobs follow people and people follow jobs? Causality?

  ✓ As employers move from an area, what types of employees leave? Stay? Likewise, when employers move into an area or expand, what population groups are drawn into the area?

  ✓ Given an area's mix of industries and population, what are the options for economic development strategies? What types of industries are hiring high school dropouts, how well do the jobs pay and what is the duration of such employment? What happens as unemployment levels go up (down)?

  ✓ Population effects are interrelated with the business conditions in the area, but what are the interrelationships? Because of confidentiality and competitive business interests, economic data about businesses are presented only at high geographic levels or as basic information for smaller geographic areas such as that from County Business Patterns. Additionally, population and business censuses have been conducted on different schedules. The coming availability of yearly population summaries from the American Community Survey will allow us to look at population and business effects in time periods that coincide. Econometric models will be able to provide predictions of population-business interactions for smaller areas based on the relative population and business conditions within a region.

- Transitions in welfare to work:

  - ✓ As caseloads drop nationally, what is happening at the local level? Demonstrate the heterogeneity among sites in changes in local economic conditions and caseloads. What types of areas follow national trends and which do not?

  - ✓ What has happened to those who have left the welfare system but who are not working in the area? Where are they (e.g., in school, in prison, homeless, moved from area and working elsewhere)? What are the patterns among areas?

  - ✓ Is there resource sharing? Are there changing household demographics among the poor with children correlated with changes in the welfare system? For example, are more households being combined among welfare recipients than among the working poor?

  - ✓ What population groups are eligible for program services but not enrolled as expected? What is the relationship between changes in poverty rates and caseloads? How does this differ among types of areas?

  - ✓ What supports are needed to keep low-wage workers on the job? Are transportation and housing subsidies needed to encourage entry and remaining in the workforce at relatively low wages? What level of cost can low-wage workers afford themselves? What are the tradeoffs between subsidies for housing versus transportation to reduce the effect of the mismatch between residence and job location of low-wage workers?

  - ✓ Educational outcomes -- what is the earnings stream of those who have vocational training or community college? Does this differ among types of areas?

  - ✓ Child well-being – What is their stability of residence and household composition? Childcare? Foster care?

  - ✓ Youth – What are the school-work-welfare transitions among adolescents and how do they differ among different types of areas?

  - ✓ What are the differential effects of barriers such as prison records, lack of education, and use of a language other than English to employment and income among different demographic groups (such as age, marital status, race/ethnicity)?

- Health needs assessments:

  - ✓ How do changes in population and industry mix affect health needs and ability to pay?

  - ✓ What can you predict about future needs given an area's migration patterns and changes in demographic composition?

- ✓ What is the impact of different environmental conditions on health needs among different demographic groups (e.g., race/ethnic groups, age, economic status)?

- Projecting future needs for community facilities such as schools and hospitals:

  - ✓ Use population surveys to determine migration patterns, demographic group (e.g., age, gender, economic status, educational attainment) with school enrollment records (or hospital use records) to project future needs for location of facilities and types of facilities (such as temporary trailers or long-term school buildings; geriatric care or prenatal care facilities).

- Neighborhood development and housing policy:

  - ✓ What is the likely effect on the affordability of housing and the composition of the population?

  - ✓ What are the socio-economic effects of living in particular types of neighborhoods relative to family types? What is the duration of residence in neighborhoods with concentrated poverty? How does residence in such areas affect employment opportunities?

- Safety:

  - ✓ How does the incidence of crimes (by type of crime) change in neighborhoods with changes in migration patterns into and out of those neighborhoods and changes in the local economy?

- Energy and the environment:

  - ✓ What are the predicted changes in energy demand or environmental quality as the mix of population and industry changes?

Example of How Multiple Information Sources Might Be Used

How could a county economic development council, in the year 2000, approach policy questions using existing multiple data sources in an econometric model? The Census Bureau, in preparation for the full implementation in 2003, is asking for feedback on which tabulations best respond to public policy questions. This provides a window of opportunity for the research community to design inputs into the decisionmaking process. In order to illustrate an example of how this might be done, we pose the following illustrative policy question:

Given a county's mix of industries and population, what are some options for economic development strategies that focus on improving the situation for the county's low skill

workers? What types of industries are hiring low skill workers, and how well do the jobs pay? What happens as unemployment levels go up (or down)? What if there is a downturn in the economy?

Although these are core economic development issues, the data available for describing these outcomes econometrically are scarce and not available in any one data set. Ideally, one might want to look at a model that either structurally describes the demand and supply for low skilled workers, or sets up a reduced form model of the type:

$$\text{Employment}_{\text{low skill, industry, time}} = X\beta + Z\delta + CC\,\lambda + \varepsilon$$
$$\text{Earnings}_{\text{low skill, industry, time}} = X\,\alpha + Z\phi + CC\,\varphi + \mu$$

where:

X reflects the characteristics of the available labor pool of workers (such as age, race, sex, education, prior work history, welfare recipiency),

Z reflects the characteristics of the firms in each industry (such as the number and average size of firms, total employment in the industry, average payroll, turnover rates, and growth rates), and

CC reflects county conditions, such as the local unemployment rate, or statewide economic factors.

Once this model is estimated, the effect of structural demand side changes in the economy can be modeled by simulating different changes in Z. Changing CC can simulate the effect of changing economic conditions.

The first step for every researcher is to find the data sets that are adequate to address the policy issues. A stocktaking of available sources would reveal that there might be several relevant data sets available: the 1997, 1998, and 1999 American Community Survey; the 1990 census; school enrollment records (every year through 1999); AFDC/TANF records; and Unemployment Insurance (UI) wage records.

How might these be used in the simple model described above? The dependent variables - the employment and earnings of low skill workers - could be derived by year and industry from both the 1990 census and each year of the American Community Survey. The workforce characteristics - educational attainment of the population, as well as the prior work history, age, race and sex distributions - could be derived from both the 1990 census as well as each year of the American Community Survey. Administrative records on TANF and AFDC recipiency could be aggregated to derive the proportion of welfare recipients in the population. In addition, if the recipiency were matched to UI data, it could even be used to reveal which types of industries hired welfare recipients, and this information could be included in the vector of Z variables.

Finally, the variables on the firm side, such as the average size of firm, payroll, turnover rates, and growth rates of firms in each industry could be derived from UI wage records and ES-202 files for each quarter of 1990-99.

These can then be used to simulate changes in the demand for low skilled workers as a given industry grows or contracts. If, for example, firms in health services were projected to become an important segment of the economy, the effect of this increased growth on the employment and earnings of unskilled workers could be simulated, assuming, of course, that other things were held constant!

The point of this exercise was to determine what the key tabulations are likely to be. In this case, the key tabulations from the American Community Survey are employment and earnings by type of worker and by industry; age, race, gender, and educational experience, by county. These can be directly inserted into a regression model, together with similar tabulations from administrative data. Although different applications might well be envisaged, these kinds of tabulations would certainly enhance the ability of researchers to model important, policy relevant, questions.

Preparing For A Multiple Choice Future

We have discussed a vision of developing a coordinated state and community information system for strategic decisionmaking that makes efficient use of technology yet honors and protects confidentiality. The potential for such information systems is huge. The ability to do such research could affect, for example, how public programs are "funded, targeted, and evaluated," and would be useful in designing programs for high risk groups and assessing needs and resources [Culhane and Metraux, p. 347].

There are significant barriers, however, that require sustained and coordinated effort to overcome. For example:

- The American Community Survey must be fully implemented nationwide with a sample that is large enough to provide updated estimates of demographic and housing characteristics for census tracts.

- Statistical policy should be coordinated among the multiple data sets of administrative records to standardize, to the extent possible, definitions, ways to ask demographic questions (for example, age and race), processing and editing rules such as for missing or inconsistent data, and the coding of addresses and subjects such as industry and occupation. Where possible, it would be advantageous for the standardization to be consistent with the conventions used in national surveys such as the American Community Survey.

- Data quality issues in administrative records need to be evaluated and addressed. For example, the people who collect information from program participants think of its use in terms of a management information system, not as statistical files for research. Training such staff about the extended uses of the data helps them understand why it

is important to gather the information according to standard practices and to try to obtain all the information requested. We have an example of the effectiveness of this approach from the National Center for Health Statistics. It trains funeral directors about the uses of the information requested on death certificates and has thereby improved the quality of that data.

- Much has been written about the difficult balance between individual rights to privacy and the confidential use of administrative records to achieve efficient, fair government [Stevens; Warren and Brandeis, p. 193; Hatch, p. 1; National Academy of Sciences; Human Rights Commission]. Stevens notes that "privacy" refers to the right of individuals to control information that is about them while "confidentiality" refers to how information is handled and what the statutory responsibilities are [Stevens, p.7]. Protocols are necessary to protect the confidentiality of the physical records as well as avoiding the disclosure of an individual's identity and attributes when information is released in a statistical file.

  - ✓ Confidentiality is protected through laws and regulations, statistical policy, and statistical techniques. It is especially important that laws and regulations distinguish between administrative and statistical uses of information about an individual. Administrative uses explicitly affect an individual, such as providing or denying benefits or identifying illegal activities. Statistical analyses are uninterested in an individual once the person's characteristics are collected and then aggregated with those of others to identify patterns. Current legal language is often open to interpretation as to whether and how third party researchers use administrative records [Stevens, pg. 4].

  - ✓ Statistical policies to protect individual confidentiality may include, for example, control over who has access to individual records, an institutionalized expectation and ethic that confidentiality is everyone's responsibility, a disclosure review board, and the requirement that every staff member sign a statement every six months that (s)he knows and understands the laws and practices to secure information. A significant problem is that, with multiple agencies, executive responsibilities, philosophies, and roles among legal counsel, the lack of an overall policy results in ad hoc and ever changing practices [Stevens, pg. 4]. Uniform data sharing agreements that cover multiple data sets would be useful.

  - ✓ Statistical techniques for disclosure avoidance address issues such as the minimum number of cases required before data are shown for an area, the detail that is provided in cross tabulations in relation to a population size, switching of households among areas so one can never be certain of identity, and techniques that avoid disclosure in data sets from Year 1 to Year 2 when a city annexes a few blocks (that is, information can be gained about the annexed blocks by subtraction). Advanced techniques for disclosure avoidance and disclosure detection are needed for use with Geographic Information Systems (GIS).

- We need to further develop software to make data access easier for staff in community organizations who are not trained demographers or economists. They also need software that better organizes the data for predetermined analyses and statement of results.

- We need to improve the geographic coding of addresses on administrative records and further develop software such as GIS for better communication of research results to community organizations and policymakers.

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Attachment A
Examples of Federal Programs for Estimating Distributions from Multiple Data Sets in Models

Small Area Income and Poverty Estimates (SAIPE)

An example of the concept of making estimates for small areas by combining survey data for states with county-level program records is the Census Bureau's program for making estimates of poverty for small areas, the Small Area Income and Poverty Estimates (SAIPE) program. The SAIPE program uses intercensal estimates of the population of states and counties by age and group quarter status. It uses income and poverty estimates from the 1990 census for states and counties and from the Current Population Survey for states (that is, aggregated distributions for each state). These aggregated data are combined with program records available for all counties in the nation in statistical models to produce estimates of poverty for school-age children for counties and school districts. The program records SAIPE uses are the number of food stamp and Social Security recipients, summarized data from tax records, and estimates of personal income. Estimates of poverty and income are made using survey and administrative data that are not available until two years after the year to which they refer. Thus, income year 1997 estimates cannot be produced until the year 2000. Detailed information about the SAIPE program is available on the Census Bureau's web page at:
<www.census.gov/hhes/www/saipe/techdoc>

Population Estimates Between Censuses: Concepts and Geography

The information below is extracted from the Census Bureau's website and it was last revised on March 20, 2000. For more information contact U.S. Census Bureau, Population Division, Population Estimates Branch.

What is a population estimate?

The Census Bureau's Population Estimates Program (PEP) produces July 1 estimates for years after the last published decennial census (1990), as well as for past decades. Existing data series such as births, deaths, federal tax returns, Medicare enrollment, and immigration, are used to update the decennial census base counts. PEP estimates are used in federal funding allocations, in setting the levels of national surveys, and in monitoring recent demographic changes. A methodology reference accompanies most of our population estimates offerings.

Revisions to estimates and geographic detail

With each new issue of July 1 estimates, PEP revises estimates for years back to the last census. Previously released estimates become superseded. Revisions to estimates are usually due to input data updates, changes in methodology, or legal boundary changes.

The frequency of estimates and availability of demographic detail vary by geographic level.

Why does the Census Bureau produce estimates?

The legal requirement for the Census Bureau to produce subnational population estimates is given in Title 13 of the U.S. Code. Title 13 states that: "During the intervals between each census of population required under section 141 of this title, the Secretary, to the extent feasible, shall annually produce and publish for each State, county, and local unit of general purpose government of fifty thousand or more, current data on total population and population characteristics and, to the extent feasible, shall biennially produce and publish for units of general purpose government current data on total population." The reason for producing estimates is given in Section 183 of Title 13: "Except as provided in subsection (b), for the purpose of administering any law of the United States in which population or other population characteristics are used to determine the amount of benefit received by State, county, or local units of general purpose government, the Secretary shall transmit to the President for use by the appropriate departments and agencies of the executive branch the data most recently produced and published under this title."

In other words, the Census Bureau produces subnational estimates for use in the allocation of funds to state, county, and local governments. For this reason, the Census Bureau produces population estimates for general-purpose functioning governments. These governments have elected officials who can provide services and raise revenue. In addition to states and counties, incorporated places and minor civil divisions also serve as general- purpose functioning governmental units.

For what geographic areas does the Census Bureau produce estimates?

In addition to the Nation, the 50 states, and the District of Columbia, PEP produces estimates for the following geographic entities:

Counties (and equivalents)

Counties are the primary legal divisions of most states. Most counties are functioning governmental units, whose powers and functions vary from state to state. In Louisiana, these primary divisions are known as parishes. In Alaska, the county equivalents consist of legally organized boroughs or "census areas" delineated for statistical purposes by the State of Alaska and the Census Bureau (since 1980). In four states (Maryland, Missouri, Nevada, and Virginia), one or more cities are independent of any county organization and thus constitute primary divisions of their states; the Census Bureau refers to these places as "independent cities" and treats them as the equivalents of counties for estimates purposes. The District of Columbia has no primary divisions and the entire area is considered to be the equivalent of a county and in Puerto Rico, municipios are the primary divisions and treated as county equivalents for estimates purposes. Legal changes to county boundaries or names are typically infrequent. Changes that have occurred since the 1990 Census are documented at: http://www.census.gov/population/www/estimates/geonotes/

These notes also include information on changes to the areas described below.

Minor Civil Divisions

Legally defined county subdivisions are referred to as minor civil divisions (MCDs.) MCDs are the primary divisions of a county. They comprise both governmentally functioning entities - - that is, those with elected officials who provide services and raise revenues -- and nonfunctioning entities that exist primarily for administrative purposes, such as election districts. Twenty-eight states and Puerto Rico have MCDs. However, the MCDs function as general purpose governmental units in all or part of only twenty states. Within these twenty states, PEP produces estimates for all governmentally functioning MCDs and for nonfunctioning MCDs in counties that contain at least one functioning MCD.

The legal powers and functions of MCDs vary from state to state. Most of the MCDs in twelve states (Connecticut, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Wisconsin) serve as general-purpose local governments. In the remaining eight states for which PEP produces MCD level estimates (Illinois, Indiana, Kansas, Missouri, Nebraska, North Dakota, Ohio, and South Dakota) the MCDs, for the most part, perform less of a governmental role and are less well known locally, even though they are active governmental units.

MCDs primarily are known as towns (in New England, New York, and Wisconsin), townships, and districts, but also include a variety of other entities. In Maine and New York, American Indian reservations are not part of any other MCD and therefore, the Census Bureau treats them as MCDs. PEP does not produce separate estimates for American Indian Reservations regardless of their MCD status. In some states, all or some incorporated places are subordinate to the MCDs in which they are located. Therefore, a place may be either independent of or dependent upon MCDs. In one state (Ohio), a multi-county place may be treated differently from county to county. The District of Columbia defined no MCDs for the 1990 census, so the District itself serves as the equivalent of an MCD for data presentation purposes. No functioning MCDs exist in Puerto Rico.

Incorporated Places

The legal designations, powers, and functions of incorporated places vary from state to state. Incorporated places include cities, towns (except in New England, New York, and Wisconsin where the Census Bureau recognizes towns as MCDs for census purposes), boroughs (except in Alaska, where the Census Bureau recognizes boroughs as equivalents of counties, and New York, where the Census Bureau recognizes the five boroughs that constitute New York City as MCDs) and villages. Incorporated places can cross both county and MCD boundaries. When this occurs, the place name is followed by the designation "pt" (which stands for part). The PEP produces estimates of the

unincorporated "balance of county" area for counties that are not entirely composed of incorporated places. Another way to understand this is to think of the "balance of county" as the county population minus the county population resident within incorporated places.

Consolidated Cities

Consolidated cities are a unit of government for which the functions of an incorporated place and its county or MCD have merged. The legal aspects of this action may result in both the primary incorporated place and the county or MCD continuing to exist as legal entities, even though the county or MCD performs few or no governmental functions. Where one or more other incorporated places within the consolidated government continue to function as separate governmental units, the primary incorporated place is referred to as a "consolidated city."

Estimates are not shown for consolidated cities. Rather, estimates are displayed for the consolidated city "remainder," which is the consolidated city minus the semi-independent incorporated places located within the consolidated city. Consolidated cities include: Butte-Silver Bow, MT; Athens-Clark County, GA, Augusta-Richmond County, GA, Columbus, GA; Indianapolis, IN; Jacksonville, FL; Milford, CT; and Nashville-Davidson, TN. Estimates also are produced for the semi-independent places which together with the "remainder record," sums to the entire territory of the consolidated city.

Additional Information on Geographic Entities

A more complete narrative treatment of these areas is found in the Geographic Areas Reference Manual: http://www.census.gov/geo/www/garm.html authored by the Census Bureau's Geography Division. This manual provides a comprehensive description of all the geographic entities recognized and reported in the Census Bureau's various Censuses and Surveys.

Local Area Unemployment Statistics (LAUS) -- Overview

The Bureau of Labor Statistics (BLS) has a Local Area Unemployment Statistics (LAUS) program. Unemployment statistics for local areas are model based and use multiple, nationally available data sets. BLS is conducting research so that once the American Community Survey is fully implemented, they hope to use those current demographic estimates to replace the historical information from the previous decennial census. The information below describes the current LAUS program and is excerpted from the website of the Bureau of Labor Statistics. The address is: www.bls.gov/lauov.htm

The Local Area Unemployment Statistics (LAUS) program is a Federal-State cooperative effort in which monthly estimates of total employment and unemployment are prepared for approximately 6,800 areas:

- Census regions and divisions
- States
- Metropolitan areas (primary metropolitan statistical areas and metropolitan statistical areas)
- Nonmetropolitan labor market areas
- Counties and county equivalents
- Cities of 25,000 population or more
- Cities and towns in New England regardless of population

These estimates are key indicators of local economic conditions. The Bureau of Labor Statistics (BLS) of the U.S. Department of Labor is responsible for the concepts, definitions, technical procedures, validation, and publication of the estimates that State employment security agencies prepare under agreement with BLS.

The concepts and definitions underlying LAUS data come from the Current Population Survey (CPS), the household survey that is the official measure of the labor force for the nation. Annual average data for all States, the District of Columbia, New York City, and the Los Angeles-Long Beach metropolitan area are derived directly from the CPS. Monthly estimates for these areas are produced using estimating equations based on regression techniques. These models combine current and historical data from the CPS, the Current Employment Statistics (CES) program, and State unemployment insurance (UI) systems. Estimates for substate labor market areas (other than the two areas mentioned above) are produced through a building-block approach known as the "Handbook method." This procedure also uses data from several sources, including the CPS, the CES program, State UI systems, and the decennial census, to create estimates that are adjusted to the statewide measures of employment and unemployment. Below the labor market area level, estimates are prepared using disaggregation techniques based on inputs from the decennial census, annual population estimates, and current UI data.

Attachment B: CENSUS 2000 DATA PRODUCTS

Census 2000 data products are designed to meet a variety of data needs for different segments of the data user community. The data products described here provide a summary of the general tabulation and publication program for the 50 states, the District of Columbia, and Puerto Rico (which is treated as a state equivalent for each data product). Please note that constraints with staffing and budget, federal guidelines regarding the tabulation of data by race and ethnicity, data processing, or other considerations may result in changes to the types of data products prepared or the timing of their release.

For more information on Census 2000 data products, please contact Louisa Miller (Population Division) on 301-457-2073 or by e-mail at <lmiller@census.gov>

Planned Release Date	100-Percent Data Products	Lowest Level Geography
MAR – APR 1, 2001	**Census 2000 Redistricting Data Summary File** • State population counts for legislative redistricting *Media: Internet, CD-ROM*	Blocks
JUN – SEP 2001	**Demographic Profile** • Population totals and selected population and housing characteristics in a single table *Media: Internet, CD-ROM, paper*	Places
JUN – SEP 2001	**Congressional District Demographic Profile** • Population totals and selected population and housing characteristics in a single table for Congressional Districts only *Media: Internet, CD-ROM, paper*	Congressional Districts of the 106th Congress
JUL 2001	**Race and Hispanic or Latino Summary Table CD-ROM** Medium: CD-ROM	Governmental units
At the state level: JUN – SEP 2001 *At the national level:* MAY – JUN 2002	**Summary File 1 (SF 1)**: • Population counts for 63 race categories and Hispanic or Latino..... • Population counts for many detailed race and Hispanic or Latino categories, and American Indian and Alaska Native tribes..... • Selected population and housing characteristics..... [National file includes urban and rural data] *Media: Internet, CD-ROM*	Blocks Census tracts Blocks/Census tracts
At the state level: OCT – DEC 2001 *At the national level:* JUN – JUL 2002	**Summary File 2 (SF 2)**: • Population and housing characteristics iterated for many detailed race and Hispanic or Latino categories, and American Indian and Alaska Native tribes [National file includes urban and rural data] *Media: Internet, CD-ROM*	Census tracts

At the state level: APR – DEC 2001 *At the national level:* MAY – JUL 2002	**Quick Tables** • Table shells with population and housing characteristics where the user can specify a geographic area and a population group *Medium: Internet*	Census tracts
At the state level: APR – OCT 2001 *At the national level:* JUN – JUL 2002	**Geographic Comparison Tables** • Population and housing characteristics for a list of geographic areas (e.g., all counties in a state) *Medium: Internet*	Places of 1,000 or more population
SEP – DEC 2001 (Release subject to policy decisions on access and confidentiality)	**Advanced Query Function** • User specifies contents of tabulations from full microdata file • Includes safeguards against disclosure of identifying information about individuals and housing units *Medium: Internet*	User defined down to block groups
JAN – NOV 2002	*Census 2000: Summary Population and Housing Characteristics* *Media: Internet, paper (printed report)*	Places
2003	Census 2000: Population and Housing Unit Counts *Media: Internet, paper (printed report with selected historical counts)*	Places

Continued Attachment B: Census 2000 Data Products (2)

Planned Release Date	Sample Data Products	Lowest Level Geography
DEC 2001 – MAR 2002	**Demographic Profile** • Demographic, social, economic, and housing characteristics presented in three separate tables Media: Internet, CD-ROM, paper	Places
DEC 2001 – MAR 2002	**Congressional District Demographic Profile** • Demographic, social, economic, and housing characteristics presented in three separate tables for Congressional Districts only *Media: Internet, CD-ROM, paper*	Congressional Districts of the 106th Congress
AUG – DEC 2002	**Summary File 3 (SF 3)**: • Population counts for ancestry groups..... • Selected population and housing characteristics..... *Media: Internet, CD-ROM*	Census tracts Block groups/ Census tracts
DEC 2002 – MAR 2003	**Summary File 4 (SF 4)**: • Population and housing characteristics iterated for many detailed race and Hispanic or Latino categories, American Indian and Alaska Native tribes, and ancestry groups Media: Internet, CD-ROM	Census tracts
AUG 2002 – MAR 2003	**Quick Tables** • Table shells with population and housing characteristics where the user can specify a geographic area and a population group Medium: Internet	Census tracts
SEP 2002 – JAN 2003	**Geographic Comparison Tables** • Population and housing characteristics for a list of geographic areas (e.g., all counties in a state) *Medium: Internet*	Places of 1,000 or more population
For 5-percent sample: APR – JUL 2002 For 1-percent sample: AUG – DEC 2002	**Public Use Microdata Sample (PUMS) Files** • 5-percent sample (information for state and sub-state areas) • 1-percent sample (information for metropolitan areas) *Medium: CD-ROM*	Public use microdata areas (PUMAs)
DEC 2002 – MAR 2003 (Release subject to policy decisions on access and confidentiality)	**Advanced Query Function** • User specifies contents of tabulations from full microdata file • Includes safeguards against disclosure of identifying information about individuals and housing units Medium: Internet	User defined down to census tracts
2003	*Census 2000: Summary Social, Economic, and Housing Characteristics* Media: Internet, paper (printed report)	Places
2003	**Congressional District Data Summary File** • 100-percent and sample data for the redistricted 108th Congress Media: Internet, CD-ROM	Census tracts within Congressional Districts

(Revised: 2/1/00)

Attachment C

Examples of Relevant Web Sites

AMERICAN COMMUNITY SURVEY: **www.census.gov/acs/www/**
Summarized data updated each year for areas; documentation for the survey, including a questionnaire

ANNIE E. CASEY FOUNDATION: www.aecf.org
The Foundation's mission is to help build better futures for millions of disadvantaged children who are at risk of poor educational, economic, social, and health outcomes.

BUREAU OF THE CENSUS: www.census.gov
Click on "American FactFinder" for data from censuses and surveys.

BUREAU OF LABOR STATISTICS, LOCAL AREA UNEMPLOYMENT STATISTICS:
www.bls.gov/lauov.htm

CENTER ON URBAN POVERTY AND SOCIAL CHANGE, Case Western Reserve University (contact: Claudia Coulton): **http://povertycenter.cwru.edu**
Cleveland Area Network for Data Organizing, a data base that contains neighborhood-level information from the 1990 census and a variety of administrative data files.

CENTERS FOR DISEASE CONTROL AND PREVENTION:
http://www.cdc.gov/scientific.htm

CHILD TRENDS: www.childtrends.org

CLEVELAND AREA NETWORK FOR DATA AND ORGANIZING (CAN DO):
http://povertycenter.cwru.edu
Center on Urban Poverty and Social Change, Case Western Reserve University. This is an interactive database of Cleveland neighborhoods with mapping capabilities

COUNCIL OF PROFESSIONAL ASSOCIATIONS ON FEDERAL STATISTICS
http://members.aol.com/copafs

DC AGENDA: **http://www.dcagenda.org**
Neighborhood Information Service assembles neighborhood-level data and analyses to support community-based organizations.

DEMOGRAPHIC DATA VIEWER
http://plue.sedac.ciesin.org/plue/ddviewer/ddv20/htmls/map-intro.html

DEPARTMENT OF AGRICULTURE, Economic Research Service
http://www.ers.usda.gov/rural

Rural briefing room.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, Office of Policy Development and Research:
http://www.huduser.org/datasets/pdrdatas.html
Includes links to varous data sets associated with housing and urban development such as the American Housing Survey and Low Income Housing. Includes information such as annual adjustment factors to project-based rent subsidies, assisted housing (national and aggregated information on housing assistance at the local level, fair market rents, government sponsored enterprise data, income limits, low-income housing tax credit, property owners and managers survey, qualified census tracts and difficult development areas, and section 8 administrative fees.

HUD's State of the Cities Data System: **http://webprod.aspensys.com/socds/**
Contains data sets for tracking the conditions of America's cities.

DEPARTMENT OF JUSTICE
NATIONAL INSTITUTE OF JUSTICE: **www.ojp.usdoj.gov/nij**
CRIME MAPPING RESEARCH CENTER: **www.ojp.usdoj.gov/cmrc**

ECONOMIC DEVELOPMENT ADMINISTRATION: www.doc.gov/eda
Obtain their report on "Socioeconomic Data for Economic Development: An Assessment" by Andrew Reamer and Joseph Cortright at: **www.doc.gov/eda/pdf/socio.pdf**

ESRI for GIS mapping and software: **www.esri.com**

FEDSTATS: www.fedstats.gov
Nationally available statistics produced by the federal government.

FLORIDA DEPARTMENT OF CHILDREN AND FAMILIES:
http://www.state.fl.us/cf_web/district11
Their GIS Research Services unit focuses on data collection, analysis, neighborhood indicators and community mapping.

HEALTHY COMMUNITIES PROJECT, UNVERSITY OF TEXAS-HOUSTON, SCHOOL OF PUBLIC HEALTH: www.sph.uth.tmc.edu/chis/background.htm

INTEGRATED DATABASE ON CHILDREN'S SERVICES IN ILLINOIS, CHAPIN HALL CENTER FOR CHILDREN, UNIVERSITY OF CHICAGO:
www.chapin.uchicago.edu
How children in Illinois use public social service programs. This data base includes some longitudinal data and is being used as a national standard for how to use administrative records for policy. Replication is planned in California, Massachusetts, North Carolina, and Wisconsin.

MARYLAND GOVERNOR'S OFFICE FOR CHILDREN, YOUTH, AND FAMILIES
www.ocyf.state.md.us/results.htm

Tracks results and indicators of the well being of Maryland's children.

NATIONAL NEIGHBORHOOD INDICATORS PROJECT, URBAN INSTITUTE, WASHINGTON, D.C.
http://www.urban.org/nnip/index.htm
The National Neighborhood Indicators Partnership (NNIP) is a collaborative effort by the Urban Institute and local partners to further the development and use of neighborhood-level information systems in local policymaking and community building. All local partners have built locally self-sustaining information systems with integrated and recurrently updated information on Neighborhood conditions in their cities. These systems facilitate the direct use of information by local government and community leaders to build the capacities of distressed urban neighborhoods.

PITON FOUNDATION, DENVER: www.piton.org
This is a private foundation whose mission is to provide opportunities for children and their families to move from poverty and dependence to self reliance. The Piton's Data Initiative for Denver has the user friendly Neighborhood Facts, a web-based database of neighborhood indicators, maps, and histories.

POPULATION ESTIMATES, Bureau of the Census:
http://www.census.gov/population/www/estimates/

RAY MARSHALL CENTER FOR THE STUDY OF HUMAN RESOURCES (LBJ School of Public Affairs, U. of Texas): www.utexas.edu/research/cshr/

ROCKEFELLER FOUNDATION: www.rockfound.org

SAN DIEGO ASSOCIATION OF GOVERNMENTS:
http://www.sandag.cog.ca.us/data_services/
SANDAG maintains extensive databases of facts and figures from a historical perspective, current information, and forecasted information. The information encompasses population growth, housing, employment, and income as well as data on crime and the local economy.

SMALL AREA INCOME AND POVERTY ESTIMATES (SAIPE):
www.census.gov/hhes/www/saipe/techdoc
Detailed information about the SAIPE program is available on the Census Bureau's web page.

UNIVERSITY OF MICHIGAN, Inter-University Consortium for Political and Social Research (ICPSR): < http://www.icpsr.umich.edu/archive1.html>
Archive of computerized social science data.

UNIVERSITY OF WISCONSIN AT MADISON, INSTITUTE FOR RESEARCH ON POVERTY: www.ssc.wisc.edu/irp/
The Institute for Research on Poverty is a national, university-based center for research into the causes and consequences of poverty and social inequality in the United States. It is nonprofit and nonpartisan.

URBAN INSTITUTE: **www.urbaninstitute.org**
URBAN INSTITUTE'S NATIONAL NEIGHBORHOOD INDICATORS PARTNERSHIP: www.urbaninstitute.org/nnip/
The NNIP is a collaborative effort by the Urban Institute and local partners to develop and use neighborhood-level information systems in local policymaking and community building. The local partners have built locally self-sustaining information systems with integrated and recurrently updated information on neighborhood conditions in their cities.

URBAN STRATEGIES COUNCIL, Oakland California: **http://www.urbanstrategies.org**
The data group used administrative records files and census files for city reports and maps.

Crossing the Digital Divide: New Technology for Interactive Community Mapping on the Web

Extended Abstract

Ilya Zaslavsky (ELZA Research), ilya@elzaresearch.com
Richard Marciano (UCSD/SDSC), marciano@sdsc.edu
David Cleveland, President (Telesis Corporation - nonprofit), dcleveland@telesis.org

New technology has emerged that allows the creation and publication of interactive maps on the Web, for public viewing. However, the cost and resources required to serve such maps, are still prohibitive. As a consequence a de-facto "digital mapping divide" persists where global, regional, and municipal powers are still the major providers and stakeholders, determining which data is collected and shared with the public. Neighborhoods and communities have still limited means of making an input on decision-making processes that affect them directly, and even on how information about them is collected and presented.

This restricted model is on the verge of exploding for several technological reasons: (1) the advent of new geographic data collection technologies, including Global Positioning Systems (GPS), (2) the availability of affordable PC-based Geographic Information Systems (GIS), (3) new lightweight Web browser-based map viewing and publishing interfaces.

Accessible via Web community portals, these new viewing and publishing interfaces have the potential to engage ordinary citizens, as well as communities and neighborhoods, by allowing all to think about themselves, visually render their findings, and share them within the *community (HITT, 1995)*. These new interfaces stand to alter the playing field and our very perceptions of the shared environment we live in, thus stimulating a broader community involvement and awareness and a shifting of traditional political balances.

This paper will describe a new lightweight suite of Web-based mapping tools called "AXIOMap" used for interactive community mapping. The technology, developed at ELZA *Research (ELZA RESEARCH, 2000)*, and the new participatory cultural models will be analyzed. We will demonstrate, with examples involving federal data collections and neighborhood data, the synergy between the emerging community models and the new Web mapping technology. Providing interaction and analysis capabilities traditional maps cannot display, the new technology transforms static maps into interactive documents which have the potential of being subversive, dynamic, and more culturally and politically charged.

Application of XML for Interactive Online Mapping: AXIOMap

The reasons behind the "digital divide" in Web-based interactive mapping are to a large extent technological. While stand-alone GIS and Web map viewers are relatively inexpensive, or even free (such as ArcExplorer *(ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE, 2000))* they are typically tied to a proprietary data format, and don't support map publishing on the Internet. To publish interactive maps on the Web, one needs an Internet Map Server (IMS). IMS is a special software running on a Web server that receives mapping requests from Web clients and processes

them typically by creating a picture (GIF or JPG file) of a map and sending it back to the client. This technology is expensive (the software cost, in the range of 6-7 thousand dollars), requires extensive setup, customization and maintenance efforts. If not bundled with a long-term foundation-supported project, this technology is typically beyond the reach of community groups. An additional drawback is that the only way to handle a large number of simultaneous processing requests from Web clients is to increase server capabilities, which is also expensive. As a result, government agencies and relatively large companies are the clients of this technology. Their mapping efforts, the data they collect and present to the public, are certainly influenced by the agency's agenda, which is not necessarily compatible with community interests.

The Web mapping technology we developed and implemented in the San Diego Quality of Life project *(TELESIS CORP., 1999)* and the historical mapping of communities *(MARCIANO, McKEON, CRUSE, 1999),* is designed to break through this "digital mapping divide". It provides communities with an inexpensive though powerful Web map publishing mechanism that allows community members to convert map data from a stand-alone GIS into an interactive map site, update map information, and interact with it without having to be a mapping or GIS expert.

With this software, as implemented in the Quality of Life project, community users can:
(1) color maps by neighborhoods using over 100 variables on demographics, housing, ethnic and income composition, occupation and employment, land patterns, crime, etc., including forecast data from the local planning agency;
(2) display over two dozen point layers with objects of interest, including schools and colleges, hospitals and recreation centers, parks, drug treatment centers, government agencies and non-profits, churches and community centers, libraries and museums, etc.;
(3) display, analyze and save attribute information for any object or group of objects;
(4) construct simple and complex queries and map query results;
(5) navigate any map by zooming and panning, with user-defined zoom parameters;
(6) connect with Web sites associated with geographic objects;
(7) analyze proximity of various objects to one another, by drawing circles of specified radii and color, anywhere on the map;
(8) print out map documents along with accompanying statistical tables.

The AXIOMap software is based on the success of XML (eXtensible Markup Language), the new *Lingua Franca* of the Internet *(W3C, 1998a)*, and the new XML-based 2D vector rendering capabilities implemented in Internet Explorer 5 as Vector Markup Language (VML) *(W3C, 1998b)*. The software can construct virtual maps in a user's browser, retrieving XML documents from one or several Web servers. Comprehensive details will be provided in the full paper.

The San Diego Quality of Life (QOL) Project

Supported in part by The California Endowment, The Alliance Health Care Foundation, several departments of state, county and city government, and UCSD Department of Urban Studies, the San Diego Quality of Life Project is the core activity of a public partnership with the mission to empower local communities. The QOL model aims at:

- strengthening the capacity of community-based collaborative efforts that seek to change how public, and community institutions work together to support children, youth, and families
- building bridges between these countywide efforts and the community development groups to strengthen their efforts to create healthy neighborhoods.

It accomplishes these goals through: (1) technical assistance to ADS (Alcohol and Drug Services) Community Collaboratives; (2) development of QOL indicators and tracing their dynamics in the neighborhoods, and (3) analysis and mapping of QOL indicators in time and space.

One of the main distribution channels for the QOL interactive maps and warehouse data is a special

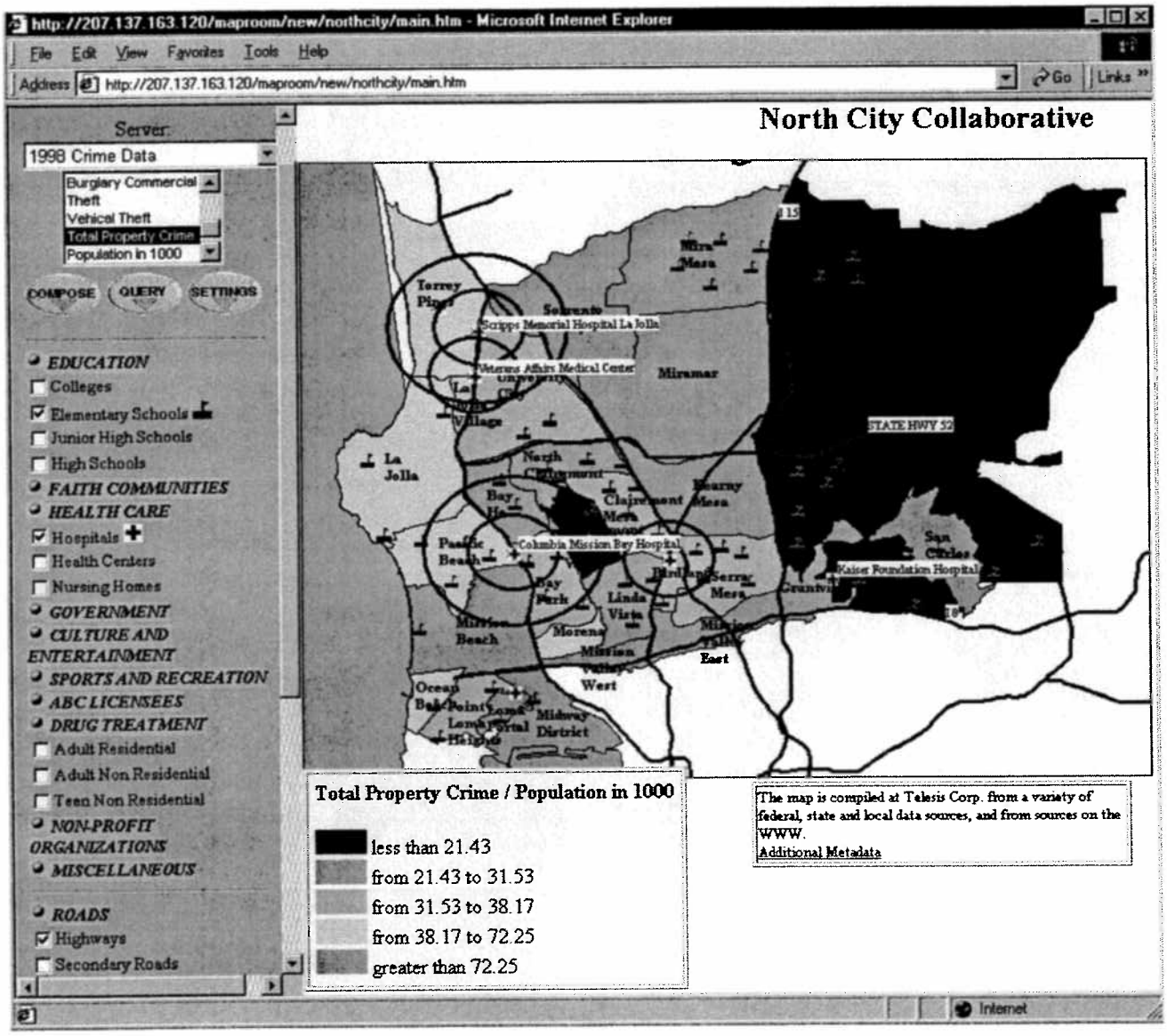

Fig. 1. AXIOMap of North City Prevention Coalition from the Quality of Life Web portal.

Internet community portal being developed by Telesis Corp. *(TELESIS CORP., 1999).* From this portal, community users can access a wealth of information about their neighborhoods, including 11 interactive maps of San Diego ADS Collaboratives, as well as more detailed community mapping projects forthcoming (after 3/2000).

There is no guarantee that advanced technologies and social science research, even accessible via convenient Web interfaces, will be accepted and used by the citizens. Thus, an important feature of the QOL project is community coordination and involvement at all stages of geographic data collection and mapping. One ultimate goal of the QOL Project is the illustration of collective efforts that produce community change. Our preliminary evaluation of the course of the project shows that up-to-date engaging neighborhood mapping is an important instrument of such change.

The Historical Redlining of San Diego Project

The maps of redlining in San Diego in the 1930s, address historical causes of segregation in urban communities and provide a basis for correlation with modern quality of life indices.

The study integrates declassified documents from the National Archives and Records Administration (NARA) (particular collections include the Home Owners' Loan Corporation (HOLC) & the Federal Housing Administration (FHA) records) with local collections (San Diego Historical Society & San Diego County Recorder's Office). The practice of redlining was initiated by HOLC created in 1933. However, it took the creation of the Federal Housing Administration on June 27, 1934, for HOLC's appraisal and redlining policies to be systematically implemented across the nation, thereby institutionalizing exclusion and contributing to the fragmentation of communities.

The main instrument of this policy were Confidential Residential Security Maps for all major U.S. cities prepared by HOLC, with special assistance from "competent local real estate brokers and mortgage lenders, believed to represent a fair and composite opinion of the best qualified local people". The purpose of the Residential Security Map was to graphically reflect the trend of desirability in neighborhoods from a residential viewpoint. As a result, between 1934 and 1962, FHA and VA (through the GI Bill) financed over $120 Billion of new housing and less than 2% of this real estate was available to nonwhite families, mostly in segregated areas.

The combination of this particular collection with new community mapping technology (AXIOMap), provides a unique and unprecedented opportunity to bring the historical collection to life by making it available through a simple analytical interface (Fig. 2). This also allows the viewer to analyze the legacy of these patterns of urban disinvestment and exclusion by visually relating them with current economic and demographic data.

While historic data layers are typically not supported by municipal and local powers, when put in the hands of community minded interests with appropriate technology, they can play a powerful and defining role in promoting community-level decision making.

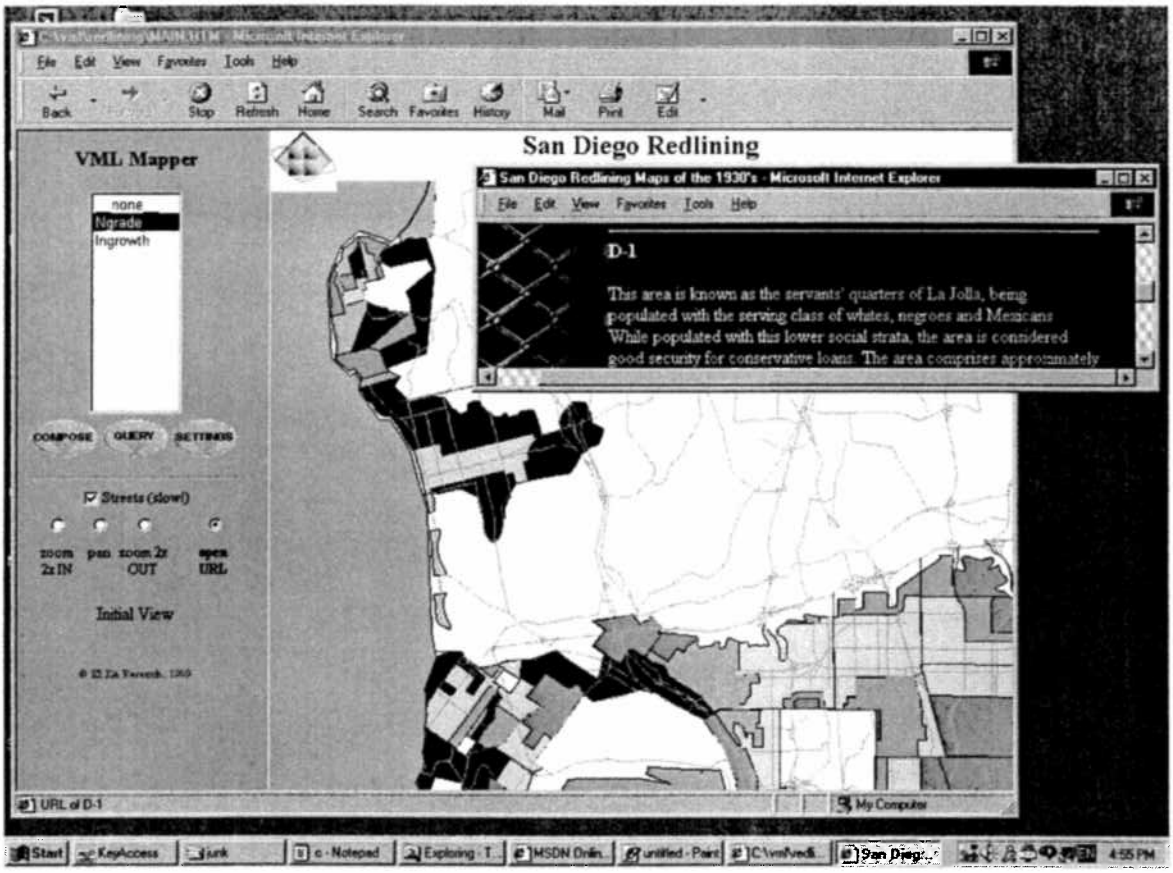

Fig. 2. A screenshot of the San Diego Redlining map.

Future trends

In the same way that the arrival of Geographic Information Systems has profoundly affected environmental science and urban planning, the availability of new Web-based mapping paradigms will affect community building initiatives. We believe that the emerging XML-based technologies for publishing interactive community maps on the Web, of which AXIOMap is a first example, are an important component in developing strong community presence in the cyberspace, providing communities and neighborhoods with a "Web mirror" that is easy to interact with and update.

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INTERACTIVE NEIGHBORHOOD MAPS ON A COMMUNITY WEB PORTAL: THE QUALITY OF LIFE IN SAN DIEGO PROJECT, AND THE AXIOMAP TECHNOLOGY

Ilya Zaslavsky (ELZA Research), ilya@elzaresearch.com
Richard Marciano (UCSD/SDSC), marciano@sdsc.edu
David Cleveland, President (Telesis Corporation - nonprofit), dcleveland@telesis.org

New technology has emerged that allows the creation and publication of interactive maps on the Web, for public viewing. However, the typical cost and resources required to serve such maps, are still prohibitive for most community groups. As a consequence a de-facto ***"digital mapping divide"*** persists where global, regional, and municipal powers are still the major providers and stakeholders, determining which data are collected and shared with the public. Neighborhoods and communities have still limited means of making an input on decision-making processes that affect them directly, and even on how information about them is collected and presented.

The Web mapping technology we developed and implemented in the San Diego Quality of Life (QOL) project is designed to overcome this "digital mapping divide". Called AXIOMAP (Application of XML for Interactive Online Mapping), it is based on the success of XML (eXtensible Markup Language), the new *Lingua Franca* of the Internet, and the new XML-based 2D vector rendering capabilities implemented in Internet Explorer 5 as Vector Markup Language (VML). The software can construct virtual maps in a user's browser, retrieving XML documents from one or several Web servers. It provides communities with an inexpensive though powerful Web map publishing and viewing mechanism that allows community members to convert map data from a stand-alone GIS into an interactive map site, update map information, and interact with it without having to be a mapping or GIS expert.

With AXIOMAP, as implemented in the QOL project, community users can:
(1) color maps by neighborhoods using over 200 variables on demographics, housing, ethnic and income composition, occupation and employment, land patterns, crime, etc., including forecast data from the local planning agency;
(2) display over two dozen point layers with objects of interest, including schools and colleges, hospitals and recreation centers, parks, drug treatment centers, government agencies and non-profits, churches and community centers, libraries and museums, etc.;
(3) display, analyze and save attribute information for any object or group of objects;
(4) construct simple and complex queries and map query results;
(5) navigate any map by zooming and panning, with user-defined zoom parameters;
(6) connect with Web sites associated with geographic objects;
(7) analyze proximity of various objects to one another, by drawing circles of specified radii and color, anywhere on the map;
(8) print out map documents along with accompanying statistical tables.

At the workshop, we will demonstrate the AXIOMAP system (including Web interactive mapping step-by-step tutorial), and discuss the experience of the QOL project in involving community members in mapping their neighborhoods. Information for the community maps within the QOL project was collected by community members themselves using modern GPS (Global Positioning Systems) and mapping software.

Accessible via the QOL Web portal (www.qolsandiego.net), the new community map interfaces and data warehouse provide local users with a wealth of information about their neighborhoods. We believe that the QOL project is a useful example of new technology focused on developing strong community presence in the cyberspace, providing communities and neighborhoods with a "Web mirror" that is easy to interact with and update.

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Luncheon Speaker

George Galster
Clarence Hilberry Professor of Urban Affairs
Wayne State University, Detroit MI 48202
College of Urban, Labor, and Metropolitan Affairs

George Galster earned his Ph.D. in Economics from M.I.T. with undergraduate degrees from Wittenberg and Case Western Reserve. He has published over 70 refereed articles, primarily on the topics of metropolitan housing markets, racial discrimination and segregation, neighborhood dynamics, residential reinvestment, community lending and insurance patterns, and urban poverty. His latest books are *The Maze of Urban Housing Markets*, University of Chicago Press, 1991, *The Metropolis in Black and White*, Rutgers University/Center for Urban Policy Research, 1992, and *Reality and Research: Social Science and American Urban Policy since 1960*, Urban Institute Press, 1996.

Dr. Galster provides a wealth of experience in academic, governmental, non-profit, and for-profit circles. He has been a consultant to the U.S. Department of Housing and Urban Development, numerous municipalities, community organizations, and civil rights groups, and organizations like the National Association of Realtors, American Bankers Association, Fannie Mae, and Chemical Bank Corporation. Recently he completed an appointment to the Consumer Advisory Council of the Federal Reserve's Board of Governors, and has assumed other leadership positions in community service.

Dr. Galster has held positions at Harvard University, the University of California at Berkeley, the University of North Carolina - Chapel Hill, and the College of Wooster. He served as Director of Housing Research at the Urban Institute in Washington DC before coming to Wayne State University.

Identifying Sustainable Neighborhoods: An Empirical Exploration of Threshold Effects*

George C. Galster
Wayne State University
Detroit, MI

Roberto G. Quercia
University of North Carolina at Chapel Hill
Chapel Hill, NC

Alvaro Cortes
Wayne State University
Detroit, MI

USA

12 November, 1999

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ABSTRACT

Do urban neighborhoods reach a threshold point beyond which they cannot sustain a decent quality of life for residents? In this study, we investigate the threshold-like effects of five key aspects that erode neighborhood quality of life: poverty rate, male labor force non-participation rate, overall adult non-employment rate, female headship rate for families with children, and secondary school drop out rate. We used a sample consisting of virtually all census tracts from U. S. metropolitan areas. The relationship between the value of numerous neighborhood indicators in 1980 and subsequent changes in each of the five dimensions of neighborhood quality of family life during the 1980-1990 period was evaluated statistically using a regression model with a spline specification to test for nonlinear, threshold-like processes. In this fashion, we were able to determine whether there was a critical value for a particular variable observed in 1980 which systematically was associated with large changes in any of the indicators of declining neighborhood quality of life during the ensuing decade.

We find ample evidence of sustainability-threatening threshold-like effects in two types of processes: endo-dynamics (factors which trigger greater changes in themselves once they reach certain values), and exo-dynamics (factors that trigger greater changes in other neighborhood quality of life indicators). Implications for planning, policy and research are derived from the analysis, which relate to how we can enhance the sustainability of neighborhoods.

Identifying Sustainable Neighborhoods: An Empirical Exploration of Threshold Effects

INTRODUCTION

The family plays a central role in the development of children into healthy, nurturing, productive adults. But the degree to which families can provide adequate supportive environments for their children is shaped by the places where they reside. Recent research has shown that numerous dimensions of the neighborhood affect a variety of outcomes for youth, including propensities to participate in the labor market, engage in illegal activities, bear children as teens out of wedlock, drop out of secondary school, and use illegal drugs. These studies have been reviewed by Briggs (1997); Ellen and Turner (1997); Brooks-Gunn, Duncan, and Aber (1997); and Quercia and Galster (1998).

Given the observed power of the neighborhood environment in shaping youth, policy makers are tempted to ask several obvious questions. How do "unhealthy" neighborhood environments get to be that way? Are there key indicators of family well-being that allow one to predict statistically the course of the neighborhood over the ensuing decade? Are there certain social conditions that tend to build upon themselves in a way that rapidly generates massive neighborhood problems? Is there a point of "no return," a critical value of an indicator past which the neighborhood begins a spiral of inevitable decline in the quality of life it offers families?

Unfortunately, we know little about the answers to these questions. Despite their unchallenged importance, the processes by which neighborhoods are transformed into more or less supportive environments have rarely been the subjects of statistical investigation. The one exception is in the area of changing racial composition of neighborhoods, often referred to as the "tipping" literature (Galster, 1990). However, only a handful of studies have attempted statistically to model changes in neighborhood poverty rates (Vandell, 1981; Galster and Mincy; 1993; Galster, Mincy, and Tobin, 1998; Carter, Schill, and Wachter, 1998). Even fewer have attempted to model changes in other neighborhood-level indicators of the environments confronting families and their children (Krivo and Peterson, 1996; Krivo, Peterson, Rizzo and Reynolds, 1998). To begin filling this void, we identified in a recent paper ample theoretical reasons to suggest that the sorts of changes associated with central city neighborhoods are characterized by "threshold effects" (Quercia and Galster, 1997). That is, when a neighborhood reaches a critical value of a certain indicator it may trigger more rapid changes in that neighborhood's environment.

In this study, we undertake an exploratory empirical investigation to determine whether five key aspects of the neighborhood's environment are subject to these threshold effects: poverty rate, male labor force non-participation rate, overall adult non-employment rate, female headship rate for families with children, and secondary school drop out rate.[1] Using a sample consisting of virtually all census tracts from metropolitan areas, we evaluate statistically the relationship between the value of numerous indicators measured in 1980 and subsequent changes in each of these five dimensions of neighborhood quality of family life during the 1980-1990 period. We employ a regression model with a spline specification to test for nonlinear, threshold-like processes. In this fashion we can ascertain the existence of a critical value(s) for the particular variable observed in 1980 which systematically was associated with large changes in any of the indicators of neighborhood quality of life during the ensuing decade.

We emphasize that this evaluation is designed to identify patterns and raise questions, not definitively test hypotheses. Nevertheless, our explicit goal is to investigate whether certain neighborhood changes are associated with clear threshold effects that might serve as guideposts for strategic neighborhood policy interventions.

The remainder of this article is divided into four sections. We begin with a discussion of the concept of threshold effects as it relates to neighborhood change. We next provide a brief, intuitive overview of our data and empirical methods. We then summarize key findings related to the major threshold effects we found. In the last section, we use the findings to derive implications for future research and policy purposes.

Threshold Effects and Neighborhood Change: Conceptual Underpinnings

Threshold effects have been probed theoretically by scholars from several disciplines (Akerloff, 1980; Fisher, 1975; Granovetter, 1978; Granovetter and Soong, 1986; Schelling, 1978).[2] In the sections below, we provide a working definition of threshold, identify different types of thresholds, and discuss the behavioral mechanisms influencing the existence of thresholds at the neighborhood level.

Definition and Types of Thresholds

Defined formally, threshold effects are a particular sort of causal relationship in which the magnitude of the causal influence changes dramatically past some critical point(s). Expressed graphically, a threshold effect involves an extremely non-linear relationship between

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[1] These indicators are conventional measures of key dimensions of neighborhood quality of family life (Krivo, Peterson, Rizzo, and Reynolds, 1998). Poverty rates and female headship rates have grown more spatially concentrated in the inner cites during the 1980s (Krivo et al., 1998).

[2] For a complete review, see Quercia and Galster (1998).

independent (X) and dependent (Y) variables past some value of X; see Figure 1. This nonlinear relationship can be a continuous mathematical function, as in lines OEB or OED in Figure 1, or a discontinuous relationship, as in line segments OE and AC. Point X' indicates the threshold point, with point X" portraying a second one for relationship OED.

Two general classes of these neighborhood change threshold effects can be specified. We empirically investigate these two types of processes in this study.

- *Endo-Dynamic Processes*: As an indicator of neighborhood quality of family life reaches a critical point, it triggers a greater change in itself. An example would be the well-known case of racial tipping, wherein African-Americans comprising a critical percentage of a neighborhood may trigger subsequent rapid increases in that percentage because an ever-increasing proportion of the original white residents do not tolerate the current racial mixture and move out.

- *Exo-Dynamic Processes*: As a factor causally affecting an indicator of neighborhood quality of family life reaches some point, it triggers a greater change in the indicator. An example might be that as the percentage of abandoned residential structures in a neighborhood exceeds a critical point, households having sufficient resources to move elsewhere do so, leaving a growing percentage of poor households in their wake.

Behavioral Mechanisms of Neighborhood Change Thresholds

A decadal change in an indicator of an aggregate characteristic in a neighborhood must imply tautologically a change in one (or more) of the following: the number and composition of out-movers from the neighborhood, the number and composition of in-movers to the neighborhood, and the behaviors of residents who remain in the neighborhood during the period. Regardless of whether the neighborhood change process is endo-dynamic, or exo-dynamic, each group above may potentially be influenced in ways characterized by threshold effects:

- Out-Movers: negative conditions in the neighborhood may eventually reach the point where they become intolerable to better-off residents who have the wherewithal to move to a superior residential environment, triggering a spate of selective out-migration.

- In-Movers: negative conditions in the neighborhood may eventually reach the point where they become a visible deterrent to prospective in-movers who have the wherewithal to make an alternative neighborhood choice; concurrently, these conditions

[3] It should be noted that Quercia and Galster (1998) identify the first two types only.

signal neighborhood landlords that they must lower rents, thereby further encouraging selective in-migration.

- Stayers: certain types of behaviors may occur much more frequently when their incidence passes the threshold above which they become the perceived norm in the neighborhood.

Unfortunately, available data on census tracts do not permit us to distinguish these three groups' contributions to the observed aggregate change in the tract, nor the precise behavioral mechanism through which this occurs. Our study instead explores whether the net pattern of these behaviors suggests thresholds.

Neighborhood Indicators, Data and Empirical Methods

We discuss methodological and data considerations in this section. First, we identify the five neighborhood quality indicators that will be examined for the presence of threshold effects. Second, we will describe the data set used in the examination. Finally, we will present the brief description of the empirical methodology used to identify threshold effects.

Indicators of Neighborhood Quality of Life

We investigate the patterns of 1980-1990 changes in five crucial quality of family life indicators for all census tracts across all metropolitan statistical areas. Certainly there are other important dimensions to quality of neighborhood environment, but the five we analyze are both frequently cited in the literature and consistently available for all census tracts in the nation over time.[4] The neighborhood (census tract) quality of family life indicators are:

- percentage of persons who are below the poverty level
- percentage of households with children (under age 19) that are headed by a female
- percentage of persons 16-19 years old neither enrolled in school nor graduated from high school
- percentage of males age 16 and older not in the labor force (i.e., neither employed nor looking for work)
- percentage of persons over age 16 not employed (i.e., either unemployed or not in the labor force)

We also investigate whether variables that plausibly might be causally connected to the aforementioned neighborhood quality of family life indicators demonstrate any exo-dynamic

[4] Although an important consideration, the racial/ethnic composition in a neighborhood is not an indicator of the quality of family life. Thus, it is not included in the study.

processes involving thresholds. That is, we explore the relationship between each indicator above and each of the following variables individually:

- percentage of persons who moved into their dwelling since 1975; a measure of community transience and instability,
- percentage of employees not employed in professional or managerial jobs; a measure of lower occupational status and potential for income growth,
- percentage of occupied dwelling units with no auto available; a measure of constrained accessibility to jobs and other vital destinations,
- vacancy rate for year-round housing units; a measure of weakened incentives for owners to maintain their properties or, in the extreme, abandonment, and
- percentage of dwellings specified as renter-occupied; a measure of expected lower home upkeep activities, pride in and attachment to the neighborhood, and wealth of the residents.

Data

Data for conducting these explorations come from the so-called "Under Class Database." This database was constructed by the Urban Institute and contains all the aforementioned variables for all U. S. metropolitan area census tracts. Of special note is the fact that the geographic boundaries of all tracts in 1990 have been made to correspond to their 1980 boundaries, thus permitting the types of longitudinal analyses conducted here. We deleted from our analysis sample "atypical" tracts: those that had populations greater than 9,999 or less than 525, consisted of a military vessel, or had more than 12.7 percent of its population residing in institutions.[5] The resulting sample had 34,706 observations (census tracts).

Descriptive statistics for the sample are presented in Appendix 2. In 1980 (1990), the average census tract had: a 12.5 percent poverty rate (13.9), 19.1 percent of the households with children headed by a female (22.3); 14.2 percent of persons 16-19 years old neither enrolled in school nor graduated from high school (12.1); 25.2 percent of males 16 and older not in the labor force (26.2); 42 percent of persons over 16 were not employed (55.75); 74.9 percent of workers not employed in professional or managerial work (71); and 37.1 percent of the dwellings renter occupied (38.1). Thus, the typical 1990 census tract had higher poverty, female headship, male labor force non-participation, and renter occupancy rates; and lower

[5] This parameter was chosen because it represented two standard deviations above the mean value of population percentage in institutions or group quarters for all census tracts. We believe that neighborhoods wherein unusually large fractions of residents live in such institutional settings may evince atypical patterns of change over time, and thus should be excluded from our analysis.

high school drop out, overall non-employment, and incidence of non-professional/managerial employment rates than its 1980 counterpart. .

Empirical Methodology

In order to test for threshold effects we employ the "spline" specification of a regression model. Details of this model are presented in Appendix 1. Suffice it to note here that this statistical procedure allows the regression line fitted to the scatter of data points to "break" into a series of linear segments, each of which may have a distinct slope and level. A variety of complex, non-linear forms representing the relationship between two variables can be approximated in this manner (Johnston, 1984: 392-395).

The power of this estimation procedure can be illustrated with the help of the hypothetical data portrayed in Figure 2. Observations of combinations of variables X and Y are shown as asterisks. In a typical ordinary least-squares regression procedure, the straight line AB would represent the "best fit" of the scatter of data points. Were spline "break points" to be specified at X values corresponding to points S and T, however, the spline regression model would have fit the data with the piece-wise linear CDEF. Clearly, the spline model reveals the existence of thresholds at points S and T that would have been obscured by the traditional regression approach.

The weakness of the spline model approach is that, in the absence of theoretical guidance, the choice of break points typically is arbitrary, and often the results are sensitive to this choice. In the current application, we have no theory to guide our selection of break points where thresholds are most likely. Thus, we take an exploratory approach designed to minimize the chances that a significant threshold will be obscured or overlooked. Specifically, in our preliminary analyses we specified nine breakpoints for each variable, which divided the given distribution of values into deciles. Subsequent experimentation indicated that we could simplify by combining the first four deciles into a single spline, but should specify two additional break points at the 95th and 99th percentiles in order to reveal all potential thresholds of note.

Do Neighborhood Quality of Family Life Indicators Trigger Greater Changes in Themselves?

In this section, we present the empirical results of our analysis of the endo-dynamic processes. Before considering any graphs, a few words of interpretation are in order. Each graph below measures on the vertical axis the predicted 1980-1990 change (in percentage points) in the variable of interest, and on the horizontal axis the 1980 value (measured as a percentage) of the same variable. Each point that is plotted represents the end of a spline segment. The first segment represents observations in the lowest 40th percentile of values, then the next segments represent successive deciles until the final three, which represent the 91st-95th, 96th-99th and above 99th percentiles, respectively. Next to each plotted point is listed

the value of the predicted 1980-1990 change associated with the corresponding 1980 value of the variable. When the line changes slope and/or shifts discontinuously at one of these points, it signifies that the given spline parameter(s) was significantly different from zero.

When we analyzed patterns for our entire sample of census tracts, we found a threshold similar to those portrayed in Figure 1 only for the poverty rate. Consider the results for the other variables first (not shown). We find highly nonlinear effects in the incidence of female headship rate for families with children, but not the sort indicating the hypothesized type of threshold. Moreover, the relationship between 1980-1990 changes in neighborhood male labor force non-participation, high-school dropout, and non-employment rates, respectively, and the 1980 value of the corresponding variable can be represented essentially by a straight line with a negative slope. Interestingly, this implies that neighborhoods beginning the decade with lower values of these social problem indicators will, on average, experience a *greater* increase in the problem indicator during the subsequent decade than neighborhoods starting with higher values.[6] Thus, these three endo-dynamic relationships share a common feature: implied stability of neighborhood change. This is an important finding. It suggests that there is not a self-generating process that inexorably drives neighborhoods exceeding some threshold to ever-higher incidences of these four indicators of quality of family life.

Quite a different conclusion emerges when we examine the endo-dynamic process associated with neighborhood poverty rate changes; see Figure 3. The predicted change function shows a modest negative relationship for neighborhoods with a poverty rate less than 6.9 percent (lowest 40th percentile), but this turns positive for poverty rates between 6.9 and 36.8 percent (41st through the 90th percentiles). The maximum predicted increase in poverty for this range (5.1 percentage points) occurs in neighborhoods starting the decade with 28 or 37 percent poverty rates. The function becomes negatively sloped for neighborhoods with a 36.8 percent poverty rate (95th percentile), however, such that by the time a neighborhood reaches a poverty rate of 53.3 percent (99th percentile) it is predicted to have virtually no further change (-.0.0005 percentage points). So far the picture is one of stability, somewhat like that evinced for female-headed households above. But what is decidedly distinct here is a clear threshold past the 99th percentile. What is implied by the strong positive slope over the highest percentile

[6] A note is warranted about the Y-intercepts. For graphing purposes, the Y-intercept for all endo-dynamic processes is as reported on the regression analyses. However, for the endo- and inter-dynamic processes, we did the following calculation to graph the Y-intercept. (Note, each regression contains two independent variables. One variable is the 1980 lag variable of the 1990 dependent variable and the other independent variable is subdivided into its respective spline values.) We subtracted 1 from the coefficient of the lag variable in order to represent change in the dependent variable. We then multiplied this value by the 1980 mean value of the lag variable. The product of this multiplication was then added to the Y-intercept reported on the regression analysis to produce the final Y-intercept.

of neighborhoods is a rapid and ever-increasing growth in poverty will likely be manifested if a neighborhood exceeds a poverty rate of about 54 percent (a relatively rare event).[7]

Do Other Determinants Trigger Greater Changes in Neighborhood Quality of Family Life Indicators?

In this section, we present the empirical results of our analysis of exo-dynamic processes. We analyzed the degree to which 1980-1990 changes in each of the quality of family life indicators above were related to 1980 levels of five variables often cited as important determinants of these indicators. These variables are: (1) percentage of persons who moved into their dwelling since 1975; (2) percentage of employees not employed in professional or managerial jobs; (3) percentage of occupied dwelling units with no auto available; (4) vacancy rate for year-round housing units; and (5) percentage of dwellings specified as renter-occupied. We employ non-professional instead of professional occupations, and rental instead of ownership rates, to maintain consistency in our figures, wherein we have portrayed indicators measuring reputedly less desirable characteristics of neighborhoods.

Of the 25 trials, approximately half revealed distinct nonlinear relationships. Several yielded noteworthy threshold effects, which are discussed below.[8] The two explanatory variables producing these interesting results involve neighborhood occupational status and ownership tenure of housing.

Neighborhood Occupational Distribution and Changes in Quality of Family Life Indicators

The percentage of workers not employed in professional or managerial jobs in a neighborhood in 1980 proves to be a robust predictor of threshold-like changes in four of our five key dimensions of neighborhood quality of family life: families with children headed by females, males not in the labor force, overall non-employment rate, and neighborhood poverty rate. Of even more significance, in all four dimensions the significant thresholds occur in a narrow range, i.e., when the percentage of non-professionals in neighborhoods range from 77 to 83 percent (50^{th} to 70^{th} percentile).

Consider first the changes in the percentage of families with children headed by females; see Figure 4. A distinct increase in slope occurs when the percentage of professional

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[7] In our sample, there are 319 census tracts (less than one percent of the sample) with poverty rates greater than 53.3 percent.

[8] For this series of trials we simplified by not estimating any spline breaks at the 99^{th} percentile of the distribution, in as much as preliminary runs did not identify any important thresholds at this point.

workers is 83.1 percent (71st percentile) of what was essentially an up-sloping relationship. This finding means that, for census tracts with fewer than 83.1 percent of workers being non-professional (lowest 70 percent), a change of ten percentage points is predicted to yield a change in the female headship rate of 1.01 percentage points. After surpassing the threshold, however, a further increase of ten percentage points is predicted to yield a change in the female headship rate of 4.85 percentage points.

Variations in the 1980 percentage of workers not employed in professional/managerial occupations are associated with multiple thresholds of change in both males not in the labor force and overall non-employment rates. These multiple thresholds are reinforcing and occur when the percentage of non-professionals reaches 77 and 83 percent (50th to 70th percentiles); see Figures 5 and 6. In both relationships there is a discontinuous shift up in the relationship at the 41st percentile (74.2 percent in non-professional occupations) and then the slope gets significantly steeper from the 51st through the 60th percentile (from 77.5 to 80.3 percent non-professionals). At the 71st percentile (83.1 percent non-professionals) there is an increase of about 0.6 percentage points. Past the 95th percentile (91.1 percent non-professional workers), increases in the growth of non-employment ceases, but growth of the percentage of non-professional workers continues; see Figure 6.

Finally, the relationship between 1980-1990 changes in neighborhood poverty rate and the 1980 percentage of workers not employed in professional/managerial occupations is portrayed in Figure 7. It indicates that the growth of poverty in a neighborhood becomes greater once a neighborhood has more than 83.0 percent of its workers in non-professional/managerial occupations (70th percentile), and once again when it has more than 88.7 percent (90th percentile). Past 91.1 percent of residents in non-professional/managerial occupations (95th percentile), the growth continues, but at a slightly diminished rate. This means that, for neighborhoods with less than 83 percent non-professional workers, a ten percent point increase in such occupations in a neighborhood would be predicted to yield a 0.39 percentage point increase in poverty rate. On average past the 83 percent, a similar change would yield a 4.60 percentage point increase in poverty rate.

Taken as a whole, these findings suggest that neighborhoods that have relatively few professional-managerial employees among its workforce are much more likely to suffer increases in several problematic indicators of the neighborhood quality of family life. Specifically, threshold effects are manifest in the range of 77 to 83 percent of workers that are non-professional.[9]

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[9] These findings can be contrasted to previous threshold studies, although results are not strictly comparable because prior work has examined the impact of neighborhood characteristics on individuals, not on neighborhood aggregate changes. Vartanian (1998) identified a somewhat higher threshold (90th percentile) for neighborhood percentage of non-professional workers and their relationship to an individual's income. He did identify, however, thresholds at the 10th, 34th, and 90th percentiles of this

Neighborhood Housing Tenure Patterns and Changes in Quality of Family Life Indicators

Figures 8-11 show how 1980-1990 changes in the four neighborhood quality of family life indicators discussed in the previous section relate to the 1980 degree of renter occupancy. All four demonstrate a common threshold. In census tracts having more than 85.5 percent of their units renter-occupied (i.e., above the 95th percentile of tracts), all four indicators rise two to four percentage points, with a clear threshold.

Figures 8-10 involving female headship, male labor force non-participation, and non-employment rates all evince similar shapes. In lower ranges of neighborhood rental rates, there is a direct relationship between the indicator and rental rates. This finding is consistent with conventional wisdom that higher rental rates are disadvantageous for a neighborhood. This relationship reaches a peak, however, and then reverses itself. For non-employment and male non-participation rates, the relationships become inverse at about a 60 percent rental rate (32 percent in the case of female headship) and continue until the aforementioned threshold at the 95th percentile.

The pattern involving changes in poverty rates is distinctive and conforms to conventional expectations; see Figure 11. With one minor exception, higher rates of renting are associated with larger subsequent increases in poverty rates in the neighborhood. In neighborhoods where more than 85.5 percent of households rent (i.e., above the 95th percentile), higher rental rates are associated with even larger increases in poverty.

Overall, these findings suggest that the relationships between rental tenure rates and various indicators of neighborhood quality of family life neither are uniform nor neatly mesh with current nostrums. Results for all four indicators suggest that they are less likely to become problematic in neighborhoods with no renters than in neighborhoods in which at least a third of the residents are renters. Moreover, there is cross-indicator consensus that undesirable consequences more likely transpire if the neighborhood possesses virtually no homeowners. Yet, in the vast range of diverse-tenure neighborhoods—which specifies most U.S. metropolitan neighborhoods—the patterns are less consistent. For example, growth in female headship and male non-participation rates is considerably smaller, on average, in neighborhoods having a 95 percent rental rate than in those having no renters!

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variable for an individual's duration in poverty. Crane (1991) found that teen childbearing (the closest to our female heads variable) for black and white girls rose dramatically in neighborhoods with more than 95 percent non-professional workers. He also found that drop out propensities were higher in such neighborhoods, a finding not replicated here.

Conclusions and Implications for Policy and Research

In this study, we investigated the threshold-like effects of five aspects of the neighborhood environment: poverty rate, male labor force non-participation rate, overall adult non-employment rate, female headship rate for families with children, and secondary school drop out rate. Following Quercia and Galster (1997), we contend that a threshold effect is present when a neighborhood reaches a critical value of a certain neighborhood indicator that triggers more rapid changes in that neighborhood's environment. We used a sample consisting of virtually all census tracts from metropolitan areas. The relationship between the value of numerous neighborhood indicators in 1980 and subsequent changes in each of the five dimensions of neighborhood quality of family life during the 1980-1990 period was evaluated statistically using a regression model with a spline specification to test for nonlinear, threshold-like processes. In this fashion, we were able to determine whether there was a critical value for a particular variable observed in 1980 which systematically was associated with large changes in any of the indicators of neighborhood quality of family life during the ensuing decade. The study findings are summarized in Table 1 below.

Stressing the exploratory nature of the study, we find ample evidence of threshold-like effects in both endo-, and exo-dynamic processes. First, with regard to factors which trigger greater changes in themselves once they reached certain values (endo-dynamic processes), we find that male labor force non-participation, overall non-employment, and secondary school drop out rates exhibit no threshold-like effects. We find highly nonlinear effects in the incidence of female headship rate for families with children, but not the sort indicating the hypothesized type of threshold. For all four indicators, we find that on average neighborhoods beginning the decade with lower values of these social problem indicators will experience a greater increase in the problem indicator during the subsequent decade but neighborhoods starting with higher values will experience decreases in the indicator. This observation suggests a "self-regulating" process of neighborhood dynamics for the four indicators. No self-generating process appears that inexorably drives neighborhoods that exceed some threshold to ever-higher incidences of these four indicators.[11] Nevertheless, we find such a distinct threshold effect when neighborhoods exceed a poverty rate of about 54 percent. For neighborhoods above the threshold, there is a rapid and ever increasing predicted growth in poverty over time. For neighborhoods with lower poverty rates, however, the pattern is one of relative stability.

Second, with regard to factors that trigger greater changes in neighborhood quality of family life indicators (exo-dynamic processes), we find two noteworthy effects. The percentage of workers not employed in professional or managerial jobs in a neighborhood is found to be a

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[11] We are aware that this effect may be the result of a so called "regression artifact" (Frankford-Nachmias and Nachmias 1992, p.107)

robust predictor of threshold-like changes in four of the indicators: female headship rate, male labor force non-participation, overall non-employment rate, and poverty rate. In all four dimensions, the significant threshold occurs in a narrow range, i.e., when the percentage of non-professional employment reaches from 77 to 83 percent. Interestingly, the degree of renter-occupancy is found also to be a good predictor of threshold-like changes in the same four indicators. Although not the only threshold value, in census tracts having more than 85.5 percent of their units renter-occupied, all four indicators rise two to four percentage points after exceeding this clear threshold. Overall, the rental pattern involving changes in poverty rates conforms to conventional expectations: higher rates of renting are associated with larger subsequent increases in poverty rates in the neighborhood. In contrast, the pattern involving changes in the three other indicators only shows consistency with conventional wisdom at lower ranges of rental rates. At these low ranges, the relationship is both direct and disadvantageous. However, the relationship reverses itself at about 60 percent rental for overall non-employment and male non-participation rates, and at about 32 percent rental for female headship. In these intermediate ranges, higher rental occupancy in 1980 is not associated with disadvantageous changes in neighborhood quality of family life over the ensuing decade. We tested several additional exogenous variables but did not find any threshold effects for them. These included percentage of persons who moved into their dwelling since 1975, percentage of dwelling units with no auto available, and residential vacancy rate.

The effects associated with neighborhood change are not merely of academic curiosity. On the contrary, such dynamics hold critical implications for the well-being of families and those who would devise policies for building supportive neighborhood environments. The complexity of the study findings, summarized in Table 1, makes it difficult to derive simple, straightforward programmatic implications, but we believe that important conclusions can be drawn nonetheless.

Before doing so, however, two points should be made. First, we use only exo-dynamic findings to derive programmatic implications. Initiatives developed on the basis of only the endo-dynamic results may have difficulty achieving their goals because they ignore the determining influence of other factors. Second, we stress that, although the correlations reported are not necessarily proof of causal relationships, we use them as the basis for policy recommendations because they are consistent with prior theoretical and empirical studies (e.g., Galster and Killen 1995).

Overall, the findings have relevance for two broad types of programmatic approaches: preventive and remedial. Preventive initiatives should target neighborhoods with rising values of a predictor variable (e.g., rental rates) that has not yet exceeded its threshold value (Figure 12). The goal of this type of initiative should be to prevent neighborhoods, already in a trajectory of decline, from exceeding the critical threshold value. In contrast, remedial programs should target neighborhoods with a stable value of a given predictor variable that is above the

threshold. The goal of this type of initiative should be to reduce the value of this indicator to its threshold, because not to do so would expose the neighborhood to continued high growth in the problem indicator. We cannot, of course recommend whether a preventive or remedial approach is more appropriate in any particular case. Such depends on the efficacy of the vehicle for changing the predictor variable, as we discuss further below.

As mentioned above, the incidence of non-professional/managerial employment appears to be a good predictor of threshold-like changes in four dimensions of the quality of family life in a neighborhood. From a remedial stance, programmatic initiatives that promote more occupationally diverse neighborhoods where now there are few (less than 17 percent) professional/managerial workers are likely to lead to a large reduction in the growth of a neighborhood's female headship, male labor force non-participation, overall non-employment, and poverty rates. From the preventive stance, neighborhoods where the percentage of non-professionals is rapidly increasing toward the threshold might well be targeted to stabilize the current professional population. Of course, whether such targeting might be successful depends on which other neighborhoods are competing for professionals. These findings suggest legislative changes to discourage exclusionary zoning and encourage more class-diverse development in the exurban fringe and inner-city neighborhoods.

Similarly, renter occupancy appears to be a good predictor of threshold-like effects in the same four indicators when it reaches 85.5 percent in a neighborhood. Preventive programs thus should target neighborhoods with less than, but moving to, 85.5 percent rental occupancy to avoid ever-larger increases in other social problems. Remedial interventions will reap greater reductions in the growth of social problems per percentage-point decrease in renter occupancy if they target neighborhoods with more than 85.5 percent rental occupancy.

These findings can also be used to operationalize a decision rule of whether to institute preventive versus remedial efforts. The basic rule for maximizing the impact of intervention is to allocate public policy resources on the margin to the neighborhoods where the reduction in the given social problem indicator will be greatest. Where it will be the greatest will be determined by the product of two factors: (1) the change in the social problem indicator associated with a unit change in the predictor variable that is being shaped by public policy (rental rates, for example); and (2) the change in the predictor variable that can be garnered from a certain amount of policy resources. For example, a certain type of neighborhood may evince huge reductions in social problems if a small amount of owner-occupied housing could be introduced. But if it were incredibly expensive to do so (because of huge subsidies implicit) it may not be the wisest use of funds. Our study (the exo-dynamic results) provides evidence about the first of the two factors above, and thus provides a benchmark against which policymakers may compare the relative efficiency of accomplishing programmatically induced changes in different sorts of neighborhoods.

Comparing changes in a particular indicator before and after the threshold (i.e., the slopes of the functions portrayed in our exo-dynamic graphs) reveals the relative efficacy of altering a particular predictor variable in preventive-strategy neighborhoods and remedial strategy neighborhoods. For instance, the female headship rate for families with children increases by 4.2 percentage points for each ten percentage-point reduction in non-professional/managerial employment beyond the 83 percent threshold; below the threshold the change is only 1.1 percentage points. Accordingly, the relative impact of professional workers on reducing female headship rates is 3.8 times higher in neighborhoods with more than 83 percent non-professional workers. The corresponding ratios of above- and below-threshold changes in male labor force non-participation rates, non-employment rates, and poverty rates are even more sizable:15.0, 19.5, and 24.8, respectively. Similarly, the relative changes in poverty rates associated with rental occupancy changes are 5.8 times larger in neighborhoods above the 85.5 percent renter threshold than below it.

These ratios are useful in guiding investment strategies. Remedial interventions (in neighborhoods above the threshold) will be preferable over preventive approaches (in neighborhoods below the threshold) in cases where the cost of such intervention, in relation to the cost of a preventative strategy for achieving the same change in the predictive variable, is no greater than the ratio. Thus preventive initiatives designed to curb growing female headship rates for families with children through the stabilization of a declining professional population is preferable over remedial interventions in neighborhoods where there are virtually no professionals left when the remedial costs exceed the preventive costs for achieving the same gain in professionals by a factor of 3.82.

Finally, the findings highlight the need to undertake careful examination of neighborhood conditions—both their state and their direction of change—and their interrelationship as the basis for devising the most effective programmatic interventions. We believe that the next research step might be the exploration of succession and gentrification dynamics. This could lead to modeling the neighborhood forces in all their complexity, probably developing and estimating a simultaneous equations model to identify threshold effects over time. Similarly, we believe that the specific identification of the geographic location of neighborhoods below and above key threshold values will be useful for policy makers to target resources more effectively to meet program objectives.

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Appendix 1: Details of the Spline Model

The following discussion is based on Johnston (1984: 392-395). The procedure for specifying a piecewise-linear function that joins at each of the "break points" is as follows. Let X be the independent variable and Y be the dependent variable; then the specification for a three-spline model is:

$$W_1 = X$$

$$W_2 = 0 \text{ if } X \leq a;\ X - a \text{ if } a < X$$

$$W_3 = 0 \text{ if } X \leq b;\ X - b \text{ if } b < X$$

where a and b are values of X arbitrarily chosen as break points. The regression estimated via ordinary least-squares is:

$$Y = \phi + \alpha W_1 + \beta W_2 + \delta W_3 + \varepsilon \qquad [1]$$

where ϕ, α, β, δ represent parameters to be estimated, and ε represents a random error term with the usual assumed statistical properties.

Testing the statistical significance of α is equivalent to testing whether there is a non-zero slope between X and Y in the range of X between zero and a. Testing the significance of β is asking whether the slope of the X-Y relationship in the range a to b is the *same* as it was in the range zero to a. Testing the significance of δ is asking whether the slope of the X-Y relationship in the range of X greater than b is the *same* as it was in the range a to b.

The foregoing serves to estimate a regression that potentially has a different slope in each of its three spline ranges, but still is constrained to connect at each break point. To remove this restriction and thereby estimate a more flexible functional form that could more readily identify discontinuous shifts in the function (like OEAC in Figure 1), we specify dummy equivalents to the spline slope variables above. Specifically, let:

$$D_2 = 0 \text{ if } X \leq a;\ 1 \text{ if } a < X$$

$$D_3 = 0 \text{ if } X \leq b;\ 1 \text{ if } b < X$$

Then the regression we estimated via ordinary least-squares is:

$$Y = \phi + \alpha W_1 + \beta W_2 + \delta W_3 + \chi D_2 + \varphi D_3 + \varepsilon \qquad [2]$$

For the endo-dynamic process explorations, X is simply the value of Y in the census tract ten years earlier. When we graph the change in Y during the decade as a function of its beginning-of-decade value (X), as shown in the text, we simply subtract X from both sides of [2], and plot:

$$Y\text{-}X = \phi + (\alpha\text{-}1)W_1 + \beta W_2 + \delta W_3 + \chi D_2 + \varphi D_3 + \varepsilon \qquad [3]$$

For the exo-dynamic process explorations, X is some explanatory variable different from Y and Z is the value of Y in the census tract ten years earlier. The regression estimated is:

$$Y = \phi + \mu Z + \alpha W_1 + \beta W_2 + \delta W_3 + \chi D_2 + \varphi D_3 + \varepsilon \qquad [4]$$

When we graph the change in Y during the decade (Y – Z) as a function of its beginning-of-decade value of the explanatory variable (X), as shown in the text, we subtract Z from both sides of [4], simplify by letting Z assume its mean value for 1980, Z', and plot:

$$Y - Z = \phi + (\mu - 1)Z' + \alpha W_1 + \beta W_2 + \delta W_3 + \chi D_2 + \varphi D_3 + \varepsilon \qquad [5]$$

Figure 1: Illustrations of Threshold Effects

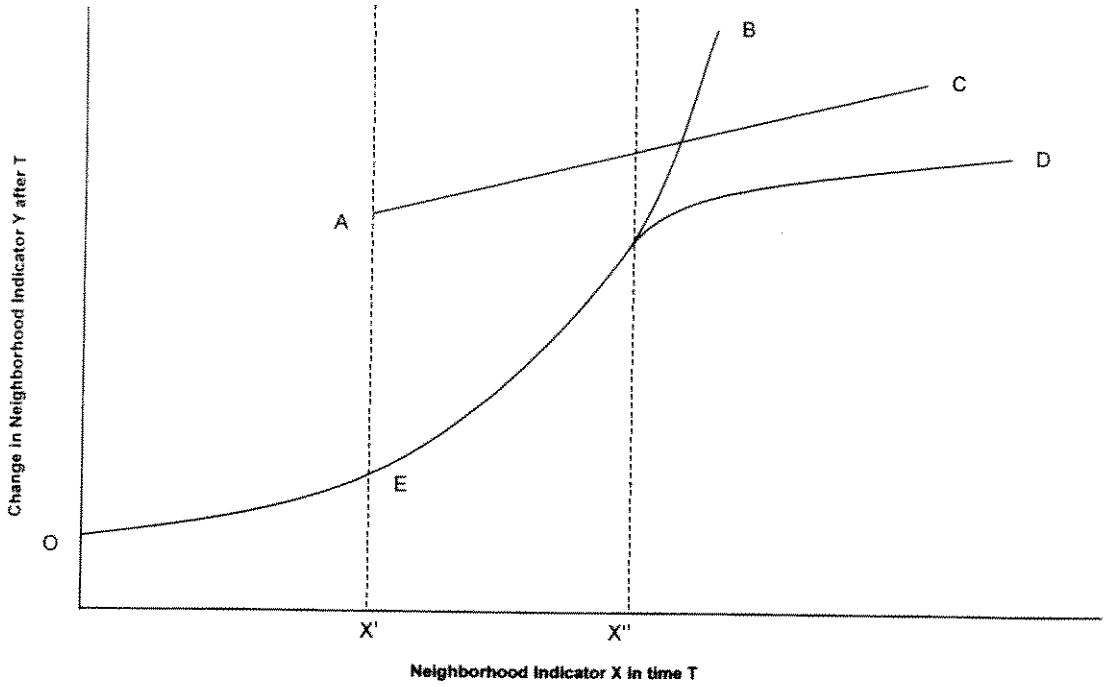


Figure 2: Hypothetical Illustration of Linear and Spline Function Fit to Data

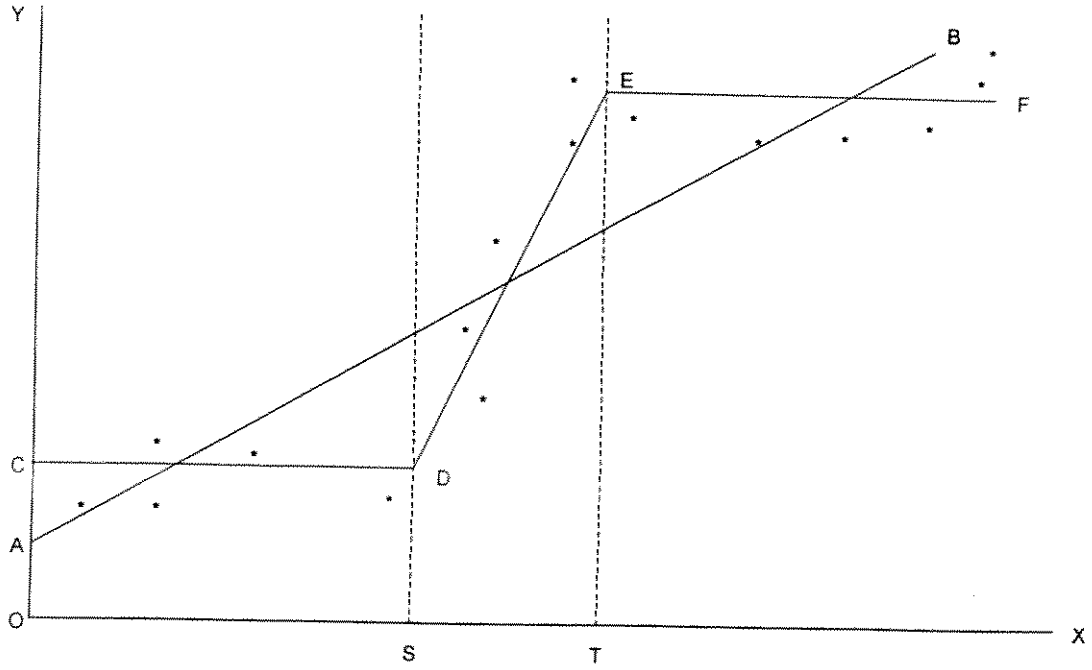


Figure 3: Predicted Change in Poverty Rate, 1980-90

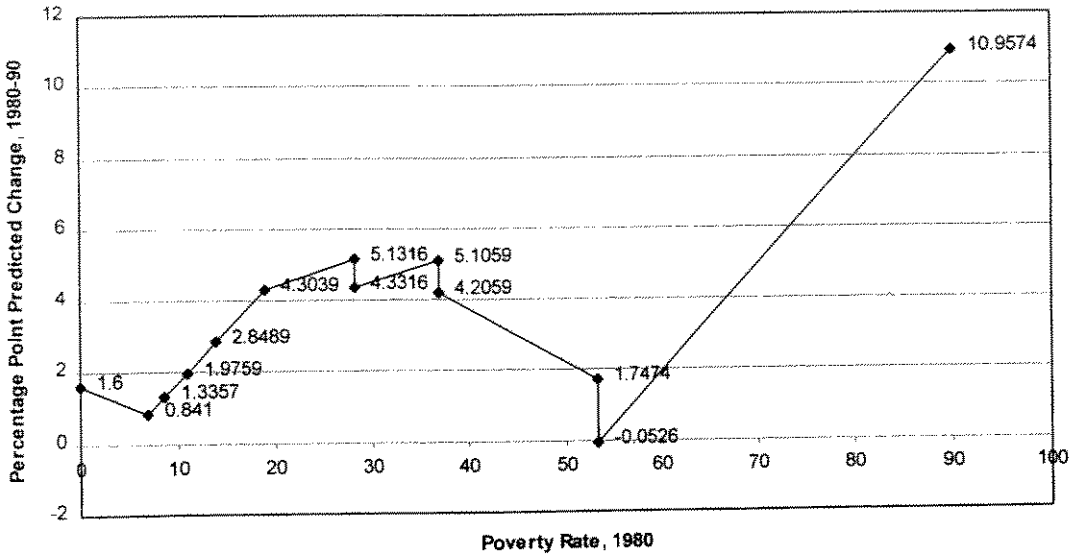


Figure 4: Relationship between the Percentage of Households with Kids that are Female-Headed and Percentage of Workers not Employed in Professional/Managerial Occupations, 1980-90

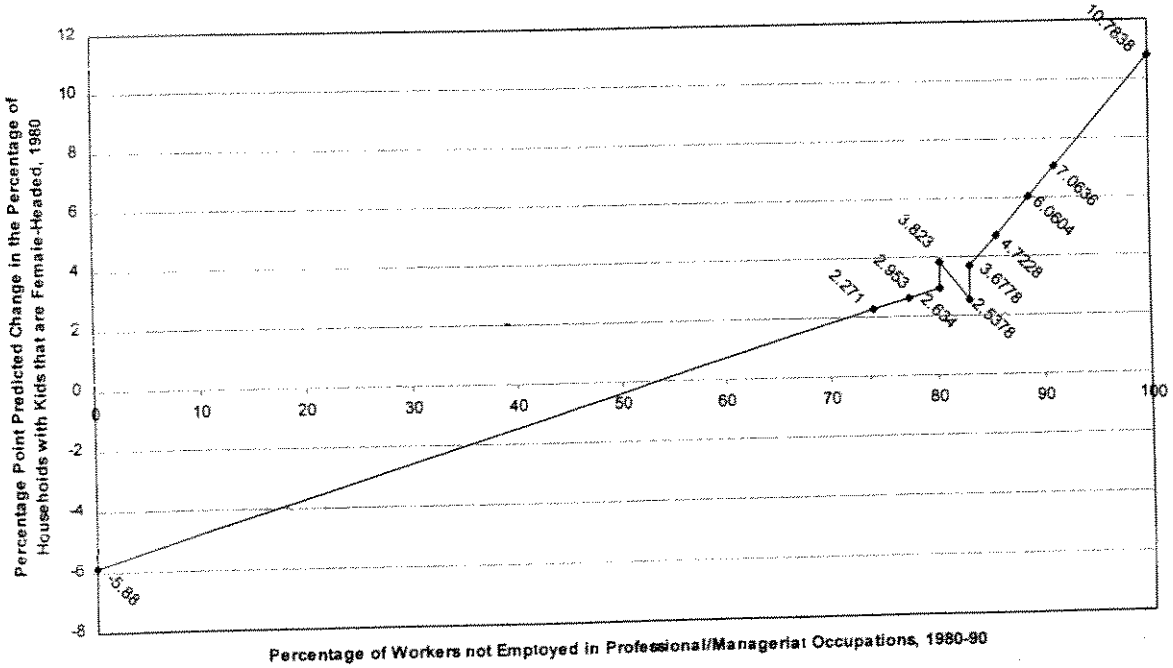


Figure 5: Relationship between the Percentage of Males not in the Labor Force and the Percentage of Workers not Employed in Professional/Managerial Occupations, 1980-90

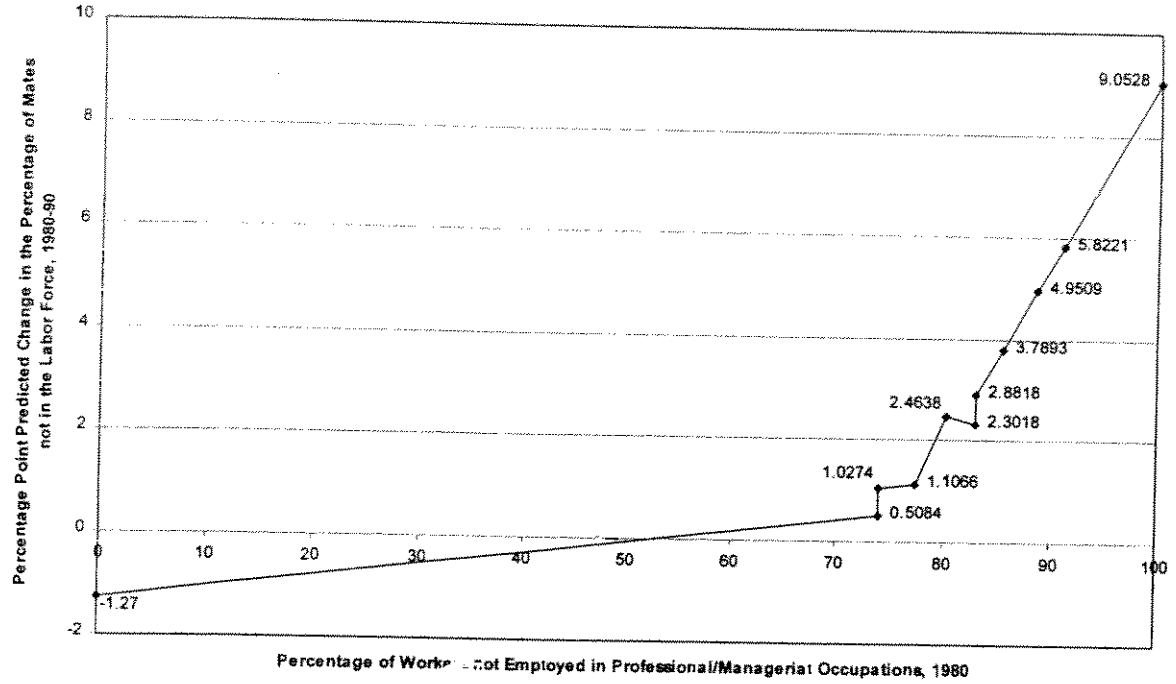


Figure 6: Relationship between the Percentage of Persons not Employed and the Percentage of Workers not Employed in Professional/Managerial Occupations, 1980-90

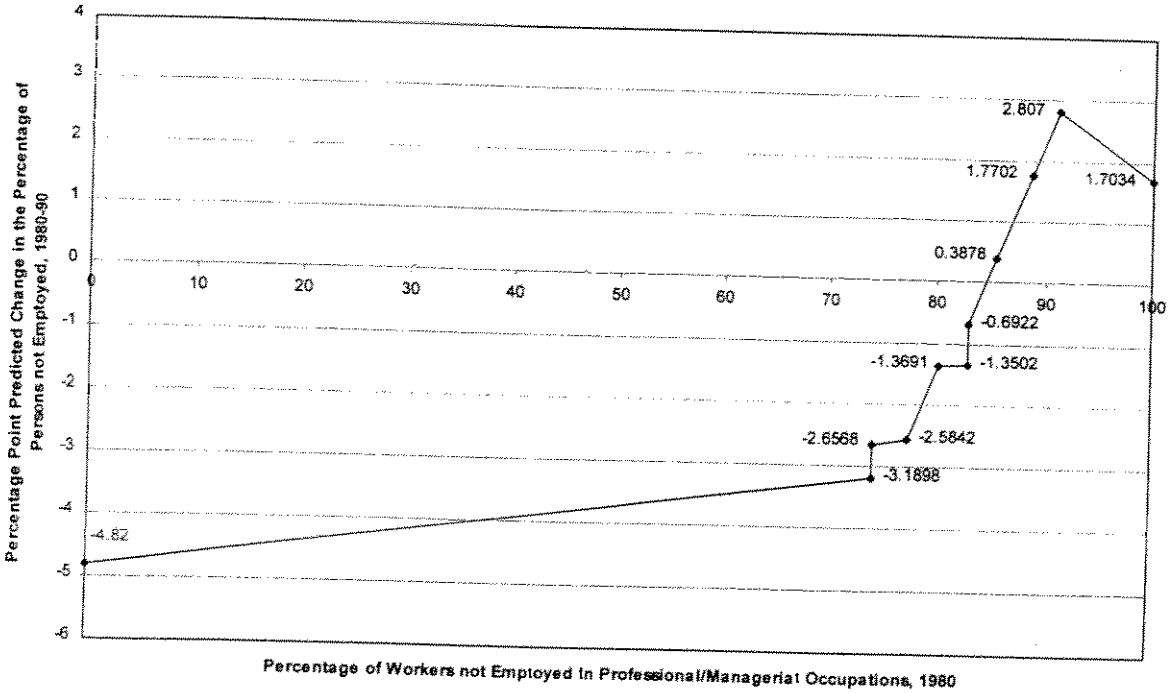


Figure 7: Relationship between Poverty Rate and the Percentage of Workers not Employed in Professional/Managerial Occupations, 1980-90

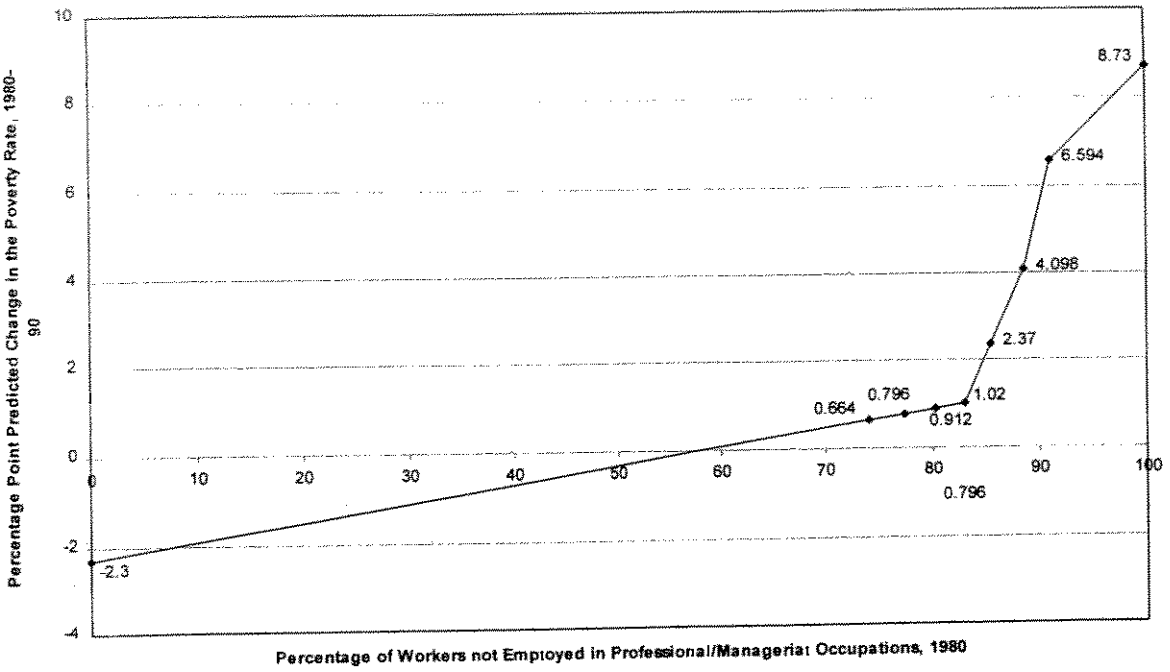


Figure 8: Relationship between the Percentage of Households with Kids that are Female-Headed and the Percentage Renter-Occupancy, 1980-90

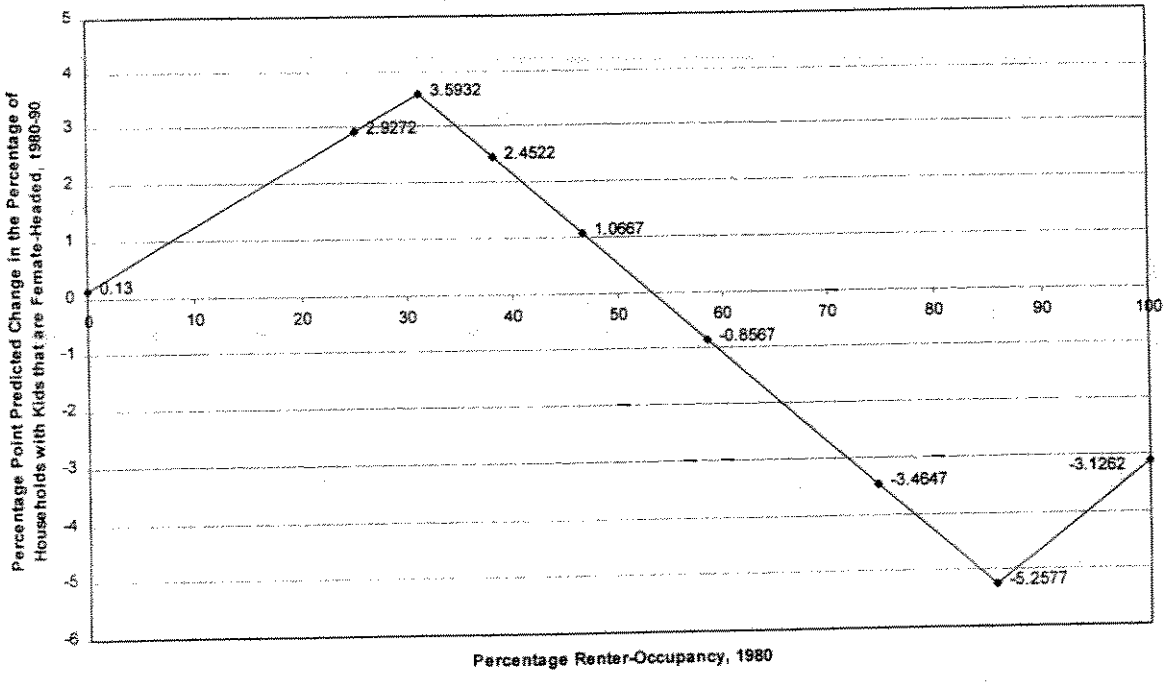


Figure 9: Relationship between the Percentage of Males not in the Labor Force and the Percentage Renter-Occupancy, 1980-90

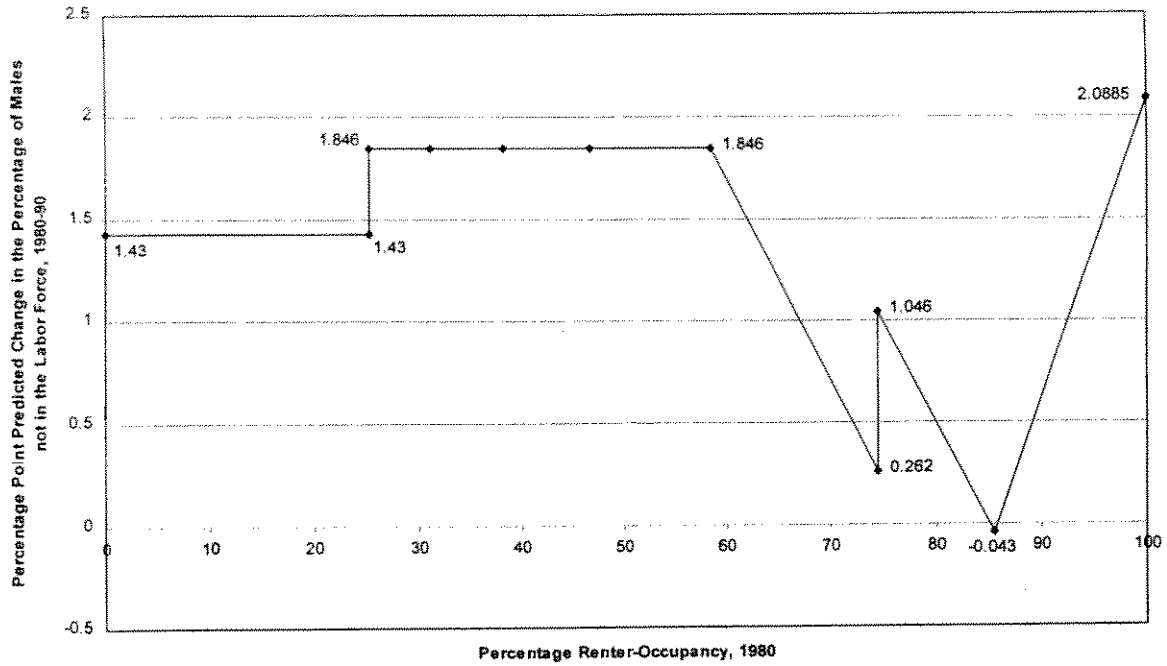


Figure 10: Relationship between the Percentage of Persons not Employed and the Percentage Renter-Occupancy, 1980-90

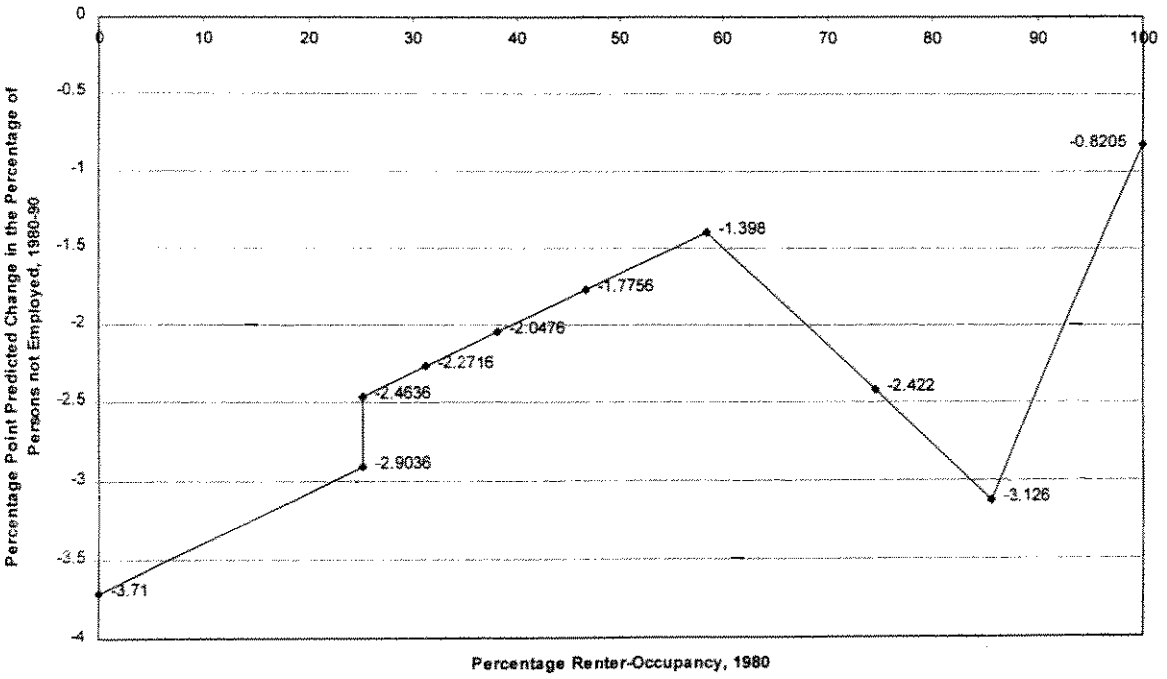


Figure 11: Relationship between Poverty Rate and the Percentage of Renter-Occupancy, 1980-90

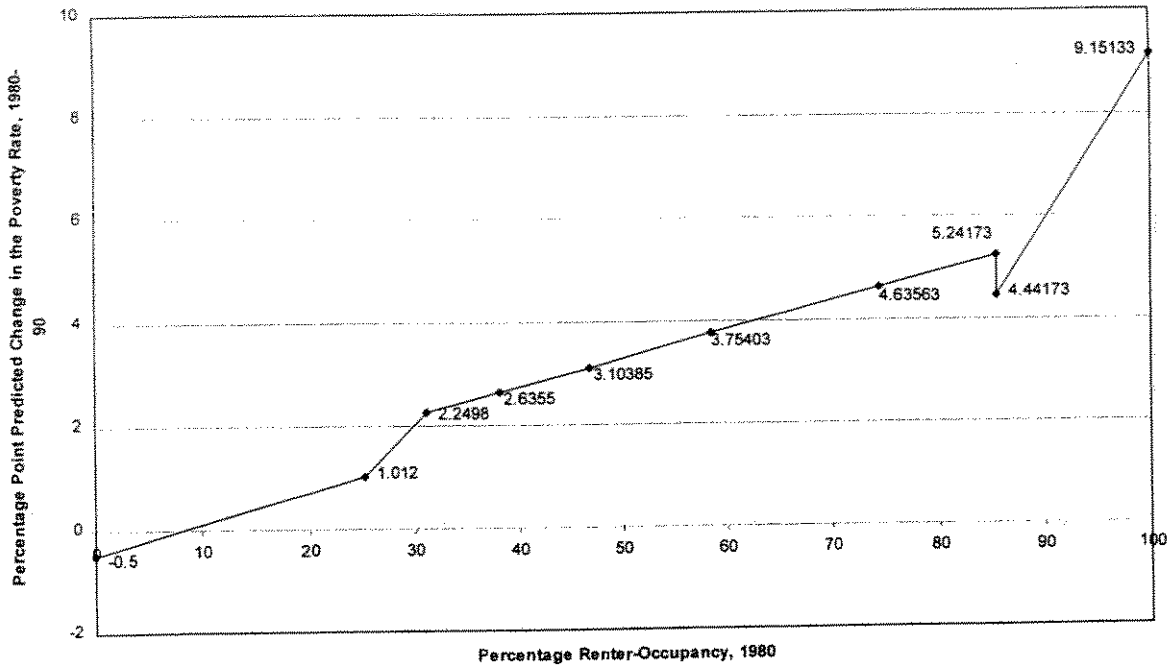
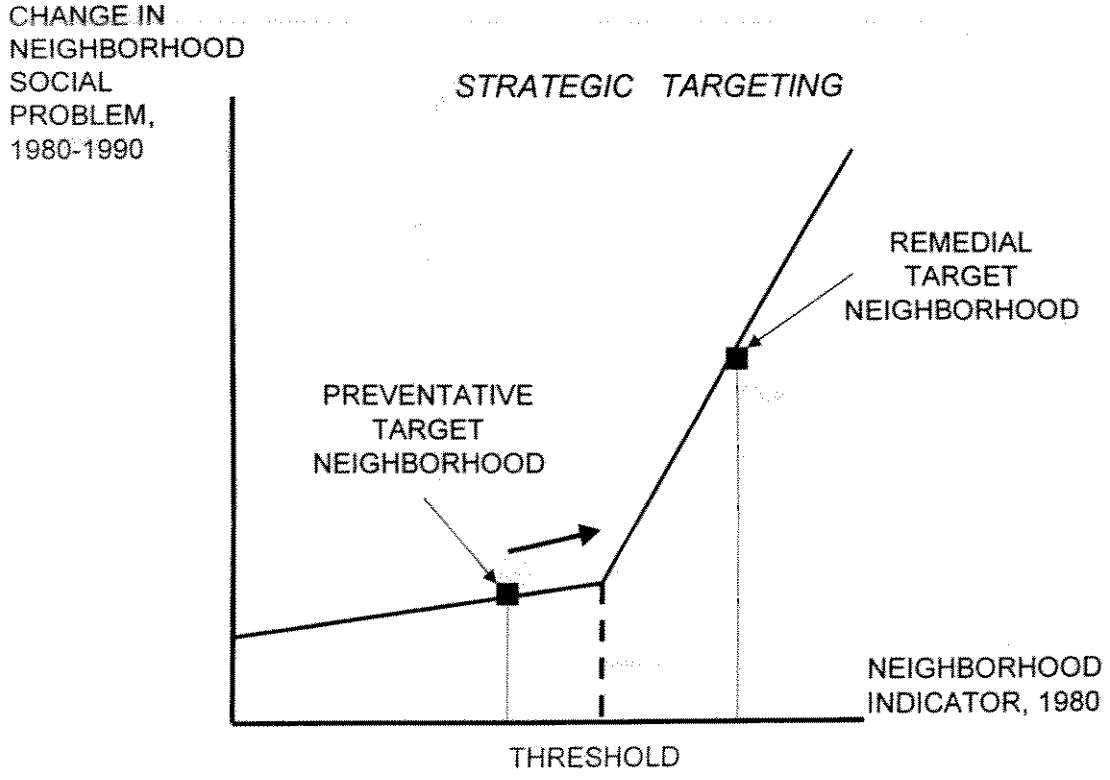


FIGURE 12: IMPLICATIONS FOR POLICY MAKERS



BOOKS OF THE TIMES

How Ideas Can Be Seriously Infectious (Consider Paul Revere)

By CHRISTOPHER LEHMANN-HAUPT

Malcolm Gladwell proposes a fascinating and possibly useful theory in "The Tipping Point: How Little Things Can Make a Big Difference": namely that ideas, attitudes and behaviors tend to spread contagiously in the same way as some infectious diseases.

But what makes his book so appealing is the way he approaches his subject. Instead of breathing heavily and shouting the implications of his theory, he follows the precept of his subtitle and explores the little things that make a big difference.

For instance at one point he cites an essay by the psychologist George Miller, "The Magic Number Seven," which investigates human memory and explains why telephone numbers are limited to seven digits. Elsewhere he introduces us to people like DeeDee Gordon, a market researcher who specializes in spotting new fads among teenagers, and Mark Alpert, who happens to know more about products than the combined staff of Consumer Reports.

In one chapter Mr. Gladwell explains how the people who produced "Sesame Street" went about surmounting the weakness of television as a teaching medium. In another he describes a series of psychological experiments, among them one in which some people cast in the roles of prisoners and guards acted out the worst excesses of their real-life counterparts.

What do all these investigative tidbits in "The Tipping Point," which grew out of an article Mr. Gladwell wrote for The New Yorker, illustrate? Quite a lot, it turns out. Analyzing how his epidemics work, he concludes that they "are a function of the people who transmit infectious agents, the infectious agent itself and the environment in which the infectious agent is operating."

Analyzing these three elements, he arrives at what he calls "The Law of the Few," "The Stickiness Factor" and "The Power of Context." The Law of the Few holds that only certain kinds of people can transmit effectively.

Jerry Bauer | Little Brown & Company

THE TIPPING POINT
How Little Things Can Make a Big Difference

By Malcolm Gladwell
279 pages. Little, Brown & Company. $24.95.

These are Connectors, Mavens and Salesmen. Paul Revere, for instance, was all three rolled into one, Mr. Gladwell suggests: Revere knew what the British were up to (Maven); he knew the right people to tell (Connector); and he knew how to tell them effectively (Salesman).

But also his message was inherently important, which means it had a high Stickiness Factor. And it prompted an effective reaction, which suggests a strong Power of Context. Under these perfect circumstances Revere's word spread contagiously; it tipped the balance of colonial behavior, and the British soldiers marching on Lexington were met with revolutionary resistance.

Seeing Mr. Gladwell's theories boiled down to their essence in this manner may make it clear why they are more appetizing when garnished with his for instances. All the same, their implications are powerful. Correctly applied they could be used to run businesses more effectively, in turn products into runaway best sellers and perhaps most important to alter human behavior.

What sort of behavior does he have in mind? In addressing this question, Mr. Gladwell turns either coy or modest, depending on how you read him. By piecing together different sections of "The Tipping Point," you can draw one particularly startling conclusion, that nothing less than crime might be eliminated as a problem.

But Mr. Gladwell never comes right out and says as much. Illustrating his theory of context, he cites what criminologists have called the Broken Windows theory, which, he says, may explain why Mayor Rudolf W. Giuliani's campaign to eliminate squeegee men and other minor blights on the quality of life in New York City was followed by a major drop in crime statistics. Elsewhere he points out with several striking illustrations that humans are more influenced by the circumstances under which they experience things than they are by their inherent characters.

Finally he cites studies suggesting that even such an extreme act as suicide is often less autonomous than we think and more a result of infectious communication.

Yet he never arrives at the conclusion that crime might be attacked through a campaign to alter behavior. Instead he saves his fire for teenage smoking, which, he argues, is proving completely resistant to present scare tactics and should instead be attacked by lowering the nicotine content of cigarettes (or reducing their stickiness, so to speak). Even in a book composed in the charmingly patchwork fashion that "The Tipping Point" is, you are left with the impression that the author has veered from his most important conclusion.

Still, what Mr. Gladwell has to say is instructive. If he hasn't got all the answers, he certainly offers a fresh way of looking at the problems. He concludes: "Look at the world around you. It may seem like an immovable, implacable place. It is not. With the slightest push — in just the right place — it can be tipped."

If nothing else, he entertains you by describing new places you might stand to gain some leverage on what you want to tip.

PANEL TWO
Mapping the Future

Theme: GIS and mapping technology has advanced rapidly over the past ten years. Powerful mapping packages that once cost thousands of dollars and took extensive training to learn are now within the budgets and means of local community organizations. Our panel of GIS experts will describe the state of the art in desktop and web-based mapping, and will discuss the future directions that GIS technology will take in the years ahead. During the breakout sessions, participants will have a chance to discuss how this technology can be used to promote better understanding and greater use of data by communities.

Questions for Workshop:

- What role do you see GIS and mapping technology playing in your plans to disseminate information in your community?
- What are the major benefits you see to using this technology?
- What are the important challenges you see to using this technology? How do you think you might overcome them?
- Do you see different roles for desktop and web-based GIS in your information dissemination strategy?
- Do you see mapping as benefiting all potential users of information in your community, or only certain subgroups? What strategies would you employ to fill the needs of different types of users?
- What possible future developments in this technology would be most beneficial to you?

PANEL TWO SPEAKERS

S.J. Camarata, Jr. is Director, Corporate Strategies at ESRI, Inc. He works closely with ESRI's CEO and focuses on ESRI's worldwide corporate strategies and directions. He has been one of ESRI's key executives and has been instrumental in its growth and development since he started with the company in 1984. Through 1996 he served as a Director of ESRI and managed ESRI's worldwide expansion including all corporate operations related to sales, marketing and business development.

Prior to ESRI, he was co-founder and vice president of IRIS International, Inc., a GIS consulting and software development company in Washington, D.C. and was a research associate at Utah State University. He has a B.S. from the University of Utah and a MLA from Utah State University.

Professor Lyna L. Wiggins received a Ph.D. in City and Regional Planning from the University of California, Berkeley in 1981, a M.S. in Statistics from Stanford University in 1972, and a B.S. in Mathematics from California Polytechnic State University, San Luis Obispo, in 1971. She taught at Stanford University (civil engineering) from 1981 to 1989, at MIT (Urban Studies) from 1989 to 1993, and is currently at Rutgers University. At Rutgers, she is an Associate Professor of Urban Planning and Policy Development, and Chair and Graduate Director of the Department. Her teaching responsibilities include courses in planning methods, computer applications in planning, and Geographic Information Science.

Professor Wiggins' research interests focus on planning methods and computer applications in planning, particularly expert systems and urban Geographic Information Systems. She is the co-editor of two books on expert systems applications in planning (Expert Systems: Applications in Urban Planning, Spinger-Verlag, 1990; Expert Systems in Environmental Planning, Springer-Verlag, 1992). Recent funded research includes work on GIS applications in transit planning (University Transportation Center, MIT; National Transit Institute, Rutgers University), in housing and crime analysis (U.S. Department of Housing and Urban Development), hazards modeling (NJ State Police) and urban brownfields redevelopment (Office of State Planning, New Jersey) and historical and cultural resources (State Historic Preservation Office, New Jersey). Wiggins has also conducted a number of GIS user needs assessments for local governments and state agencies in California, Massachusetts, New Jersey, and New York.

Professor Wiggins is a member of the Mapping Science Committee of the National Academy of Sciences/National Research Council. She is on the editorial board of Geo Info Systems. Wiggins is a President-Elect of the Urban and Regional Information Systems Association, and a Board member of the International Geographic Information Foundation.

Mark Woodall is Senior Planner for the San Diego Association of Governments (SANDAG) and is one of the key staff members involved in the development of SANDAG's interactive mapping systems. SANDAG won the Outstanding Internet Web Site Award from the California Geographic Information Association (CGIA) at the California GIS Conference in March 2000. The award was presented for innovative use of web technology for GIS applications. SANDAG was recognized for this award for both the dissemination of geographic and non-geographic information from our general web site as well as for our interactive mapping applications.

CHAIR:

Peter A. Tatian is a Research Associate in the Metropolitan Housing and Communities Policy Center at the Urban Institute. Mr. Tatian's principal areas of interest are housing policy and the development and use of neighborhood-level indicators to help people understand and respond to changes occurring in their communities. Mr. Tatian serves moderator for the National Neighborhood Indicators Partnership (NNIP) email discussion list, *NNIP News*, and edits the electronic newsletter, *NNIP News Flash!*

PANEL THREE

The Meaning of Scale in Policy Analysis

Theme: Public policy analysis has often been conceived, produced, and disseminated completely within the realms of researchers and government officials. Without community-level involvement, the research design has been less likely to include a community level component. With the availability of address-based data and new geocoding technologies, we can now examine social conditions at the community level and how they are relate to the situation in the surrounding areas.

The panelists will present the methodology and conclusions of their own neighborhood level research and tell how a spatial focus led to a better understanding of their policy issue. During the breakout sessions, participants will discuss the implications of adding a neighborhood-level focus to policy research and how best to empower communities to use the research findings to inform change agendas.

Questions for Workshop:

- Who should provide the research questions ("experts", local government, community leaders) ?
- What are the major challenges to bringing research down to a neighborhood level?
- What issues arise in the choice of methodology (surveys, administrative data) for neighborhood–level research?
- What are the advantages and disadvantages of focusing on neighborhood-based data versus a broader level of geography?
- How would one craft presentation and format of research findings to achieve local change?
- What kind of dissemination or public education strategies can be used to introduce analytic findings into a policy debate?

PANEL THREE SPEAKERS

Claudia J. Coulton, Ph.D., Professor of Social Welfare and Co-Director of the Center for Urban Poverty and Social Change, Mandel School of Applied Social Sciences, Case Western Reserve University. Dr. Coulton, was appointed the Director of the Center for Urban Poverty and Social Change in 1988.

Dr. Coulton has worked with her colleagues to develop an extensive database on urban poverty conditions and has published many analyses of poverty and its impact on poor people and neighborhoods. She has also published numerous articles and reports and presented papers on poverty, social welfare and urban issues throughout the United States. During her career, Coulton has been either the project director or the principal investigator of many significant research projects. While working as Poverty Center Co-Director, Coulton is also Co-Investigator of a program of study on the Impact of Poor Neighborhood Conditions on Children and Families; Director of the Comprehensive Early Childhood Initiative Evaluation; and she is directing ongoing research on the impact of welfare reform on urban neighborhoods. She serves as an advisor to several national foundations and groups.

Coulton received her B.A. degree (cum laude) from Ohio Wesleyan University, her M.S.W. from Ohio State University, and her Ph.D. in Social Welfare from CWRU. She is a member of many professional organizations and has served on the boards of numerous committees and publications. Coulton was the recipient of the 1993 National Association of Social Worker's Presidential Award for Excellence in Social Work Research, and in 1989, she received the John Diekhoff Award for Distinguished Graduate Teaching at CWRU. In 1994, she was inducted into the Ohio Women's Hall of Fame.

Dr. Calvin Johnson is a research associate in The Urban Institute's State Policy Center. He is currently conducting process and impact evaluations of community crime prevention initiatives, community policing studies, studies of the temporal and spatial patterns of youth crime and violence, community-level disorder and decay studies, and studies of inter-organizational networks within neighborhood coalitions. His specific community research interests are developing ways to measure neighborhood capacity to control crime and disorder; identifying place-based and time-based intervention points for preventing youth crime and violence; and exploring the nexus between race/ethnicity, poverty, community capacity, and crime.

In 1997, he received his doctorate degree in Criminology and Criminal Justice from the University Maryland. His dissertation research examined the social and economic determinants of homicides, and the role of community capacity and efficacy in preventing and controlling violent crimes.

Margery Austin Turner directs the Urban Institute's Metropolitan Housing and Communities policy center. A nationally recognized expert on urban policy and neighborhood issues, Ms. Turner analyzes issues of residential location, racial and ethnic discrimination, and their implications for anti-poverty policies. Much of her current work focuses on the Washington metropolitan area, investigating conditions and trends in neighborhoods across the region.

Ms. Turner served as Deputy Assistant Secretary for Research at the Department of Housing and Urban Development from 1993 through 1996, focusing HUD's research agenda on the problems of racial discrimination, concentrated poverty, and economic opportunity in America's metropolitan areas. During her tenure, HUD's research office launched three major social science demonstration projects to test different strategies for helping families from distressed inner-city neighborhoods gain access to opportunities through employment and education.

Prior to joining the Clinton Administration at HUD, Ms. Turner directed the housing research program at the Urban Institute. Much of her work focused on racial and ethnic discrimination and its role in perpetuating segregation and inequality. Ms. Turner co-authored a national housing discrimination study, which used paired testing to determine the incidence of discrimination against African American and Hispanic homeseekers. She also applied the paired testing methodology to employment, producing the first direct statistical evidence of discrimination against young African American job-seekers. Ms. Turner also directed research on racial and ethnic steering and conducted an exploratory study of differential real estate marketing practices in minority and white neighborhoods.

Chair:

Kathryn Pettit has been a research associate at the Metropolitan Housing and Communities Center at the Urban Institute since 1998. She is currently contributing to several projects for the National Neighborhood Indicators Partnership, the creation of metropolitan profiles for Annie E. Casey's Making Connection cities. She recently completed the quantitative analysis on the impact of supportive housing on surrounding neighborhoods in Denver. Previously, Ms. Pettit has assisted in projects on the development and use of local scorecards of community health and a baseline analysis of Washington, D.C. to inform the development of a strategic economic plan for the District.

At the Center on Nonprofits and Philanthropy (1996-1998), Ms. Pettit's work concentrated on the analysis and documentation of I.R.S. data sources on nonprofit organizations. She holds a Masters degree in Public Policy from Georgetown University.

Excerpt from

Exploring Welfare-to-Work Challenges in Five Metropolitan Regions*

By: Margery Austin Turner
Mark Rubin
Michelle Delair
November 1999

National Neighborhood Indicators Partnership

THE URBAN INSTITUTE

*The paper can be downloaded in its entirety at the NNIP web site:
http://www.urban.org/nnip/pdf/welfare.pdf

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This report would not have been possible without the contributions of our NNIP partners. In particular, David Sawicki of the Atlanta Project, Neil Bania of the Center for Urban Poverty and Social Change, Terry Bailey of the Piton Foundation, Cheryl Taylor of the Urban Strategies Council, and Jim Vandermillen of the Providence Plan all participated in the design of the cross-site analysis, provided essential data, and reviewed earlier drafts of this report. In addition, Tom Kingsley, director of NNIP, offered critical guidance and support throughout the project. Both he and Pamela Loprest of the Urban Institute's Human Resources Policy Center provided helpful comments on an earlier draft of this report. Any errors or omissions are, of course, our own.

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1. Background and Purpose

As states and local governments implement the eligibility restrictions, work requirements and time limits mandated by the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA), decisionmakers (both public and private) need reliable information at a local scale — to understand what it takes to link welfare recipients with suitable employment opportunities, to forge links between employment training, child care, transportation, and other assistance providers, and to anticipate how emerging policy decisions are likely to affect vulnerable people and neighborhoods. More specifically, community-based organizations need detailed information about opportunities available to poor residents as they attempt to find jobs and achieve economic independence. Area employers need information about the characteristics and training requirements of welfare recipients to determine whether and how they can become credible job candidates. City and county agencies responsible for implementing welfare reform need to know more about where welfare recipients live and their access to the training, support services, and employment opportunities they need. And federal policymakers need concrete information about the specific challenges and barriers involved in helping city welfare recipients make the transition to work and self-sufficiency.

The National Neighborhood Indicators Partnership

The National Neighborhood Indicators Partnership (NNIP) is an ongoing collaborative project of the Urban Institute with seven local institutions to collect and analyze current and reliable information about urban neighborhoods. All seven of the local partners have built advanced information systems with integrated and recurrently updated information on neighborhood conditions in their cities. And all seven are committed to the goal of *democratizing information*, facilitating the practical use of data by city and community leaders, and building the capacity of institutions and residents in distressed urban communities to analyze and address neighborhood conditions and trends.

Local NNIP Partners

Atlanta, Georgia — The Atlanta Project

Boston, Massachusetts — The Boston Foundation's Persistent Poverty Project

Cleveland, Ohio — The Center for Urban Poverty and Social Change at Case Western Reserve University

Denver, Colorado — The Piton Foundation

Oakland, California — The Urban Strategies Council

Providence, Rhode Island — The Providence Plan

Washington, D.C. — DC Agenda

The initial planning phase for NNIP was launched in 1995. Findings and conclusions from the planning phase are documented in Kingsley (1996). Ongoing activities include the development of capacity-building tools and guidebooks, assistance to neighborhood indicators groups in other cities, and a cross-site analysis effort focusing on challenges involved in linking welfare recipients to work.[1]

Cross-Site Analysis of Welfare-to-Work Challenges

This report presents findings from the NNIP's cross-site analysis project, which is designed both to build data and analytic capacity at the local level, and to provide new information and insights about the challenges and impacts of welfare reform in urban neighborhoods and regions. In each of five metropolitan areas (Atlanta, Denver, Oakland, Providence, and Washington, D.C.),[2] local research teams are assembling data and conducting analysis to address two broad sets of questions about the local challenges of welfare reform:

1) ***Where do the people live who are at greatest risk under welfare reform?*** What are their family characteristics and service needs? Is the assistance they need — such as child care or job training — accessible from the neighborhoods in which they live? What assets and supports do their communities offer?

2) ***Where are the job openings that welfare recipients are potentially qualified to fill?*** What are the skill requirements and wage rates of these jobs? What actions are needed to link welfare recipients to jobs that they could win? What jobs are potentially available close to the neighborhoods in which recipients live?

Answers to these questions will provide a baseline for longer-term, dynamic monitoring of the implementation and impacts of welfare reform from the community perspective in each metropolitan area. In the future, NNIP partners expect to build upon their baseline analyses to explore how welfare reform affects both people and neighborhoods over time.

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[1] For more information about NNIP, see its newly established web site at http://www.urban.org/nnip or send an email to ptatian@ui.urban.org. Interested organizations and individuals are also invited to join the NNIP listserv. For enrollment information, send an email to ptatian@ui.urban.org.

[2] The NNIP partner in Boston chose not to participate in this cross-site project because of other competing priorities. In addition, data for Cleveland are not reported here because they have been extensively reported elsewhere. See, for example, Coulton, Leete, and Bania 1999, which provided the model for work reported here.

The primary goal of this research is to inform decisionmaking and action at the community, city, and metropolitan level. Each of NNIP's local partners is an active participant in community building and policymaking in their metropolitan regions and is committed to making reliable information available and accessible locally. At the same time, this project provides federal policymakers with new insights from a local perspective on the challenges of welfare reform in five very different metropolitan regions.

The findings reported here show that welfare reform presents particularly daunting challenges for central city welfare recipients, many of whom are clustered in high-poverty, predominantly minority neighborhoods. Many of these challenges appear to be the same across cities, and reinforce the need for welfare-to-work strategies that explicitly address the geographic realities of poverty concentration and suburbanizing employment. However, our findings also reflect major differences between cities — particularly with respect to employment opportunities — that highlight the importance of tailoring welfare-to-work strategies to local needs and conditions. In order to craft these strategies, local decisionmakers clearly need reliable information about geographic patterns and trends for their own cities and regions.

Five Study Sites

NNIP offers a unique platform for investigating welfare-to-work challenges in five very different metropolitan regions across the country. Although there is a tremendous amount to be learned from state and national analysis, the challenges of welfare reform vary dramatically across metropolitan regions and across neighborhoods within those regions. The extent to which welfare-dependent families are concentrated in distressed inner-city neighborhoods, the availability and skill requirements of entry-level jobs in the regional economy, the accessibility of employment to poor neighborhoods, and the capacity of local child care and employment training systems will all play a role in determining how welfare reform plays out across the country and how poor families and poor neighborhoods are affected. This project — which focuses not only on individual metropolitan regions but on differences among neighborhoods within those regions — helps call attention to key implementation issues and solutions that might otherwise be overlooked.

Although the NNIP partner cities do not constitute a formal sample of U.S. metropolitan regions, they do reflect considerable diversity of demographic and socio-economic conditions, as illustrated in Exhibit 1. The study sites range in size from Providence — a city of only 160,000 in a metro area of 1.1 million — to the District of Columbia — a city of about 600,000 in a metro area of almost 4 million. Minorities consistently represent a disproportionate share of central city populations, but the racial and ethnic composition of our study sites varies quite dramatically. Specifically, Washington and Atlanta both have large black populations, which account for the vast majority of their central city residents, and relatively few Hispanics. Denver, Providence, and Oakland, on the other hand, all have much larger Hispanic populations, although blacks are also well represented in the city of Oakland. Moreover, in both Oakland and Providence, one of every five central city residents is foreign born.

Exhibit 1: Selected 1990 Characteristics of Study Sites

	Atlanta		Denver		Oakland		Providence		Washington		Mean for 100 Lgst MSAs	
	MSA	CC	MSA	CC	MSA	CC	MSA	CC	MSA	CC	MSA	CC
Population (000)	2834	394	1623	468	2083	372	1142	161	3924	607	1429	500
% Black	26	67	6	13	15	44	3	15	27	66	13	27
% Hispanic	2	2	13	23	13	13	4	15	6	5	9	12
% Foreign Born	4	3	5	7	16	20	10	20	12	10	8	10
Poverty Rate	10	27	10	17	9	19	10	23	6	17	12	19
Unemployment	5	9	5	7	6	9	7	9	4	7	6	8
% Hhs on Public Assistance	5	14	5	8	9	18	8	16	4	9	7	11
% Males not in Labor Force	26	40	26	32	30	41	31	40	24	38	31	36
% Female-Headed Families	24	56	22	32	24	42	22	40	23	54	23	36
% 16-19 HS Dropouts	12	13	11	16	9	15	12	14	9	14	11	14

Source: Urban Institute tabulations of 1990 Census data

Not surprisingly, poverty rates are consistently higher in the central cities of our study sites than in the surrounding suburbs. But again, the differences between cities are quite significant. Poverty rates (as of 1990) range from a low of 17 percent in Denver and Washington, D.C., to a high of 27 percent in Atlanta. Other indicators of social and economic distress also vary across cities. For example, Atlanta and D.C. have particularly high shares of female-headed families; Denver and D.C. have relatively low shares of households on public assistance.

Data Sources and Comparability

As a starting point for understanding welfare-to-work challenges at the neighborhood scale, the NNIP partners in Atlanta, Denver, Oakland, Providence, and Washington, D.C., assembled reasonably comparable data sets on welfare caseloads in their respective central cities[3] and on job opportunities in their respective metropolitan area labor markets. Because of differences across cities in data availability, these data sets do not all have exactly the same data items or variable definitions. Instead, we have built a cross-site database from data sets that our local partners had in hand or were able to obtain. Exhibit 2 summarizes these data sources and the availability of key data items across the five study sites.

All five sites obtained data on the demographic characteristics and addresses of city welfare recipients at a recent point in time from city or county administrative data systems. The oldest of these files is Oakland's (December 1997) and the most current is Denver's (October 1998). Each local partner aggregated these data to produce summary files containing the number and characteristics of welfare recipients at the census tract level. This intermediate analysis step is essential to protecting data confidentiality, since the local partners are prohibited from releasing or sharing information that could be used to identify individual welfare recipients. The welfare data are not completely consistent across the study sites. As Exhibit 2 indicates, local administrative systems could not all provide data for the same basic recipient characteristics. Nevertheless, the cross-site database contains a core of reasonably comparable information about the characteristics and residential locations of welfare recipients in five central city jurisdictions.

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[3] The Atlanta Project and the Piton Foundation both assembled data on welfare caseloads for their larger metropolitan areas, as well as for the central cities of Atlanta and Denver. These enhanced databases support analysis of larger spatial patterns in the residential location of welfare recipients, discussed briefly in section 2.

Data on jobs in each of the five metropolitan regions were obtained either from state unemployment compensation files (generally known as ES-202 data) or from the Dun & Bradstreet MarketPlace data system. The NNIP partners in Atlanta and Denver have been able to negotiate access to their states' ES-202 files, which are widely believed to provide the most complete and accurate information on employment by location and industry.[4]

Exhibit 2: Data Sources and Comparability Across Metro Areas

	Atlanta	Denver	Oakland	Providence	Washington
Welfare recipients					
source	administrative records from city and county human services departments				
area	9-county metro area	4-county metro area	city of Oakland	city of Providence	District of Columbia
date	2/98	10/98	12/97	1/98	1/98
race/ethnicity	yes	yes	yes	no	yes
age	yes	yes	yes	yes	yes
age of children	no	yes	yes	yes	yes
education	yes	no	no	yes	no
language	no	no	yes	yes	yes
Employment opportunities					
source	ES-202	ES-202	D&B	D&B	D&B
area	9-county metro area	7-county metro area	2-county metro area	7-county metro area	25-county metro area
date	2nd quarter of 1997	1996	4/98	4/98	4/98
industry	yes	yes	yes	yes	yes

[4] For more information on the strengths and limitations of ES-202 data, see Kingsley (1999).

Our Providence partner is in the process of negotiating access to these data, while Oakland and Washington do not expect to be able to gain access to ES-202 files in the foreseeable future. Both ES-202 data and the Dunn & Bradstreet data have been scaled to yield comparable estimates of the total number of jobs in the metropolitan region, using control totals from the Bureau of Labor Statistics' Current Employment Survey for April–June 1998. It is important to note that our data may *underestimate* regional employment opportunities for cities such as Oakland and Providence, where residents may work in other major cities (San Francisco and Boston) that are nearby.

Summary of Findings

The data and analysis presented here confirm that welfare reform presents significant challenges for central city welfare recipients and for the communities in which they live. Many of these challenges appear to be the same across cities. For example,

- city welfare populations are dominated by racial and ethnic minorities, and most welfare households include preschool children;
- city welfare recipients tend to be quite highly clustered, with a large proportion concentrated in minority neighborhoods with moderate to high poverty rates;
- fewer than one in five jobs in the regional economy match the entry-level qualifications of most welfare recipients;
- even where employment growth is robust, the number of central city welfare recipients entering the labor market is likely to absorb at least half of new entry-level jobs created regionwide; and
- the majority of these jobs are located in areas distant from central city welfare populations.

These common findings highlight the need for local welfare-to-work strategies that explicitly address locational realities. For example, cities should consider targeting work readiness and skills training programs to neighborhoods where welfare recipients are clustered, possibly taking advantage of community-based organizations to reach out to residents and support them as they make the transition from welfare to work. Most recipients will need reliable and affordable child care, which may not be available in the neighborhoods where they live. And many low-skilled workers in central city neighborhoods are likely to need special help finding out about suburban job opportunities, applying for these jobs, and commuting to them over the long term.

However, our findings also show major differences between cities that highlight the importance of assembling reliable information on geographic patterns and tailoring welfare-to-work strategies to local needs and conditions. To illustrate:

- Although the **Atlanta** region has enjoyed considerable economic growth over the last ten years, the central city's poverty rate remains high. The vast majority of city welfare recipients are black, and these families are highly concentrated in predominantly black, high-poverty neighborhoods. Job growth on the other hand is far more decentralized, with most entry-level job creation occurring more than 10 miles from the primary neighborhoods where welfare recipients are clustered. These findings have helped focus local attention on the need for welfare-to-work transportation services. The Atlanta region recently won a $2 million grant to develop specialized bus routes that will transport central city welfare leavers to job-rich areas of the suburbs.

- **Denver's** welfare caseload amounts to only a tiny fraction of the city's total population and consequently the density of welfare recipients in any given neighborhood is relatively low. A substantial share of entry-level job opportunities are located within the city, and annual growth in the number of entry-level jobs regionwide far exceeds the number of city recipients likely to join the labor market each year. These conditions have enabled many Denver residents to leave welfare for work, dramatically increasing the need for affordable child care. Local estimates indicate that the capacity of licensed child care providers in Denver falls far short of need, especially for infants and toddlers.

- The welfare population in **Oakland** is ethnically diverse, including whites, blacks, Hispanics, and Asians. One of the most striking aspects of Oakland's welfare population is the unusually large number of children — more than three children for every adult welfare recipient. In addition, more than half of welfare households include preschool children. Thus, the availability of child care in neighborhoods where recipients are concentrated represents a particularly important challenge. In addition, the diversity of Oakland's welfare population — and the substantial share for whom English is a second language — exacerbates the challenges involved in designing effective job training and placement services.

- Welfare recipients account for 16 percent of all **Providence** residents and 42 percent of all children. Although manufacturing industries represent the largest source of jobs in the Providence region, the number of entry-level manufacturing jobs is expected to decline over the next decade. Consequently, the number of welfare recipients in the city of Providence who can be expected to enter the labor market annually as a result of welfare reform substantially exceeds the number of new entry-level jobs being created each year in the region as a whole. This has encouraged policymakers and community leaders in Providence to focus on economic development as a component of their welfare reform strategy, in order to expand the number of employment opportunities in the city and the surrounding region.

- In **Washington, D.C.** — like Atlanta — the welfare population is predominantly black and is highly concentrated in poor black neighborhoods. However, because it is the nation's capital, Washington continues to offer significant numbers of jobs relatively close to its welfare population. Although the city's share of regional jobs has declined substantially over the last decade, central city job clusters offer a large number of entry-level positions that could potentially be performed by city welfare recipients. However, many entry-level jobs located inside the city limits appear to be held by suburban residents, raising serious concerns about the District of Columbia's workforce development system, including its public school system.

The differences between these five study sites illustrate why local welfare-to-work strategies must be "customized" to reach out to welfare recipients in the neighborhoods where they live, prepare recipients for work in the region's most promising industries and occupations, and strengthen both information and transportation linkages between areas of entry-level employment growth and the neighborhoods where welfare recipients are located. Exhibit 3 summarizes the major cross-cutting findings that emerge from this analysis, as well as the important differences between sites that are revealed.

The remainder of this report consists of three sections. Section 2 describes the characteristics of the central city welfare populations in the five study sites and explores their residential location patterns. Section 3 summarizes key characteristics of the regional labor markets, including the industrial and occupational mix, sources of entry- .level jobs, and the geographic dispersal of employment opportunities. Finally, section 4 highlights key challenges confronting welfare-to-work strategies, presenting forecasts for entry-level job growth and comparing the location of these new job opportunities to concentrations of central city welfare families.

Exhibit 3: Summary of Findings

Central City Welfare Populations	Variations on the Theme				
	Atlanta	Denver	Oakland	Providence	Washington
At least one in ten city residents are welfare recipients	✓	less than 4% of residents receive welfare	✓	✓	✓
Almost all city welfare recipients are minorities	✓ mostly black	✓ mostly Hispanic	✓ black, Hispanic, and Asian	NA	✓ mostly black
Most adult welfare recipients are under 40	✓	✓	✓ largest share of adults over 40	✓	✓
Children outnumber adults in the welfare caseload	✓ lowest ratio of children to adults	✓	✓ highest ratio of children to adults	✓	✓
Most welfare households include preschool children	NA	NA	✓	✓ three-quarters include an infant	✓

(Exhibit 3 continued)

Residential Location Patterns	Variations on the Theme				
	Atlanta	Denver	Oakland	Providence	Washington
Welfare recipients are geographically clustered and live at high densities	✓ highest clustering	low density but still quite clustered	✓	✓	✓ highest clustering
Most recipients live in moderate- to high-poverty neighborhoods	✓ highest share in high-pov neighbs	✓	✓	✓	✓
Most recipients live in neighborhoods that are majority black or Hispanic	✓ black	✓ Hispanic	✓ black and Hispanic	✓ Hispanic	✓ black
Minority recipients are more geographically clustered than whites	✓ Blacks are most clustered	✓ Hispanics are most clustered	✓	NA	✓
Black recipients are the most likely to live in high-poverty neighborhoods	✓	✓ Both blacks and Hispanics live in high poverty	Asian recipients are the most likely to live in high poverty	NA	✓

(Exhibit 3 continued)

Metropolitan Job Opportunities	Variations on the Theme				
	Atlanta	**Denver**	**Oakland**	**Providence**	**Washington**
Job growth is high in the metropolitan region	✓	✓	✓	job growth low	✓
Trade is the single biggest source of jobs in the region	✓	✓	✓	Manufacturing is the biggest source of jobs	Public administration and professional services are the biggest sources of jobs
Entry-level jobs account for fewer than one in five jobs in the region	✓	✓	✓	✓	✓ lowest share of entry-level jobs
Most jobs — including most entry-level jobs — are located in the suburbs	A large share of total jobs, but few entry-level jobs are in the city	Two-fifths of region's entry-level jobs are in the city	✓	✓	✓
Entry-level jobs are widely dispersed	✓	✓ Jobs are clustered, but less than welfare recipients	✓	Entry-level jobs are just as clustered as welfare recipients	✓ Jobs are clustered, but less than welfare recipients

(Exhibit 3 continued)

New Jobs for Welfare-to-Work	Variations on the Theme				
	Atlanta	**Denver**	**Oakland**	**Providence**	**Washington**
City welfare recipients entering the job market would absorb at least half of new entry-level jobs regionwide	✓	Regional job growth is high and the city welfare population is small	✓	Welfare recipients entering the labor market exceed new entry level jobs regionwide	✓
Trade is the biggest source of new entry-level jobs	✓ almost half of new entry-level jobs are in the city	✓ almost half of new entry-level jobs are in the city	✓	✓ manufacturing is losing entry-level jobs	Professional services are the primary source
Most entry-level job creation is occurring in the suburbs	✓	✓	✓	✓	✓
Few entry-level jobs are being created near concentrations of city welfare recipients	✓	✓	✓	Almost half of new entry-level jobs are close to welfare concentrations	✓

NEIGHBORHOODS AND WELFARE REFORM: Is There an Important Connection?

Claudia J. Coulton, Ph.D.
Lillian F. Harris Professor and Co-Director
Center on Urban Poverty and Social Change
Mandel School of Applied Social Sciences
Cleveland, Ohio

CWRU & MDRC

NEIGHBORHOOD QUESTIONS

- **Are welfare recipients concentrated in particular neighborhoods?**
- **Do welfare recipients' neighborhoods represent distinctive ecological niches?**
- **Do the outcomes for families and children in locations of extreme welfare and poverty concentration differ from residents of more advantaged neighborhoods?**

CONCENTRATION INDICIES

C-index reflects the degree to which the poor or welfare recipients live in census tracts that exceed a threshold for extreme poverty (40%) or welfare (20%) (Coulton, et al., 1996; Jargowsky, 1997.

p-index is a measure of the probability of interaction between two groups within census tracts (Lieberson, 1980; Massey and Eggers, 1993). A higher P-index indicates greater interaction or lower levels of concentration.

D-index is the index of dissimilarity (Massey and Denton, 1988; Abramson, Tobin, and VanderGroot, 1995; Jargowsky, 1997). This is a measure widely used to measure degrees of segregation. The index indicates the share of a minority population that would have to move to another census tract in order to have equal representation in each census tract of the county.

CLUSTERING INDICIES

Moran's I is an index of spatial auto correlation. The global Moran's I indicates the extent to which census tracts that are high or low on the percent poor or welfare families are near each other.

I is defined as:

$$I = \frac{N\sum_{i=1}^{N}\sum_{j=1}^{N} w_{ij} z_i z_j}{\sum_{i=1}^{N}\sum_{j=1}^{N} w_{ij} \sum_{i=1}^{N} z_i^2}$$

where, N is the total number of observations; w_{ij} is a weight given to neighbor j of observation i; and z_i is the variable of interest, in our case welfare concentration, for observation i in standardized form. Census tracts that are considered neighbors are given positive weights and those that are not neighbors are given zero weights. Weights can be based on contiguity or a measure of distance.

Table 1: Spatial Concentration of Welfare and Poverty
Urban Change Project Sites

County	1990 Poverty			1995 Welfare			
	C-index	*p-index*	*D-index*	*C-index*	*p-index*	*D-index*	*Global Morans I*
	(% poor residing in high poverty (40%+) neighborhoods)	*(probability of interaction between poor and nonpoor)*	*(Share of the poor population that would have to move in order to have equal representation in each census tract of the county)*	*(% welfare recipients residing in high welfare (20%+)neighborhoods)*	*(probability of interaction between welfare and nonwelfare population)*	*(Share of the welfare population that would have to move in order to have equal representation in each census tract of the county)*	*(First order contiguity based measure/Distance based measure at minimum distance for total inclusion)*
Cuyahoga (Cleveland)	28.9	66.3	52.3	57.9	77.9	57.0	0.66 (0.52)
Los Angeles	9.4	76.5	35.4	10.7	88.1	33.0	0.72 (0.52)
Miami-Dade	20.4	73.3	32.2	13.3	89.4	38.6	0.60 (0.43)
Philadelphia	30.6	68.3	38.0	72.8	70.9	43.1	0.67 (0.54)

Source: Urban Change Project's Neighborhood Indicators Database
Analysis: **PRELIMINARY FINDINGS.** Manpower Demonstration Research Corporation

The Indicators

DOMAINS	Indicators 1992 - 2001
POPULATION	• Density • Ethnicity • Age distributions
ECONOMIC	• Employment levels of AFDC/TANF and FS recipients and leavers
HEALTH & SOCIAL WELL-BEING	• Crime rates- property, violent, drug arrests • Child maltreatment • Infant death rate • Low birth weight rate • Fertility rate
MOBILITY & STABILITY	• Population increase (decrease) • Residential mobility of AFDC/TANF and Food Stamp recipients
HOUSING	• Public and subsidized housing units • Median housing values • Tax delinquent properties • Vacant lots • Investment/disinvestment

CWRU & MDRC

Urban Change Mobility (Movers Only)

Cuyahoga		% who moved	Welfare	Poverty	Birth Unmarried Mothers	Child Mal. Rate	Violent Crime	Property Crime	Drug Arrests	% SF tax delinquent	Med. Value SF Units	% Vacant Res. Parcels
Initial Tract		61%	28.8	42.9	824.1	25.7	2173.9	6176	2340.6	16.6	25854	15
Tract Moved Into		(593/970)	23.6	34.8	742	23.1	1766.4	6089.4	1918.1	14.7	33368.1	12.9
Los Angeles												
Initial Tract		61%	18.3	36.4		26.4	3308.3	4933.1	4425.2	6.6		1.2
Tract Moved Into		(561/920)	14.8	25.5		22	2577.8	4261.2	2902	8.1		0.7
Miami												
Initial Tract		39%	14.1	38.8	682.8	22.7	3380.2	7778.6	718.3			
Tract Moved Into		(346/898)	11	29.2	607.6	17.1	3600.5	8947.6	796.4			
Philadelphia												
Initial Tract		52%	36.4	38.3	821.8	21	2150.1	4047.2	1640.5			
Tract Moved Into		(507/983)	28	29.3	743.8	19.7	1754.2	4022.7	806.5			

SOURCE: Urban Change Neighborhood Indicators Database.

NOTES: Mobility based on census tract data from the survey respondents' geocoded address at time of entry into the study and again at time of survey.

Except for welfare and poverty data which are 1995 and 1990 data respectively; 1995 variables were used for the initial tract and 1996 variables were used for the tract moved into.

Extract from

Summary of Capacity and Needs Assessments: Youth Activities in the District of Columbia*

by
Duncan Chaplin
September 24, 1999

Project Directors: Duncan Chaplin (Urban Institute), Robert Schoeplein (Georgetown University), and Deborah Lyons (University of the District of Columbia).

Project Team: *The Urban Institute*: Mike Puma, Andreas Pape, Antoinette Mitchell, Susan Brown, Calvin Johnson, Kathy Pettit, Minh La, Carlos Manjarrez, Luke Miller, Zakia Redd, Eric Twombly, Jorge Ruiz-de-Velasco, Amanda Dulin, Caroline O'Connor, Kristen Olson, Laurie Forcier, and Nancy Sharkey; *Georgetown University*: Justin Treloar, Jessica Boehm, Alice Goodman, Amy Karwan, and Jessica Lucas; *University of the District of Columbia*: Larsi Claiborne, Shireen Mitchell, Cornett Roberts-Njoku, Ahmad Ali, Pierre Benoit, Leah Boyd, Violaine Dumorne, Shonita Frazier, Darul Freeman, Millicent Garvin, Orlando Zavier Hixon, Jason Lowe, Marion J. McDowell, Sameerah S. Muhammed, Janet Savwoir, and Darrell M. Williams; *Razavi Associates*: Amir Razavi; and *The World Bank*: Ted Saeger.

Abstract

This is a summary of findings from an Urban Institute report entitled "Capacity and Needs Assessments: Youth Activities in the District of Columbia." DC mayor Anthony Williams commissioned the Urban Institute, Georgetown University, and the University of the District of Columbia (UDC) to conduct these assessments to help guide the allocation of additional funds to improve extracurricular youth activities in DC. This summary focuses on indicators of need across geographic regions of the city related to early childhood development, K-12 academic achievement, health and well-being, and crime.

*The paper can be downloaded in its entirety at The Urban Institute web site:
http://www.urban.org/education/dcyouth.html

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Executive Summary

The District of Columbia is considering a plan to increase spending on youth services by $15 million for FY 1999-2000. To assist the District in determining where in DC to invest these funds the Urban Institute, Georgetown University, and the University of the District of Columbia (UDC) conducted a study of need and capacity in five areas: early childhood development, academic achievement, post-school success, health, and crime. This report describes the results of this study.

The information used in this report is derived from three main sources: 1) a survey of service providers, 2) interviews with service providers, and 3) existing District data sets. The first source of information, the *School-Aged Youth Services Provider Survey*, was conducted in July and August of 1999 specifically to inform this report. Service providers were identified using existing lists of DC schools, churches, and other providers of youth activities during the hours before and after the regular school day.

Information on the use and capacity of out-of-school services for youth was obtained from almost 500 providers in the District of Columbia. We are reasonably confident that these data cover most of the hours of youth services available in DC because extensive efforts were made to collect data from the largest providers and the total hours of service reported is quite high relative to the population of DC. The provider list we developed contains names of another 700 potential providers which appear to still be in business. Most non-respondents are faith-based providers and schools whose offices are not always fully staffed, especially during the summer. We impute data for 87 percent of the schools with missing data. For the remaining providers (not faith-based or schools) we estimate a 82 percent response rate.

The second source of information used in this report is a series of interviews with senior administrators in provider organizations. In these interviews we asked about how funding allocation decisions are made and what sorts of information they would like to have to improve these decisions. The third source of information was data on child care, parents, welfare, health, and education collected from UDC, DC Agenda, and the District Government. These latter sources of data helped to round out the sets of indicators used in this report, thereby providing a fuller picture of the condition of DC youth.

The key findings of the study are:

- The need for additional youth services is high in most parts of the city, as indicated by a variety of measures of youth well-being including receipt of public assistance, academic test scores, physical and family health, criminal victimization, and arrests.

- Though most parts of the city appear to be in need of improved activities for youth, areas in the upper Northwest appear to need significantly less help on a per capita basis. Youth in this part of the city appear to be participating in recreational out-of-school activities at much higher rates than youth in other parts of the city, and our indicators suggest that they have far fewer problem outcomes per youth.

- A lack of facilities does not appear to be constraining the availability of youth services in DC, suggesting that services could be expanded without significant new capital expenditures.

- Interviews with senior administrators of provider agencies suggest a need for better data to make funding allocation decisions across the city. In particular these administrators are interested in more demographic and educational information, which is collected on an annual basis at the ward and/or neighborhood level.

- A review of focus group data from an earlier study suggests that DC parents believe there is a need for more affordable, available, and high-quality care for their children. Safety, along with better methods of improving relevant skill sets such as computer literacy, appear to be key concerns.

The information in this report highlights areas of need for youth services in the District of Columbia and should help to inform allocation decisions in this area. In addition, this report provides a baseline for analyses of the service needs of youth in DC.

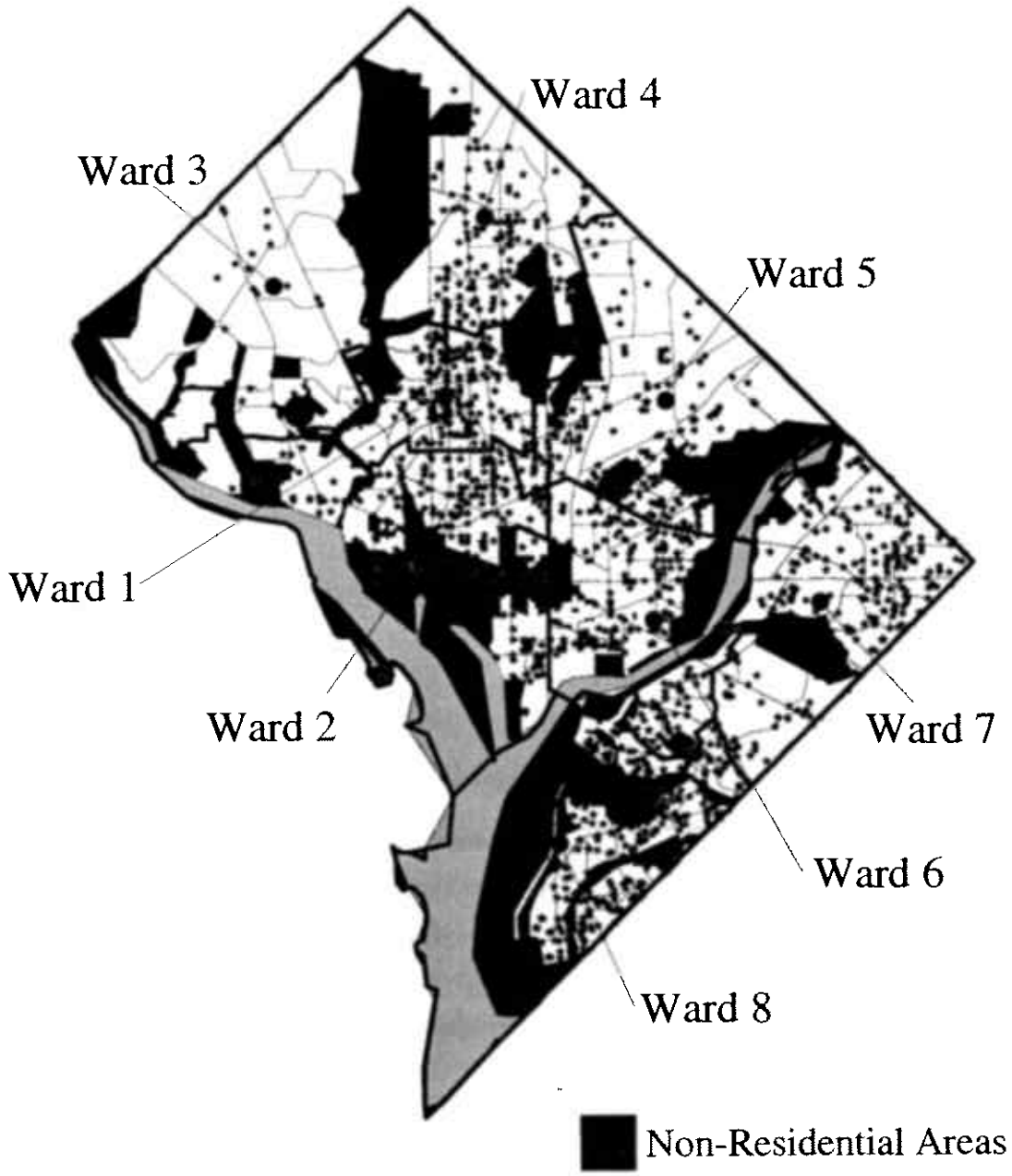
E. Crime and Victimization

A final set of indicators measures environmental stress that affects the health and well-being of the youth both directly (as victims of crime) and indirectly, as businesses and more successful families move out of neighborhoods because they are worried about becoming victims of crimes. As these sources of neighborhood strength leave, the community may deteriorate further and thereby lower the resources available to help promote positive youth development. Increasing the availability of youth activities in stressed neighborhoods may therefore help youth both directly and indirectly to improve youth outcomes. We have a number of sets of indicators of crime and victimization: youth victimization, perceived safety, and youth crime.

In Map II.E.1.a and Charts II.E.2.a and II.E.2.b, we present data from the DC Metropolitan Police Department's offense database. Map II.E.1.a shows where youth (age 1-24)[8] were victims of violent crimes in 1998. We notice that victimization clusters in neighborhoods within seven of the eight wards, excluding Ward 3. These clusters cross ward and Tract boundaries, as do many of the neighborhoods. Four clusters stand out in Map II.E.1.a. Cluster A (the middle of Ward 1 and the areas north and south of that) contains the Petworth, Columbia Heights, Cardozo, and Shaw/Logan neighborhoods. This is the identifiable cluster in the middle of the map. Cluster B straddles the border between Wards 5 and 6 and contains the Kingsman Park, Trinidad, Ivy City, and Kingsman neighborhoods. Cluster C (the eastern tip of Ward 7) contains the Marshall Heights and Lincoln Heights neighborhoods. Cluster D (southeast of the river) contains the Anacostia, Congress Heights, and Washington Highland neighborhoods.

Youth violence also has temporal patterns which have recently emerged as a critical link to understanding patterns of juvenile violence.[9] Indeed the DC government is considering imposing curfews on youth. We show the temporal patterns of youth victimizations in Charts II.E.2.a and II.E.2.b for youth age 1-17. In Chart II.E.2.a we define the school year "commute" as the period immediately following school closing (Monday-Friday), more specifically when children are commuting or transitioning from school to home or other after-school activities. Perhaps surprisingly, the rate during the commute (over 0.30 victimizations per hour) was more than six times that of the proposed weekday curfew period (around 0.05), more than three times that of the proposed weekend curfew (around 0.10), and more than twice that of any other period in Chart II.E.2.a. Within the school year commute period, youth victimization was highest during the 3 p.m. hour — the one-hour period immediately after the end of the school day (see Chart II.E.2.c in Appendix C). This one-hour period and the other two within the commute category are the three riskiest hours for youth during the school year (at least during 1998).

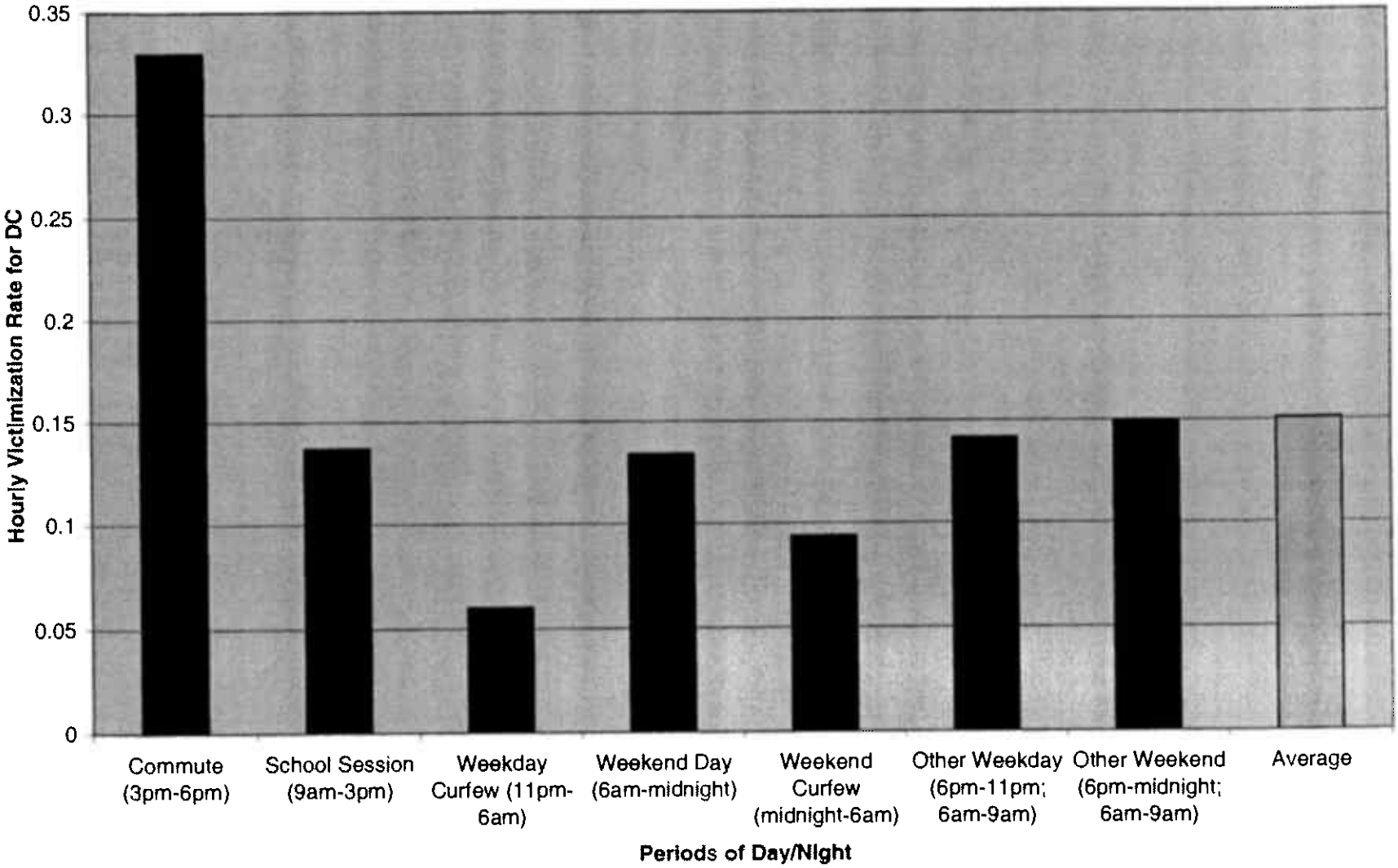
Map II.E.1.a
Locations of Violent Crime Reports Involving Victims Age 1-24
in the District of Columbia, 1998



1 inch=2 miles

Source: Metropolitan Police of DC

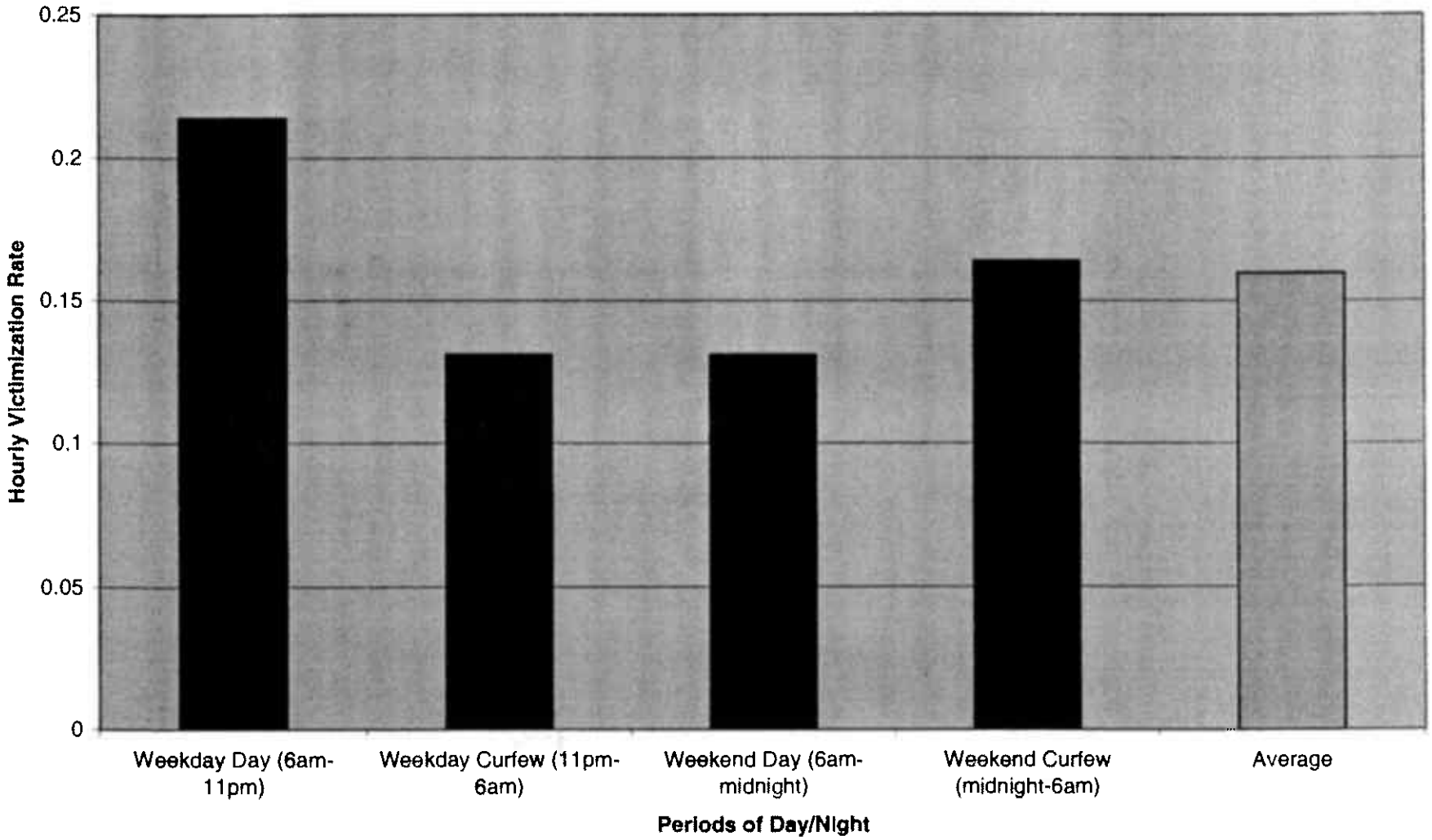
Chart II.E.2.a
Total Violent Crime Victimizations per Hour during the School Year, Age 1-17, in the District of Columbia, 1998 (9/1 - 6/14)



Note: Weekdays go from Sunday at 6:00 p.m. to Friday at 6:00 p.m.

Source: DC Metropolitan Police Department

Chart II.E.2.b
Total Violent Crime Victimizations per Hour in the Summer, Age 1-17, in the District of Columbia, 1998 (6/15-8/31)



Note: Weekdays go from Sunday at 6:00 p.m. to Friday at 6:00 p.m.

Source: DC Metropolitan Police Department

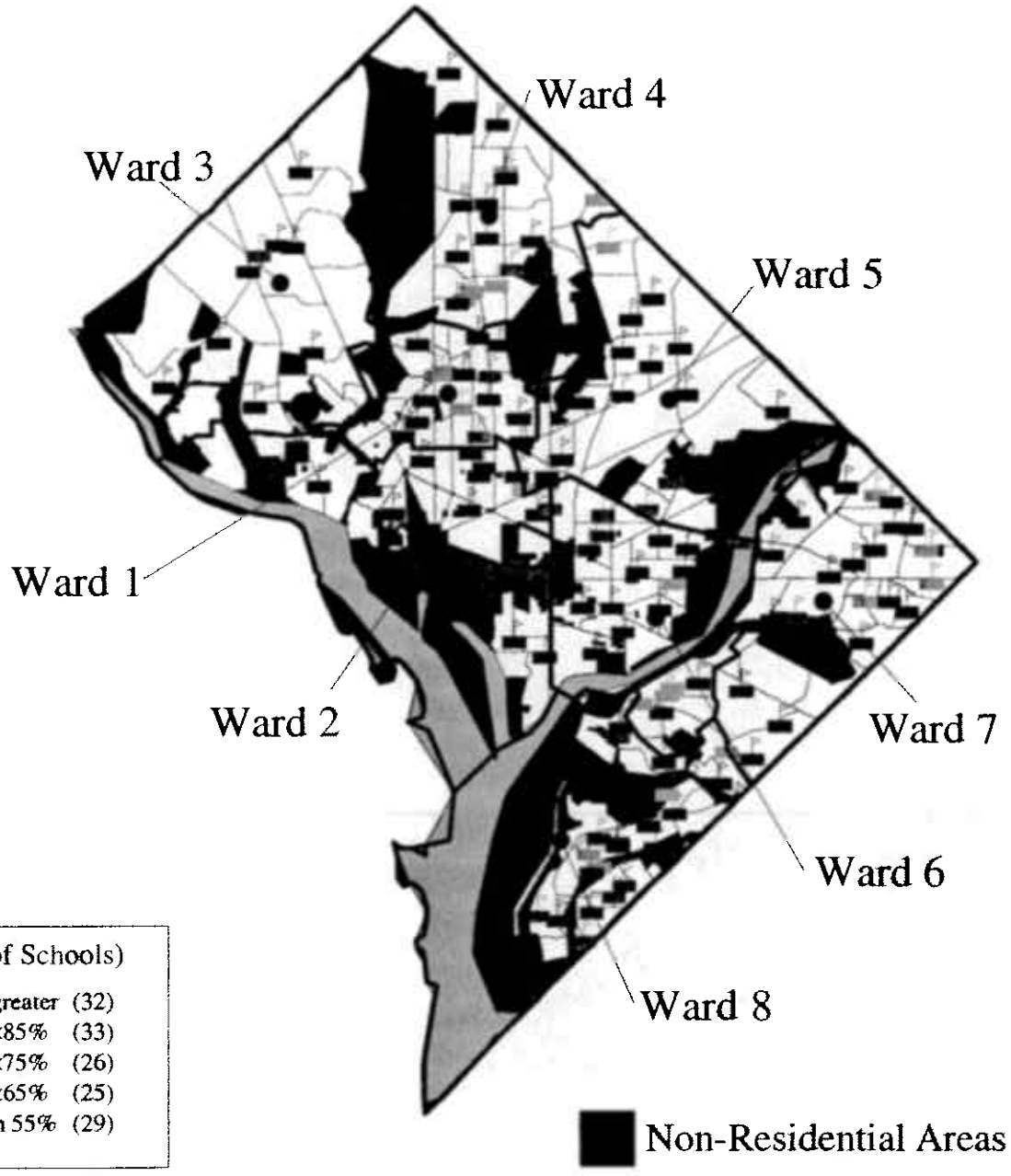
The summer data in Chart II.E.2.b show that the risk of youth victimization is higher during the weekday day period (6 a.m.-11 p.m.) than for any other summer period, including the weekday and weekend curfew periods. Appendix C shows rates for each hour of the day in Charts II.E.2.c through II.E.2.f. The weekday summer rates increase from close to 0 at 6 a.m. to slightly over .25 by 1:00 p.m. and stay moderately high until 1 a.m. In contrast, the weekend curfew period, the second highest summer period, appears to be driven by consistently high rates (over 0.20) between midnight and 4 a.m. This pattern is preceded by the highest weekend hourly rates that begin around 6 p.m. and continue through the curfew. Thus, youth victimization during the weekends of the summer months is high between 6:00 p.m. and 4:00 a.m. The bottom line is that while the after-school commute does have the highest crime rates on an hourly basis, a great deal of crime also occurs during other hours of the day and on days when schools are not in session.

Map II.E.3.a presents the spatial distribution of perceived school safety. The data for this presentation were extracted from the School Satisfaction Survey conducted jointly by the National Center on Education and Economics and Westat (May 1998). The sample included 5th, 8th, 10th, and 12th graders and their parents. We present the combined mean percentages of matched student-parent pairs who responded either "strongly agree" or "agree" to school safety items ("I feel safe at this school." "My child's school is a safe place."). On average, slightly over 70 percent of parents and students believe that the school they either attend or send their child(ren) to is a safe place. A break-out by Wards indicate that Wards 2 and 3 perceive their schools to be safer, 80.5 and 90.2 percent respectively. All other Wards were in the 65 to 73 percent range.

Map II.E.3.b presents a broader framework within which to gauge perceptions of public safety. We present findings from a resident survey conducted by Northwestern University's Institute for Policy Research and MACRO (Summer 1998). Residents were asked "How safe do you feel or would you feel being alone outside in your neighborhood during the day?" Results are reported by Police District. The percent of residents responding "very safe" varied sharply from a low of 46 to 52 percent in the 6th and 7th Districts to a high of 83 percent in the 3rd District. The remaining Districts were closer to the 60 percent mark. Thus, the 3rd District's residents rank highest with regard to feelings of public safety in their public schools and in their neighborhood during the day.

Finally, Map II.E.4.a shows the spatial distribution of residences of juvenile arrestees age 20 or younger by census tract (1993-1994 combined).[10] We notice similar patterns to those highlighted in the victimization map. Specifically, we notice Tracts with the highest rates cluster in areas corresponding to the four clusters identified above. These findings highlight the spatial similarity of interpersonal violence among juveniles. Census tracts with high levels of interpersonal violence, however measured, cluster in the same areas of the city. Unlike the victimization data, however, these data are the residences of violent juvenile arrestees. Therefore, these data are probably more indicative of where the need for youth services is greatest.

Map II.E.3.a
Percent of Students and Parents Reporting School Is Safe
by School* in the District of Columbia, 1998



*Schools with Parents and Students Providing Survey Responses, n=145; Average of Student and Parent Measures

1 inch=2 miles

Source: DC School Satisfaction Survey, 1998

Map II.E.3.b
Perceived Safety of Area*
by Police District in the District of Columbia, 1998

Range (Districts)
- 83 or greater (1)
- 63 to <83 (2)
- 59 to <63 (2)
- Less than 59 (2)

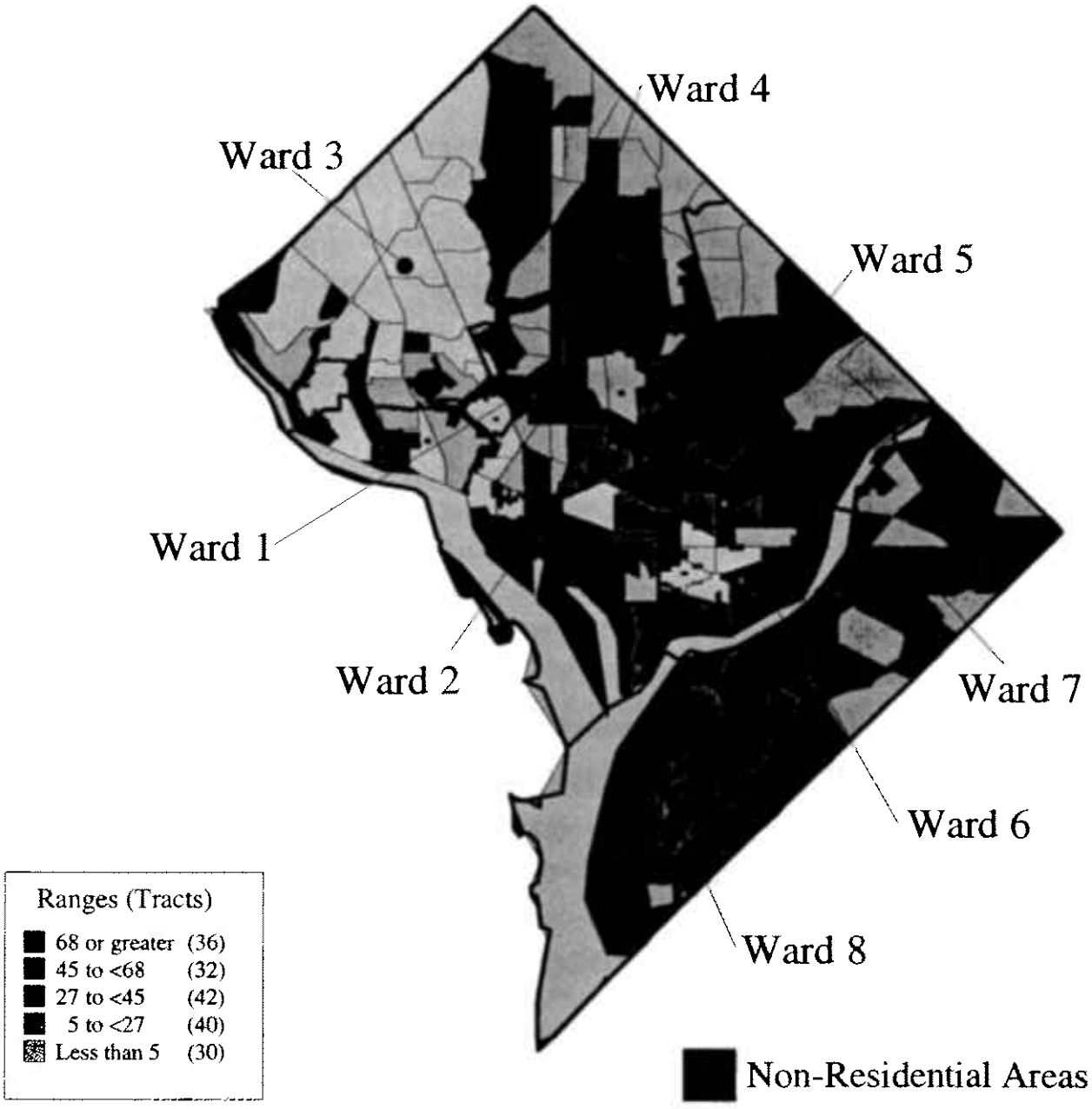
Non-Residential Areas

*Percent of respondents reporting that they feel very safe alone outside in their neighborhood during day.

Source: Metropolitan Police Department Survey of 2,216 conducted June/August 1998 by independent researcher

1 inch=2 miles

Map II.E.4.a
Arrests per 1,000 Population Age 1-20
in the District of Columbia, 1993-94



1 inch=2 miles

Source: DC Metropolitan Police Department

PANEL FOUR

Building and Sustaining Local Institutional Capacity

Theme: Groups in a growing number of cities are working to develop capacities similar to those of the partners in NNIP -- combining the ideas of building and maintaining a neighborhood level data warehouse with applying the data primarily to support grassroots initiatives and broader interests of distressed neighborhoods. There is uncertainty, however, about what institutional forms are likely to work best for these purposes in today's environment, about the mix of activities that should be a part of a local neighborhood indicators agenda and about how, when such capacities have been developed, they can be sustained. This panel begins to address these issues through case study experiences. Directors of three successful NNIP partner organizations will examine their own work programs over the past few years and draw lessons they think may be relevant for other cities. The final discussion will consider to these cases and others as they think though relationships between institutional forms and varying local circumstances, and ways to support a continuation of these functions over the long haul.

Questions for the Final Fish-Bowl:

Although there will not be small-group workshops on this topic, questions pertaining to it will be discussed in the fish-bowl session that wraps up the conference.

- What kinds of institutions work best as NNIP-type data intermediaries? What steps, if any, can be taken to adjust for imperfections of some less-than-ideal institutional forms for this type of work (e.g., universities, government agencies)?
- Should it be just one data warehouse per city (data all assembled at one place) or a virtual data warehouse (data maintained at several places but brought together in one website so users still get a one-stop-shop)? If the latter, what rules and incentives are needed to make it work?.
- What are the keys to assuring appropriate collaboration with data providers, intermediaries, and users?
- NNIP partners play a variety of roles ranging from the hi-tech work of data base building to advocacy and hands-on work in building community capacity? What are the tradeoffs involved and how can they be balanced?
- The indicators idea may be exciting at first, but could become boring over time depending on how it is handled? What do you have to do to keep up the interest and excitement?
- Should this type of intermediary offer some services for a fee? If so, to whom and under what circumstances? Any guidelines as to how much they should charge?
- More broadly, what are the best ways to go about local fund raising for this mix of services?
- Can a case be made for national support for local neighborhood indicators functions (from the Federal government?, from foundations?)

PANEL FOUR SPEAKERS

Terri Bailey is the Director of Research for The Piton Foundation, a private operating foundation located in Denver which develops and operates programs in a number of related areas all of which strive to improve the lives of low-income people and to strengthen the communities in which they live. As the Foundation's Director of Research, Bailey is responsible for research and public policy analysis of issues of poverty. Her work currently focuses on research, evaluation and systems reform efforts in the protection of children from abuse or neglect. Terri also manages the Foundation's data initiative which serves as the clearinghouse both in Denver neighborhoods and throughout the state for data that chronicles the health and well-being of Denver and Colorado residents.

Since joining the Foundation in 1991, Bailey has researched and written 'Colorado Children and Medicaid: Fulfilling the Promise', 'Can Do! Improving the Quality of Lives of Denver's Children and Families', 'Medicaid and Part H: Building a Connection for Denver Children', 'Poverty in Denver: Facing the Facts', a detailed analysis of poverty in Denver and the surrounding metro area, 'At What Risk: Community Assessments of Safety and Risk for Child Abuse and Neglect in Colorado' and a series of fact sheets and newsletters that use local data to portray the nature and consequence of poverty.

Prior to joining the Foundation, Bailey held consultant positions with many public and private sector agencies including the City and County of Denver, the Office of the Governor of Colorado, the Hunt Alternatives Fund, the Colorado Trust, and the American Association of Retired Persons. She worked for ten years as the senior policy analyst for the Denver Metropolitan Legal Aid Society which provides free legal services to the poor.

Charlotte Kahn directs the Boston Community Building Network at the Boston Foundation. The Boston Community Building Network convenes leaders and residents from Greater Boston to strengthen networks and relationships, exchange information, develop solutions to shared challenges and effect changes in public policy and community practice. At the Boston Foundation, Ms. Kahn initiated a partnership with area universities, city and state agencies and community-based organizations to develop the Boston Children and Families Database, which includes more than 800 data points. Ms. Kahn also works in partnership with the City of Boston's Sustainable Boston Initiative and more than 300 representatives of community-based, city, state and federal agencies and organizations to develop and refine the Boston Indicators of Change, Progress and Sustainability. She is also working in partnership with others on the Boston Community Building Curriculum, designed to support t/he development of grassroots leaders in Greater Boston.

Kahn (cont.)

Ms. Kahn directed the Public Education Fund of the Tax Equity Alliance for Massachusetts as well as Boston Urban Gardeners, a community-based organization. She attended Cornell University, holds a Masters Degree in Organizational Development from Antioch University and was awarded a Loeb Fellowship in Advanced Environmental Studies at the Harvard Graduate School of Design. She serves as Vice President of the Codman Square Health Care Center in Dorchester, the neighborhood in which she resides.

Pat McGuigan has been the Executive Director of The Providence Plan (TPP) since January 1995. The Providence Plan is a private non-profit corporation charged with the mission of developing and overseeing a comprehensive and strategic plan for the revitalization of the city.

Prior to this position, Mr. McGuigan spent more than ten years with senior management responsibilities for neighborhood housing and economic development policies and programs for the City of Boston. In addition, he was the Executive Director of Boston Neighborhood Housing Services from 1983 to 1984 and was a senior member of the staff of the Massachusetts Community Development Finance Corporation for the five years from 1978 to 1983. In that capacity, he had responsibility for the development and implementation of new community development financing strategies in partnership with local Community Development Corporations across the state. Mr. McGuigan has a Master's Degree in City and Regional Planning from the Kennedy School of Government at Harvard University and an undergraduate degree from Boston College

CHAIR:

James O. Gibson is a Senior Fellow in residence at the Center for the Study of Social Policy in Washington, DC, where his work focuses on urban revitalization, community building, and race relations. Through the Center, Mr. Gibson works with PolicyLink, a national research, advocacy, and communications institution devoted to strengthening communities, and DC Agenda, a non-profit community assistance corporation dedicated to solving District of Columbia problems.

He has been a Senior Associate of the Urban Institute since January 1993. Between 1986 and 1992, Mr. Gibson was Director of the Equal Opportunity Program at The Rockefeller Foundation. Before joining Rockefeller, he served as President of the Eugene and Agnes E. Meyer Foundation in Washington, D.C. Other positions held include Assistant City Administrator for Planning and Development for the District of Columbia, Executive Associate of The Potomac Institute, and Executive Secretary of the Atlanta Chapter of the NAACP. He has been a consultant to many federal, municipal and private sector agencies. Presidential appointments include the President's National Commission on Rural Poverty and the National Capital Planning Commission. Mr. Gibson and his wife Kathryn DeFrantz Gibson live in Washington, DC. They have three grown children and grandchildren.

Neighborhood Facts

The Piton Foundation

Denver, Colorado

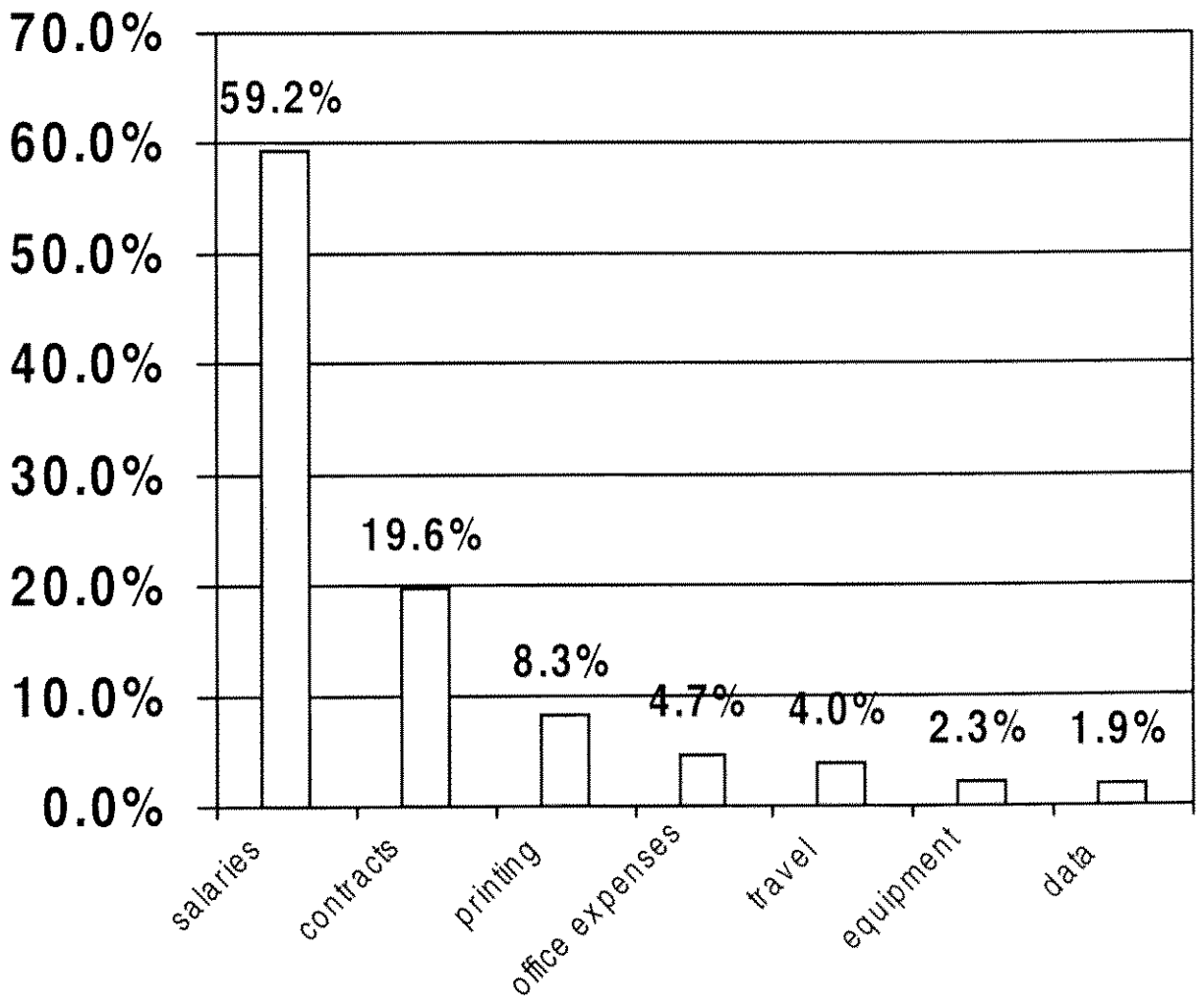
July 2000

About The Piton Foundation

- Private, operating foundation established in 1976.
- Vision - A better future for the low-income children of Denver by developing and implementing programs to improve public education, support youth development, create economic opportunity, and strengthen neighborhoods.
- Vision of *Neighborhood Facts* - Individuals and organizations have the information, skills and tools necessary to decide and implement a course of action.

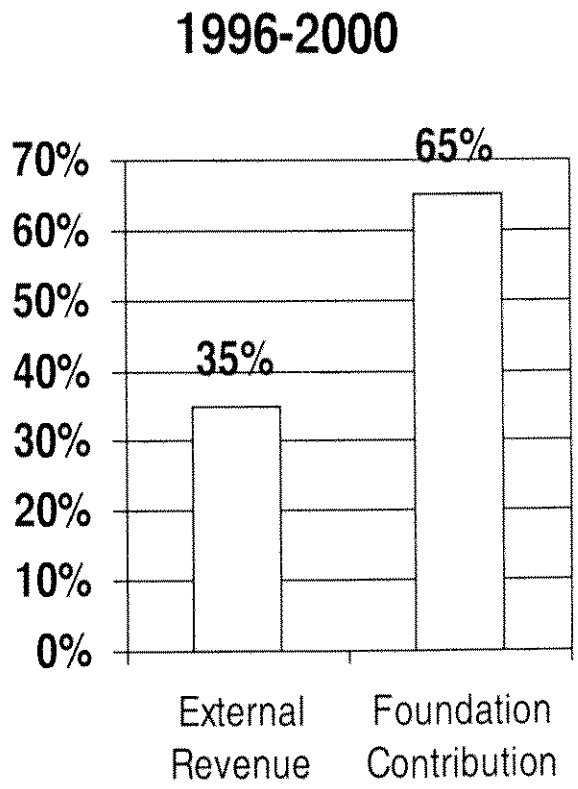
Salaries and Benefits Are Largest Expense

- Salaries & benefits make up 59% of all expenses.
- Staff = 2 persons but only 1.0 -1.5 FTE.



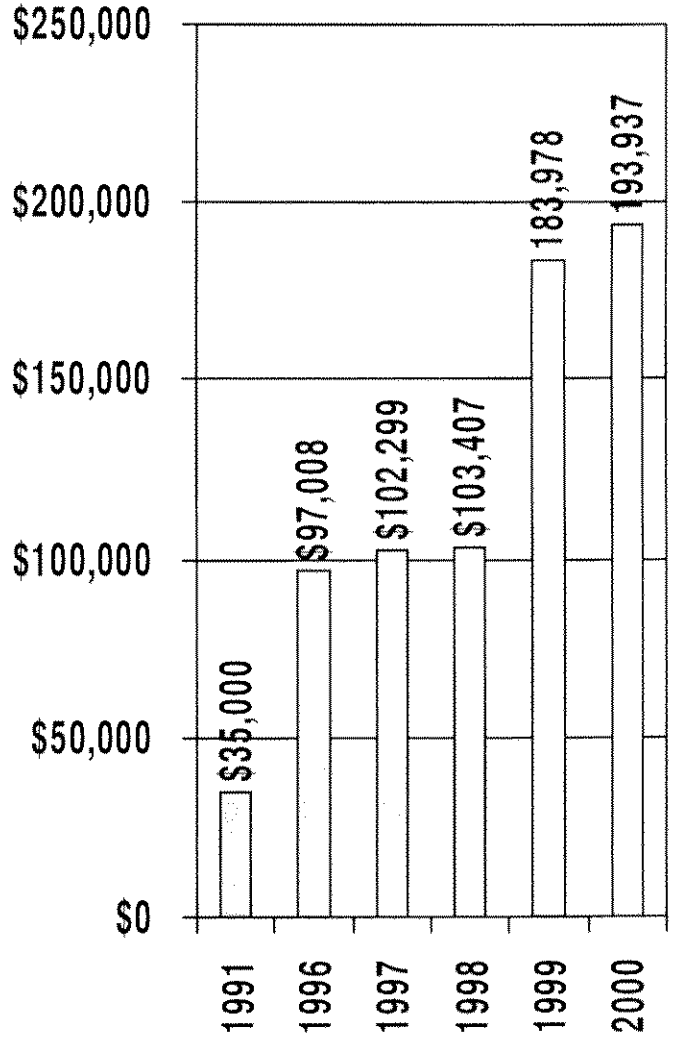
External Revenue Makes Up Less Than Half of Overall Budget

- From 100% external funding in early 90's, outside sources now make up only 35% of total revenue.
- Foundation funds cover staff, external funds cover non-staff costs of activities.



Budget Grows as Activities Change & Grow

- 1991 - $35,000 planning grant
- 1997/8 - developed and launched web-site
- 1999 - released two research reports
- 2000 - became Casey Foundation Learning Partner



Range of Activities

- Periodic research
- Web-site development & update
- Special community projects
- Resident/stakeholder training
- *NEW! Neighborhood Learning Partnership (w/Annie E. Casey Foundation)*

Partnership Agreement between

The Rhode Island Department of Health

and

The Providence Plan

This letter of agreement formally establishes a partnership between the Rhode Island Department of Health (RIDOH; a governmental department with a statewide mandate to promote "safe and healthy lives in safe and healthy communities") and The Providence Plan (TPP; a non-profit organization charged with developing comprehensive approaches to urban revitalization within the city of Providence).

Purpose. This partnership is built upon the common interests of RIDOH and TPP in using data, information, research, and policy analysis to inform the development of initiatives and policies that will lead to:

(a.) stronger, safer, and healthier communities, and

(b.) improved quality of life for the residents of Providence, especially, but not exclusively, as this pertains to the safe and healthy development of children.

This partnership will facilitate the sharing and analysis of data collected by each of the partners (health data from the Department of Health; and demographic, education, economic, housing, and other community data from The Providence Plan and its other data partners), as well as the dissemination and application of the knowledge gained through this analysis.

Benefits. Among the many benefits to be derived from this partnership, the relationship will:

1. allow the partners to use previously unrelated data to examine possible relationships between health and social, economic, educational, physical, and other urban characteristics;
2. use the knowledge gained through data analysis and research to recommend or develop appropriate programs, services, and policies that will lead to healthier lives and stronger, healthier communities;
3. advance the Department of Health's ongoing efforts to understand the many factors affecting the health of urban residents;
4. provide significant content for The Providence Plan's comprehensive set of urban information and neighborhood indicators;
5. allow health data residing in the Department of Health's databases to be analyzed in a geographic context (both citywide and at a small area level), and thus illustrate (map) spatial patterns, relationships, and change over time; and
6. enable the partners to conduct in-depth analysis of Providence, its neighborhoods and residents, and use this work to serve as a model for subsequent work to be conducted by the Department of Health in other cities and at a statewide level.

General Terms of the Agreement. TPP and RIDOH will, by mutual agreement, identify relevant issues and data to be examined through this partnership. Work will be focused on Providence and will, whenever possible, be conducted at a small area level (e.g., neighborhood or census tract). In some cases, TPP may be able to assist RIDOH in applying results and methodology to analyses of areas outside Providence.

Specific scopes of work and/or contracts will be developed, whenever needed, to guide the work of the partnership. In general, RIDOH will provide health data and expertise about health issues, and TPP will take primary responsibility for conducting data analysis, mapping, and interpreting analyses within a Providence and/or neighborhood context. Both parties will work together to determine how best to apply the results of analyses that are conducted through this partnership, and results of all work conducted through this partnership will be released only by mutual agreement of the partners. Further, the partners understand that the confidentiality of certain data must be protected. The specific terms and conditions under which data may be shared and used by each of the partners are included in the attached Data Sharing Agreement. Additional conditions for sharing and using data may be specified at a later time if necessary.

It is the intention of both parties that this partnership will be ongoing, but this Agreement will be reviewed annually and updated as needed to ensure that it continues to meet the needs of the partners. Either party may terminate this Agreement by giving fifteen (15) days written notice to the other party.

IN WITNESS WHEREOF, both the Rhode Island Department of Health, through its duly authorized representative, and The Providence Plan, through its duly authorized representative, have hereunto executed this Partnership Agreement as of the last date below written.

William Hollinshead, MD, MPH	Patrick J. McGuigan
Medical Director, Division of Family Health	Executive Director
Rhode Island Department of Health	The Providence Plan
Date:_____	Date:_____

Data Sharing Agreement between

The Rhode Island Department of Health

and

The Providence Plan

This agreement establishes the terms and conditions under which the Rhode Island Department of Health (RIDOH) and The Providence Plan (TPP) can acquire and use data from the other party. Either party may be a provider of data to the other, or a recipient of data from the other.

1. The confidentiality of data pertaining to individuals will be protected as follows:
   a. The data recipient will not release the names of individuals, or information that could be linked to an individual, nor will the recipient present the results of data analysis (including maps) in any manner that would reveal the identity of individuals.
   b. The data recipient will not release individual addresses, nor will the recipient present the results of data analysis (including maps) in any manner that would reveal individual addresses.
   c. Both parties shall comply with all Federal and State laws and regulations governing the confidentiality of the information that is the subject of this Agreement.

2. The data recipient will not release data to a third party without prior approval from the data provider.

3. The data recipient will not share, publish, or otherwise release any findings or conclusions derived from analysis of data obtained from the data provider without prior approval from the data provider.

4. Data transferred pursuant to the terms of this Agreement shall be utilized solely for the purposes set forth in the "Partnership Agreement".

5. All data transferred to TPP by RIDOH shall remain the property of RIDOH and shall be returned to RIDOH upon termination of the Agreements.

6. Any third party granted access to data, as permitted under condition #2, above, shall be subject to the terms and conditions of this agreement. Acceptance of these terms must be provided in writing by the third party before data will be released.

IN WITNESS WHEREOF, both the Rhode Island Department of Health, through its duly authorized representative, and The Providence Plan, through its duly authorized representative, have hereunto executed this Data Sharing Agreement as of the last date below written.

_____

William Hollinshead, MD, MPH
Medical Director, Division of Family Health
Rhode Island Department of Health

Date:_____

_____

Patrick J. McGuigan
Executive Director
The Providence Plan

Date:_____

COUNTING ON OURSELVES

THE PROVIDENCE DEMOGRAPHY INITIATIVE / A FIRST PORTRAIT: SCHOOLS

The Providence Blueprint for Education (PROBE) and the Providence Plan

in conjunction with

The Population Studies and Training Center of Brown University

To Edward D. Eddy, tireless Chair of the PROBE Commission, who died in June 1998. His vision, persistence and finesse riveted attention on Providence's school children and the systems that serve them. He is much missed and remembered fondly.

To those who encouraged us early in this endeavor: Mayor Vincent A. Cianci, Jr., the City Council, the Providence School Board, and former Superintendent Arthur Zarrella.

To our sponsors: The Rhode Island Foundation, Providence Journal Charitable Foundation, Providence School Department, Rhode Island Department of Education, and Providence Public Buildings Authority.

To Brown University for its investment of time and resources in this project. And especially to Brown's Population Studies and Training Center – Professors Michael White, Roger Avery and Dennis Hogan.

To James McNally, formerly of Brown University's Population Studies and Training Center, who did much of the data gathering and analysis.

To Joe Gaeta, formerly of The Providence Plan, whose ideas and creative energy sparked the first year of the Initiative, and to our Advisory Committee who helped to keep us on track.

To Dan Challener, right-hand man to Dr. Eddy and former Executive Director of PROBE, who was a principal force behind the realization of so many of the PROBE recommendations and related projects, including this report.

To the many parents, educators, citizens and community leaders who contributed to our focus group discussions.

To those who contributed data and information: particularly the staff of the Providence School Department and Lou DiPaola of Firm Solutions, Inc.

To Julia Steiny and to Murphy & Murphy who, in this report, captured the essence of our research and analysis.

To the Public Education Fund who generously donated the costs of producing this report.

In 1996 the City Council created a Commission to Restructure Providence City Finances to investigate solutions to the city's growing fiscal crisis. The nearly constant expansion of the school system stood out as an obvious strain on municipal finances. Why was the system growing so fast? Would it continue to do so? Why do the students and their families seem to move in and out of the city, and from neighborhood to neighborhood? Who are these mobile families? The Commission quickly recognized that it did not have adequate information about the public school population nor about the city in general. It turned to The Providence Plan for expertise in the city's housing, neighborhoods and economics and to PROBE for knowledge of the city's schools.

The Providence Demography Initiative

The Providence Plan and PROBE entered into a relationship with Brown University's Population Studies and Training Center to begin building an information tool, a database, capable of answering questions about the student population in the Providence public school system and about demographic changes in the City itself. This new team, the force behind the Demography Initiative, looked for information almost any place data about the city had been assembled.

As the first portraits came into focus, issues and questions that no one had foreseen came to light. Furthermore, these first portraits revealed an urban population in such flux that no picture of the city nor its schools would stay current for very long. On a global scale, for example, war or famine virtually anywhere in the world might very well affect Providence's population, because the city has become a relocation destination of choice. The City needed the capability to continue taking pictures over time – with a moving camera, if you will – because Providence's dynamic population does not appear to be settling into a predictable pattern.

The Providence Demography Initiative's goal is to develop a dynamic planning tool capable of providing up-to-date information about the City's changing population and communities, and to make this tool accessible to policy makers, planners, community organizations, parents, educators, businesses, and others who have a need for timely local information.

Flux, Flow and Rapid Growth

What drives the increase and mobility of the Providence school population?

Does high student turn-over affect education?

Will these changes continue?

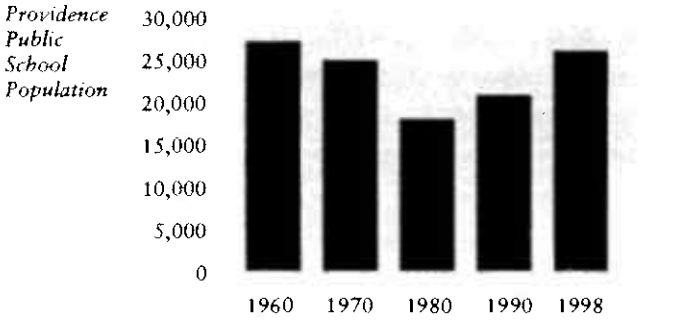
Although Providence grew modestly in the 1980's...

After a sharp decrease in the city's population from 1940 to 1980, the U.S. Census reports a modest increase from 1980 to 1990. In 1940, 254,000 people lived in Providence; 40 years later, Providence had 96,000 fewer people. As with many U.S. urban centers, the professional and managerial classes began moving to the suburbs in the 1950's. Like some, but by no means all U.S. urban centers, Providence attracted a considerable proportion of the most recent wave of foreign immigrants who come looking for a better life for their families. Taken together, Providence's Hispanic, Southeast Asian and African-American population has increased five-fold since 1950. Without the surge of new immigrants, the city's population might have declined even more dramatically.

Nothing explains the dramatic increase in the school population...

However, within the time frame between 1987 and 1996, the number of children between the ages of 5 to 18 years who were enrolled in the public schools rose from 18,600 to 26,145. The 1980's was a time of moderately rising fertility throughout the country, but this small increase does not account for the large growth in Providence's school enrollment during the 1990's.

FIGURE **1** **1960-1998**
Public School Student Population for the City of Providence



Nor Why Neighborhoods are Shifting and Changing.

In recent years, South Providence has become vibrant with new commercial and arts ventures, especially along Broad Street, but from 1950 to 1990 its population had been shrinking more dramatically than any other neighborhood. Only in the 1990's did its population begin to stabilize. On the other hand, the western part of the city appears to be gaining population. But we don't yet fully understand why these changes are taking place nor are we able yet to determine if they will continue.

How Can We Understand the Dynamics of the City's Population?

At budget hearings with the City Administration, the School Department had little hard data to explain the public school population dynamics – the flux, flow and growth. The different interested parties argued their cases with conflicting anecdotal evidence, but real numbers were scarce. Objective information would only come from studying the public school population student by student. The movement and backgrounds of individual public school children tell us much about Providence's demographics as a whole because by tracking their individual journeys – from outside the country or within the city – we know more about the family unit they each represent.

As far as we know, no other American city is looking at itself in such depth and scope as Providence.

Who are the Providence public school children?

What are their schooling needs?

Where are they coming from?

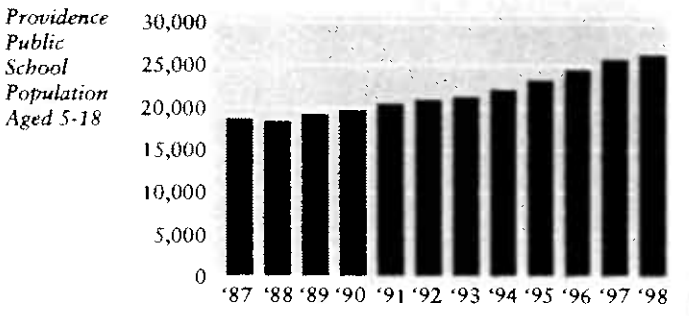
Why are their families choosing to come to Providence?

Will this trend persist?

Don't changing demographics affect housing and other services?

Don't other city and state agencies need this information for planning?

FIGURE **2** **1987-1998 Change in Enrollment of the Providence Public School Population Aged 5-18 Years**



INFO: PROV

The Providence Demography Initiative began building its information tool – Info:Prov – with student statistics that the school department collects as a matter of course. To this, other databases were added, and still more could be included as new information becomes available. The Initiative was able to examine issues such as global immigration patterns which extend well beyond the purview of the School Department itself. With regular updating, Info:Prov will be able to provide one place from which anyone – city planner, incoming or potentially growing business, state agency or research scientist – can get statistical information about the city. Policy makers will be able to use this information to maximize the value and effectiveness of tax dollars spent on schools, housing and city services.

Within the Larger Context of Flux, Flow and Growth, How has Immigration Contributed?

Since 1870...

From the time population records were first kept, the so-called "foreign-born" have been a significant percentage of Providence's population. Up until 1950, Providence's immigrants were largely from Europe – from Italy, Ireland, Poland and so forth. After 1950, the city's immigrants came increasingly from Asia, Africa, South America and North America, i.e., Central America and Mexico.

Providence has Experienced Classic Migration Patterns...

Classic migration patterns begin with a first, brave settlement becoming established in their new lands – the U.S. or elsewhere. Subsequent immigrants tend to gravitate towards these established communities which already have family, perhaps, or churches, a host community and informal networks that can help the newcomers. Providence has a rich history of classic immigration patterns.

From a Remarkable Number of Countries.

What is unusual about Providence is the number and variety of different communities that have established settlements in or close to the city. According to the Providence school registration center, the public school children currently enrolled speak a total of 62 different languages from 57 countries. While Hispanics are the single largest immigrant population, they come from 21 different countries. New settlements of people from countries which do not already have communities in Rhode Island are also beginning to put down roots. Providence enjoys a singular richness in its diversity.

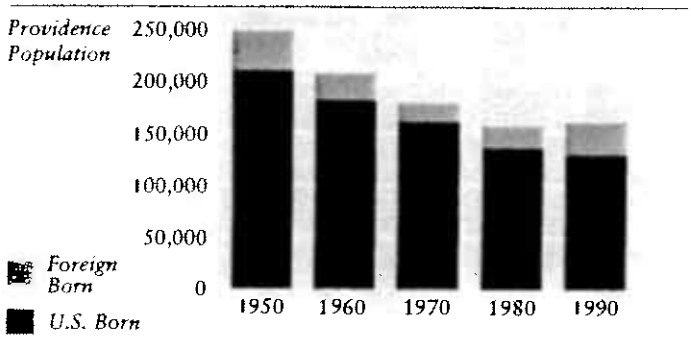
Why is the Providence school district growing faster than all other New England school districts?

What is so attractive about Providence?

What best helps new families become stable and economically independent?

What is the impact of these new families on the schools?

FIGURE 3 **1950 - 1990 Providence Population Total Compared to Foreign Born**



Flux, Flow and Growth - A First Snapshot of A School Landscape Over Time

The graph below shows how many children are new faces to the system every year and how long the "old" faces have stayed with the original group. Note that over the course of five years, less than 50% of the children who entered in first grade are still with their peers by fifth grade. Of the 1,845 children who entered first grade in 1987, only 382 – less than 1/4 – have progressed to the twelfth grade. 1,013 students either moved to another community, transferred to a private or parochial school, returned to their country of origin, or dropped out of school altogether. 450 students were reassigned to another grade level or to an ungraded special education class. Subsequent years show similar leaving and replacement patterns. While the graph shows the typical pattern of an individual class population dwindling as the class gets older, the system as a whole continues to grow with the steady influx of students of all ages.

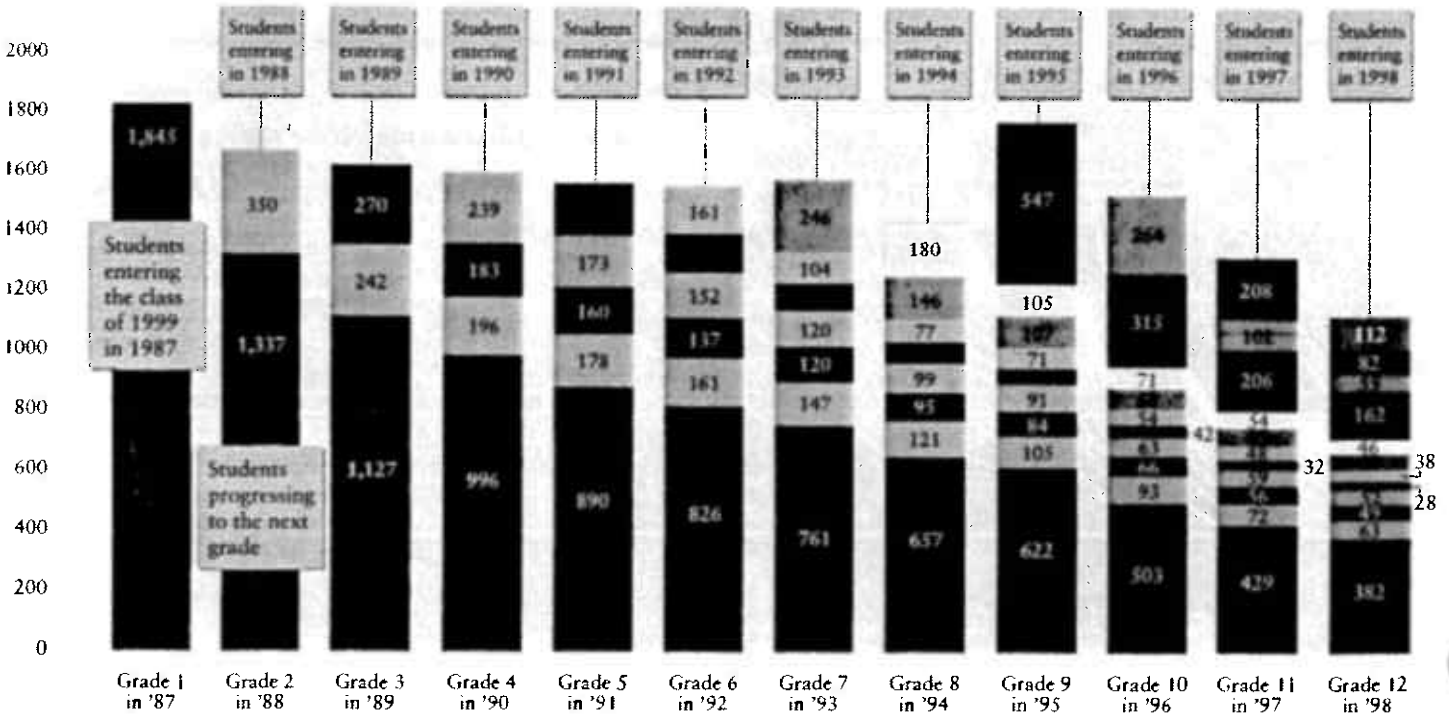
What Is this "Churning?"

Demographers use the word "churning" to refer to a process whereby one group of people replaces another. In this case portions of the original group of first grade students are replaced by new students who may or may not share the same set of educational experiences. The colored bands above the blue band visually represent the high mobility of the Providence student population and the consequent population changes and churning at every school. Even the seemingly stable group includes children who have left the system for some time and come back, but who are therefore not new to the system.

FIGURE **4**

Students who entered first grade in 1987 "Churning" from First to Twelfth Grade

Churning in Providence – Class of 1999

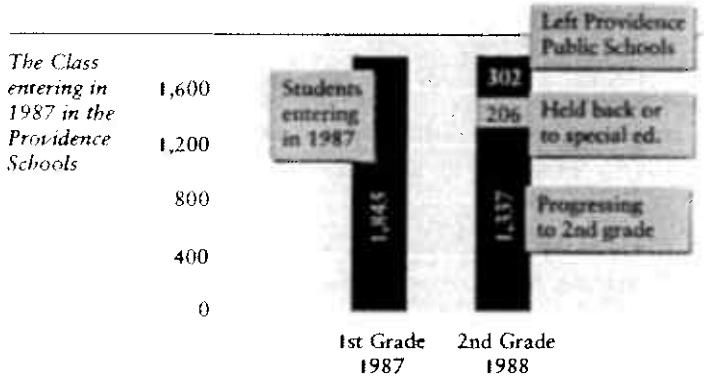


This chart does not include students who have repeated or skipped a grade or been reassigned to an ungraded class.

Why Does the School Population Drop So Much After the 1st Grade?

Within the general pattern of churning, enrollment drops severely after the 1st grade. More than a quarter of the children who enter in the 1st grade do not progress to the 2nd grade the following year. 17% leave the Providence school system and 10% are required to repeat a grade ot are placed in ungraded special education classes. Does this secondary pattern reveal something about population changes, the challenges families have in preparing their children for their first year in elementary school, or the opinion of families and children about their first experience in Providence schools?

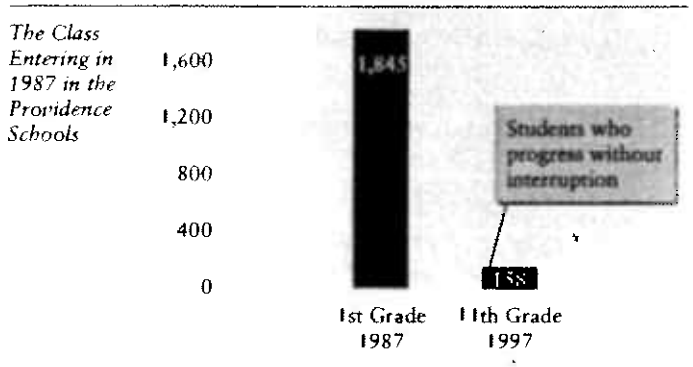
FIGURE 5 **"Churning" and the Class Entering in 1987: 1st and 2nd Grades**



Why Do So Few Move Through the System Without Interruption?

Of the 1,845 children who began first grade together in 1987, only 158, or 9%, went to an elementary school, stayed there, moved on to a middle school, stayed there, moved on to high school and at least entered the 11th grade. (See fig. 6) The 429 children from this group who entered the 11th grade include 130 children who changed schools in the middle of elementary, middle or high school, perhaps in the course of a school year. Another 141 children left the system, but came back. To a student or teacher in a classroom, a child who is switching schools is still a new face to the class, no matter if the child came from within or outside the school system. The real life experience of the churning, then, is more extensive than the graph in figure 4 reveals.

FIGURE 6 **Continuous Experience for the Class Entering in 1987: 1st and 11th Grades**



Does churning affect schools and student performance?

How does it affect the work of a teacher?

How can you measure a school's effectiveness when the children change so often?

What are the consequences of this mobility?

What is causing the children who continue to live in Providence to move among schools?

How Does Student Mobility Affect An Individual School?

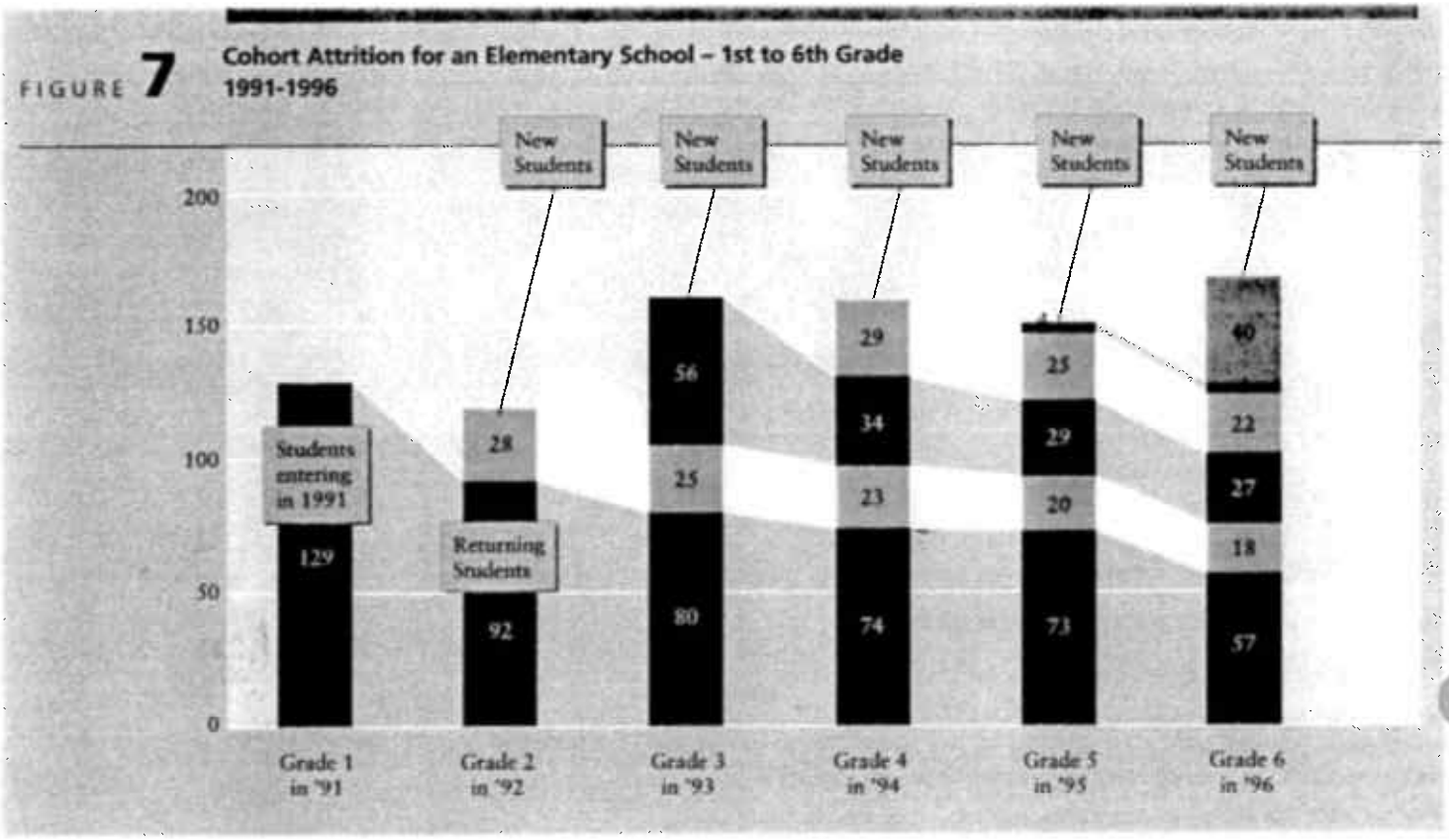
Most approaches to educational policy are based on the assumption that the same children will build on their educational experiences over the course of the year and then from grade to grade. In a Providence elementary school shown here, the first grade began with 129 students, and in six years, only 57 of the original 1st graders were still together in the 6th grade. Only those 57 share the accumulation of experience. Many families are new to the school each year, and all the teachers are faced with meeting dozens of new families every year.

"You cannot educate a child if the child is not present to be educated."

Mid-year Mobility

Furthermore, in the charts we have been examining so far, the single bar representing the class that year makes it seem as though all the turn-over happens only once during the year. In fact, new students enroll throughout the school year, with year-to-year patterns of enrollment surges during October, January and March. The students entering in October have missed at least a month of school, and those entering in March miss fully three fourths of the Providence school year. Even so, the March enrollment surges are often almost as large as the October enrollments.

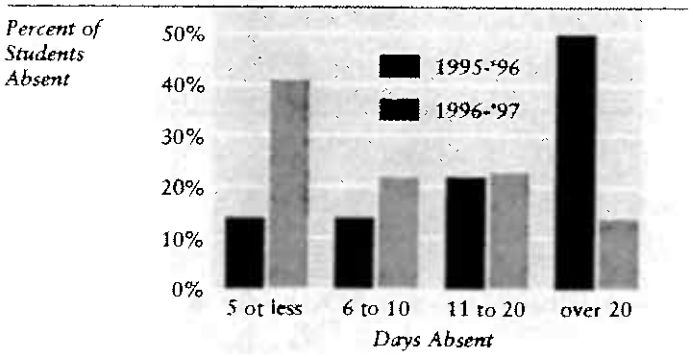
FIGURE 7 **Cohort Attrition for an Elementary School – 1st to 6th Grade 1991-1996**



What Happens When Churning and Mobility Are Coupled with Absenteeism?

As students grow older and exercise more freedom of choice, attendance at school generally begins to decline. Demographic mobility is quite distinct from the patterns of student absenteeism, but high absenteeism greatly adds to the sense of population instability. Especially in the large comprehensive high schools, the wide fluctuations of daily class attendance coupled with the ins and outs of mobility leave many teachers wondering who will be in class from one day to the next.

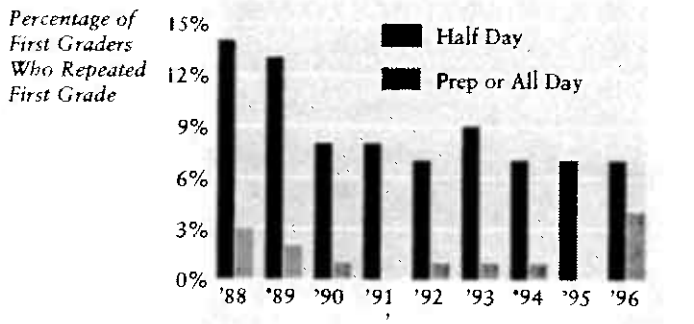
FIGURE 8 **Perry Middle School Attendance 1995-'96 and 1996-'97**



Can Schools Use an Understanding of Their Population to Improve Education?

In 1995 Perry Middle School gathered attendance data of their own – for the GTECH School Progress Report – which brought to light that over half of the students were absent for more than 20 days, or at least one full month of school. Working with the Family Center and the members of "Parents Making a Difference," the principal began contacting parents directly about getting their children to school. After only one year of this initiative, the number of students absent for more than 20 days dropped dramatically from 50% to 14%. (see fig. 8)

FIGURE 9 **Percentage of First Graders Who Repeated First Grade Based Upon Their Type of Kindergarten 1988-1996**



What Do We Know about the Children Who Repeat the 1st Grade?

Fully 10% of Providence's public school first graders repeated first grade. Of that 10%, a significantly larger percentage had been retained after attending a half-day program than after all-day kindergarten. The data strongly suggests that all-day kindergarten prepares the students for first grade much more successfully than the half-day programs. Over the course of the 1990's, the Providence School Department assertively expanded the availability of all-day kindergarten. By 1996, the majority of kindergartners were in all-day programs, which might account somewhat for the sudden increase to 4% of all-day k children retained in grade one in 1996. (see fig. 9)

Who are the 22% of Hope High Students Who Are Absent Fewer Than 10 Days a Year?

In 1993, slightly over 42% of the students at Hope High School, a typical, large comprehensive Providence high school, were absent 30 days or more. Fully 4% were absent 100 days or more. But within the flux of absenteeism and student mobility, another 22% attended classes faithfully. A Hope High teacher, then, is expected to accommodate the needs of a stable sub-group at the same time as adjusting for whatever lessons the other students have missed. Both the stable group and the groups with various levels of absenteeism may have different educational needs.

The Rapid Growth of Student Population Adds Yet More Flux and Flow to Student Mobility

FIGURE **10** **Change in School Population: Ethnic Composition As Actual Numbers 1987 to 1998**

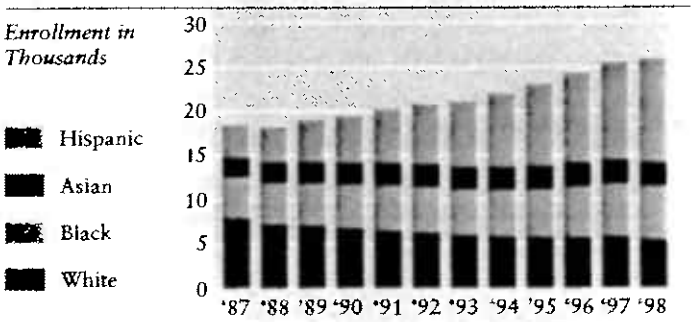
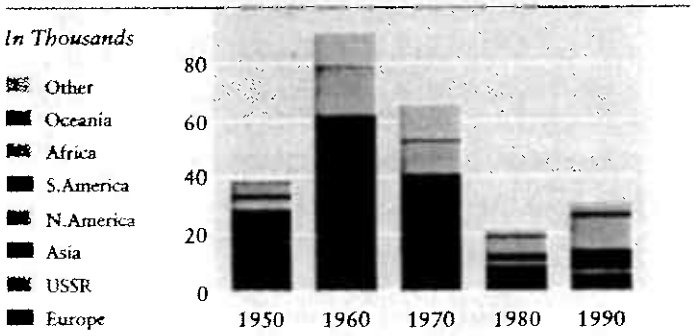


FIGURE **11** **Foreign Born Providence Residents: Region of Origin As Actual Numbers 1950-1990**



Where have the Children's Families Come From?

Providence is likely to be a second U.S. home to the newly arrived immigrant. Many immigrants now living in Providence started their new lives in New York or New Jersey. In interviews and focus groups conducted by the Demography Initiative, representatives of this population revealed that beginning in the lare 1980's, Providence began to be a place where they could find jobs, where families could live on low levels of income and where the environment was significantly safer than other larger cities. Also, certain groups knew Providence to have communities of friends and former neighbors, churches and comforts from their native countries such as special ingredients for food.

Recent work by the U.S. Bureau of the Census suggests that Rhode Island will be one of the five states in the nation that will experience continued growth in its school-aged population into the next century.

What is the best way to educate these new students?

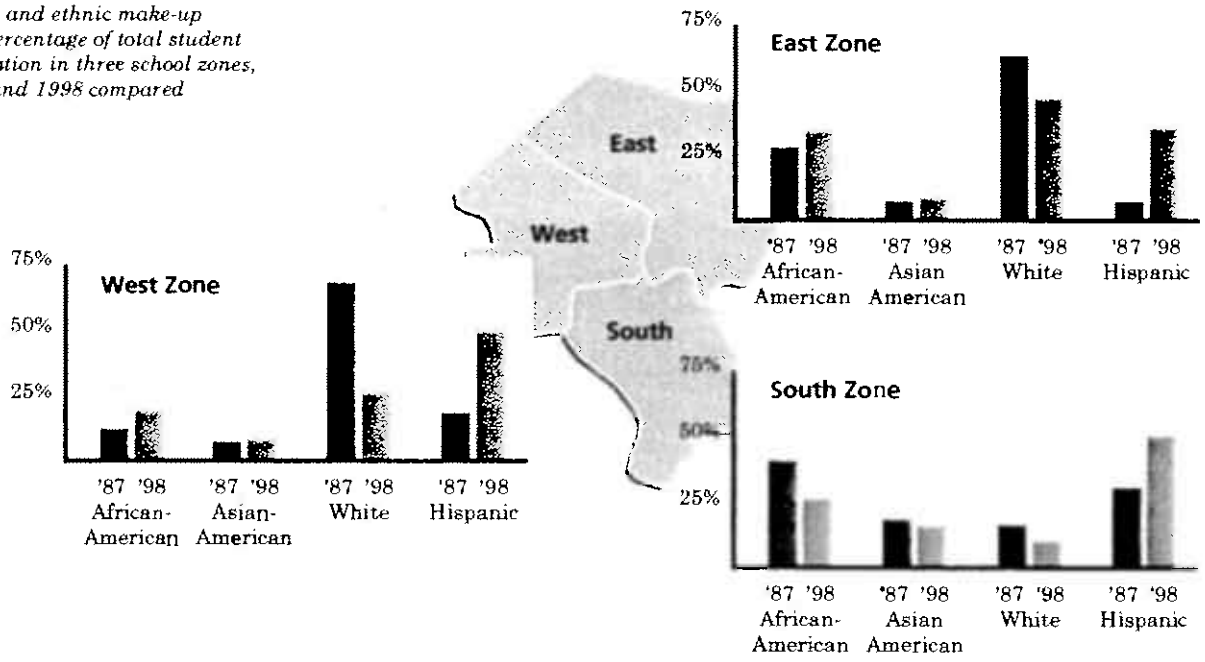
How can these students achieve the same performance standards as native-born students?

How can the schools insure their highest levels of achievement?

Mobility is happening across neighborhoods and across ethnic lines

FIGURE **12** **Racial and Ethnic Composition of Pubilc Schoo1 Student Population by School Zone**

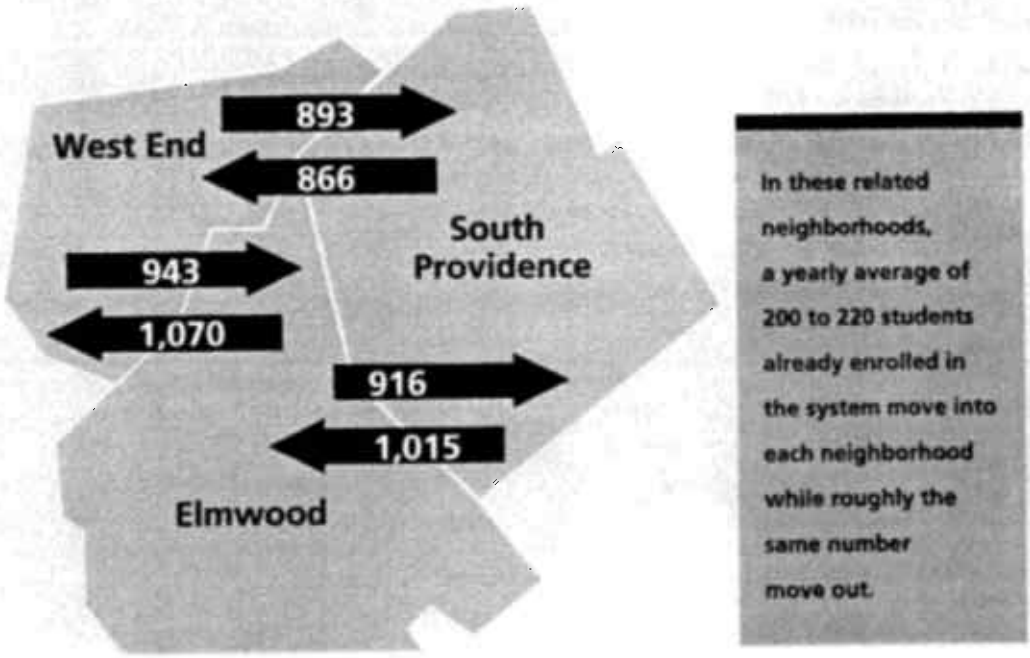
Racial and ethnic make-up as a percentage of total student population in three school zones, 1987 and 1998 compared



The migration patterns that transformed Providence have been a process of the various ethnic populations leaving the city and replacing themselves at widely different rates. For exainple, between 1985 and 1990, almost 34,000 Non-Hispanic Whites moved out of the city; more than 30,000 moved in. 4,000 African-Americans moved out; almost 5,500 moved in. Less than 3,000 Hispanics left the city; almost 10,000 moved in. In other words, the number of Non-Hispanic Whites declined moderately and the ethnic minority population orher than the Hispanics increased moderately. The Hispanic population grew significantly. These proportional changes are mirrored in the school population.

Within Providence, Why Is There Such High Mobility?

FIGURE **13** Nine-Year Aggregates of Student Mobility in 3 Neighborhoods, 1987-'88 to 1995-'96



High residential mobility can indicate a number of things including an inability to pay the rent, dissatisfaction with neighborhood conditions or higher hopes and aspirations. Frequent moves as a result of family poverty or the inability to maintain a stable household would be expected to have a negative impact on a student's ability to concentrate on learning. Family stability tends to contribute to higher student academic performance. The mobility in Providence is not confined to certain neighborhoods but happens in every part of the city to varying degrees.

The individual student module of the Info:Prov database shows how often and to where a student changes addresses. On average, one out of every seven students who remain in the school system from one year to the next moves to a new neighborhood within the city. In the city's least stable neighborhoods, at least one out of every four students moves to another neighborhood each year. Many of the neighborhoods that lose a large number of students to other neighborhoods each year also gain a significant number of students from other neighborhoods.

Are these families forced to move by circumstances?

Do they chose to move? if so, why?

Why are some communities more stable?

Does the quality of the schools affect mobility?

Who is leaving the city? Why?

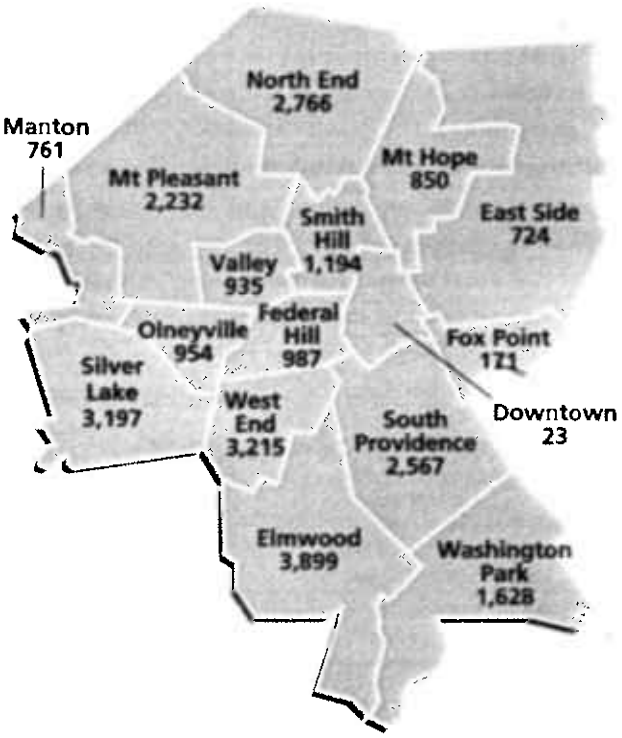
Residential Mobility

26% Olneyville	12% Silver Lake
26% Federal Hill	9% Mount Pleasant
21% Valley	11% North End
16% Manton	12% Fox Point
16% South Providence	12% Mount Hope
16% Smith Hill	10% Washington Park
16% West End	7% East Side
15% Elmwood	

Note: this is a yearly average from 1987-88 to 1995-96

Where do public school students live?

FIGURE **14** Residences of Providence Public School Children by Neighborhood, 1998



Mobility from Providence to the Caribbean Islands

Some families from the Islands – principally from Puerto Rico and the Dominican Republic – show patterns of leaving for extended periods of time starting around Thanksgiving and sometimes not returning until February or even March. This corresponds ro a time when tourism is thriving in the Caribbean, and related jobs are plentiful. These families may or may not return to the same residence, but their children miss a good portion of the winter quarter.

What Will Be the Future Growth in The Providence Public School System?

Based primarily on student enrollment in previous years, the Providence School Department's projections of an annual 3% growth have been surprisingly accurate. However, the more sophisticated Info:Prov instrument shows that growth is extremely sensitive to circumstances elsewhere in the U.S. and, indeed, in the world. The extent to which the 3% figure could easily change is indicated by the band indicating the breadth of the possible projected population. Info:Prov does indicate that the explosive growth in the elementary schools may be leveling off shortly, and that the population "bubble" which was the elementary growth will be moving into the middle schools. Tracking these "bubbles" has major implications for the supply of teachers, and building and outfitting new facilities.

By the fall of 1999, the system will have had to accommodate nearly 1,400 new elementary students since 1996 — a 10% increase in just three years. Virtually all of this growth will be Hispanic. Barring unforeseen events locally and internationally, this growth is actually expected to decline slightly after 1999 and then level off after the year 2000. By 2002, the system will need to accommodate an additional 1,700 middle school students — a 33% increase since 1996. Facilities for these students are now being readied or planned.

Can school facilities be flexibly designed to accommodate different levels of students depending on the demand for elementary, middle or high school space?

How much of the cost of this growth should be the responsibility of the city?

FIGURE **15** Elementary School Projected and Actual Growth of Student Population

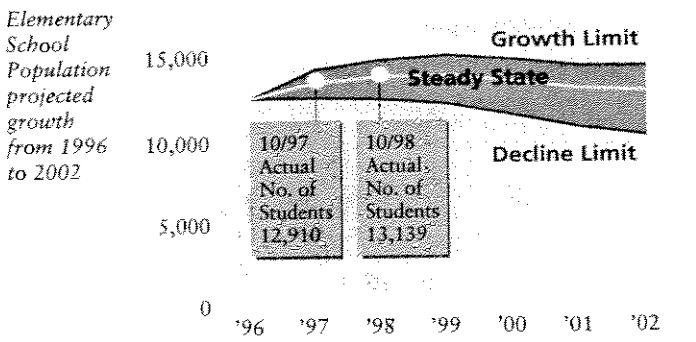
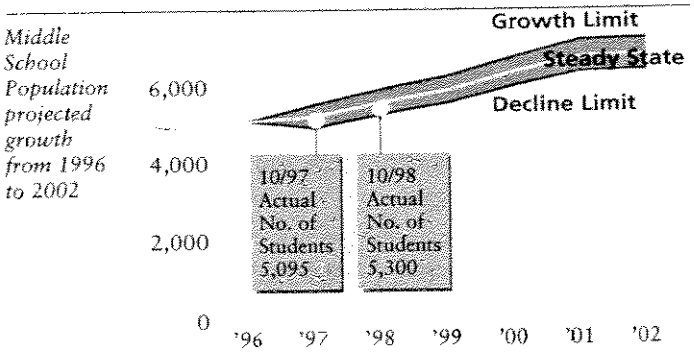


FIGURE **16** Middle School Projected and Actual Growth of Student Population

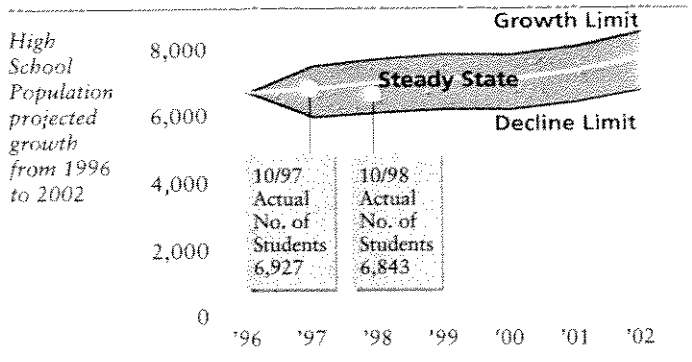


INFO: PROV Maintaining a Camera Capable of Taking On-going Pictures of The City's People

As the Info:Prov camera began yielding pictures of the population landscape, the layers of information underneath the landscape were unveiled as well. Info:Prov has the capabilities not only just to track students within the school system but also to answer questions about the effectiveness of schools, the academic effects of high mobility, and more. Beyond the school population, Info:Prov can shed light on more city-wide issues such as employment, housing, health and welfare.

No one can possibly project if the current wave of immigration will recede or when the next one will come. But in this age of immigration and high mobility, every variety of business and city planner will need an up-to-date picture of the city's people to add to longitudinal data in order to make informed decisions. This information will allow all investments in the city – both private and public – to be closely targeted and therefore achieve a higher degree of success, profit or positive social impact.

FIGURE **17** **High School Projected and Actual Growth of Student Population**



Info:Prov Potential Users

- The Providence School Department
- The Providence Department of Planning and Development
- The State Department of Education
- State social service agencies
- Community development corporations
- New and existing businesses
- Researchers from elementary through post-doctoral

Info:Prov Current Data Sources

- Providence Student Census 1987-1998
- Daily Attendance Records 1993-1996
- Welfare and Social Service Records
- Catholic School Census Summary Data
- Drop Out Rates by Neighborhood
- Housing Stock and Housing Sales
- Location and Characteristics of the City Business Community
- Birth Records by Neighborhood 1982-1996
- Teen and Unwed Births by Neighborhood
- Social and Economic Indicators by City and Neighborhood 1950-1990
- In and Out Migration Patterns 1985-1990
- US Census Sample Data 1980-1990
- 1990 Census Transportation Planning Package: City Occupation and Commuting Patterns
- Employment and Occupational Change 1990-1996
- Results from individual level interviews on school and community change
- Results from focus group studies of school and community change
- A growing network of researchers and professionals with related interests in the way the Providence community is changing across time

The Providence Plan
56 Pine Street, Suite 3B
Providence, RI 02903
PHONE 401 455.8880
FAX 401 331.6840
www.providenceplan.org

Providence Blueprint for Education (PROBE)
The Public Education Fund
15 Westminster Street, Suite 824
Providence, RI 02903
PHONE 401 454.1050
FAX 401 454.1059
www.ri.net/PEF