



# Chicago Children and Youth 1990–2010:

Changing Population Trends and  
Their Implications for Services



CHAPIN HALL  
CENTER FOR CHILDREN  
AT THE UNIVERSITY OF CHICAGO



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## Changing Population Trends and Their Implications for Services

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# Acknowledgments

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# Introduction

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Allocating such resources as education, social services, and law enforcement within and among Chicago's communities is an important determinant of the well-being of the city's children and youth. Every fiscal year, government officials and leaders of nonprofit social service agencies must decide, for example, when to open or close a school, where to increase or reduce the number of new child care slots or after-school programs, where to open a WIC office, how to deploy law enforcement personnel, and where to conduct outreach for a family support program. Although many considerations inform these decisions, timely and reliable information at the neighborhood level is key. It can, however, be hard to come by and—once acquired—can have complex implications for government, schools, and service providers.

This document draws on demographic data to examine and project trends in the size and composition of the child population in all seventy-seven Chicago communities up to the year 2010. Many factors—regulatory and licensing requirements and restrictions, limited funding and lack of capital financing, and availability and adequacy of physical facilities—constrain government officials and service providers in planning to meet the needs of their constituencies. Moreover, the demographic changes we discuss have been steady and gradual, and perhaps difficult to discern in the short term. The long-term view and the capacity to project change into the future will enable us to understand how well the resources within communities are aligned with the size, composition, and needs of the children in the community.

We will highlight the major demographic shifts in the child population that Chicago is likely to see over the next 5 years, and thus provide policy professionals with information for planning.

The analyses have yielded four overarching findings, which we will explore in detail:

- Population density within the city has changed since 1990 as areas near the Loop and the lakefront lost families with children and neighborhoods on the northwest, southwest, and southeast sides have gained them. We project child population changes through 2010.
- The change in the size of the Hispanic population in Chicago has been the primary driver of demographic change in many communities as Hispanic (and, to a lesser degree, Asian and other) immigrants have moved into the city and Hispanics have exhibited greater fertility than other groups.
- Although communities that have historically been low-income remain so, as communities on the northwest and southwest sides have grown, an increase in the number of children living in poverty in those communities has occurred.
- Communities vary greatly in the number of available services for the target populations in them.



The next section of this report will highlight the changing age mix of Chicago children and provide some context in which to consider the demographic trends that will be discussed later in the report. We will then describe population changes across Chicago communities, describing the trends that have emerged. We will identify the communities in which greater and lesser numbers of children are living in poverty. The following section will explore the implications of the changes, trends, and projections for social services, schools, and early childhood education and after-school programs. Finally, we will offer some conclusions to help government and program planners build capacity to respond to the one constant—ongoing change.

Tables showing changes in the child population, in child poverty, and in the number of Hispanic children, broken down by community area, are displayed in Appendix A. Appendix B describes the methodology used to generate the data presented here.



# Context and Data

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Proximity to social service providers is thought to increase the likelihood that eligible individuals will receive assistance, as shorter distances reduce the burden of commuting, particularly among low-income populations, and case managers are less likely to have information about service providers outside of their immediate area.<sup>1</sup> Moreover, the importance of service provider location for low-income populations has grown in recent years as welfare reform has replaced a system of direct cash assistance with one in which social services supporting work are the primary tool for assisting welfare recipients.<sup>2</sup>

Yet, Chicago communities vary widely in the size, demographic characteristics, and needs of their child and youth populations, and timely and reliable information at the neighborhood and community level is difficult to acquire. Neighborhoods can experience large population changes in relatively short periods of time. Factors such as the location of jobs and desirable schools, the levels of crime, and housing prices all go into the household decisions about where to live. Households tend to move as the local economy and the social characteristics of neighborhoods change. American households are quite mobile: 20 percent of all households move every year in the United States. Moreover, high levels of international immigration to the U.S. have brought many new residents into cities like Chicago.<sup>3</sup>

Despite the pace of these dynamic forces affecting city neighborhoods, the U.S. Census Bureau counts people in small areas only every 10 years, and it is generally agreed that soon after those figures are public, which can take 2 to 3 years, they are inaccurate.<sup>4</sup> In most cases, there is no alternative data source at the community level and these less-current data continue to be used. In some cases, administrative data of various kinds (such as birth records or school enrollment, for instance) can be used to understand population shifts, but they are piecemeal and do not capture all of the child and youth population.

This report aims to provide current estimates of the child and youth population of the city of Chicago at the community-area and census-tract level, as well as projections on the changes in the size of this population up to the year 2010. In addition to census data, we use Chicago Public Schools enrollment data, Illinois Workforce Information Center Cook County unemployment data, and data on the age-specific active food

- 1 How close a service needs to be to an individual may depend on the characteristics of the individual, as well as those of the service. The age of the individual who requires the services and the means of transportation that are available are major factors in determining issues of spatial access.
- 2 Allard, Scott W. "Access to Social Services: The Changing Urban Geography of Poverty and Service Provision." The Brookings Institution Metropolitan Policy Program. The Brookings Institution Survey Series, August 2004. Available on the web at: [http://www.brookings.edu/metro/pubs/20040816\\_allard.htm](http://www.brookings.edu/metro/pubs/20040816_allard.htm)
- 3 The foreign-born population of almost all metropolitan areas grew in the 1990s. However, it must be noted that there was a significant new trend in immigrant settlement patterns away from the traditional gateway cities toward non-traditional destinations across the country, particularly in southern and midwestern areas, which grew at much faster rates, as well as into suburban areas. See, for instance: Paral, Rob. "Chicago's Immigrants Break Old Patterns." Institute for Metropolitan Affairs, Roosevelt University, September 1, 2003, available at: <http://www.migrationinformation.org/usfocus/display.cfm?ID=160> and Frey, William H. "Immigration Goes Nationwide" speech presented at the U.S. Capitol Building on March 24, 2006. Text available at: [http://www.brookings.edu/metro/speeches/20060324\\_immigration.htm](http://www.brookings.edu/metro/speeches/20060324_immigration.htm)
- 4 Beginning in 2010, the U.S. Census Bureau will provide 5-year averages of data at the census tract level.



stamp population to build the projections. Detailed information on the methodology used to generate this data is available in Appendix B; in addition, descriptions of the data sources and methodology used to analyze the data collected is available at <http://dcys-ycic.chapinhall.org/index.html>.<sup>5</sup> Using data from all these sources enables us to examine smaller population groups by looking at data from single census tracts, and thus to paint a more fine-grained picture of circumstances in individual communities.

During the 1990s, many forces drove population changes within Chicago's city limits and beyond, altering the distribution and composition of the child and youth population across the city's seventy-seven community areas. The most significant sources of growth in the child population were the high level of Hispanic immigration into the city and, more important, the higher rate of natural increase of the Hispanic population (that is, the rate at which births outnumbered deaths) relative to the white and African American populations. At the same time that immigrants (mostly Hispanic, but also Asian and other groups) moved into the city, many white and African American families moved to the suburbs and out of the state.<sup>6</sup> These patterns represent continuing outward sprawl as jobs and employment centers have continued to locate away from the city's central business district and as mostly white households have tended to seek suburban environments and schools. They reflect the longstanding national pattern of migration from northern and midwestern urban areas to southern and western "sunbelt" regions of the country.

Families have also been moving within the city. For instance, the areas close to the Loop and lakefront have gentrified and become more expensive, attracting single and childless households and driving Hispanic groups to relocate from traditionally Hispanic neighborhoods in the vicinity towards areas with more affordable housing. In addition, large-scale demolition of public housing has led to the displacement and relocation of many families with children within the city.

As a result of the combination of these and other forces, communities on the far northwest side and on the southwest side of the city have been experiencing the most rapid growth in their child and youth population. At the same time, communities to the south and near west of the Loop have seen some of the largest decreases in the 0–17-year-old population.

Because the needs of child populations vary with age, increases or decreases in the size of particular age groups have implications for schools and service providers. Chicago communities, for the most part, have similar shares of their child population in the 0–5 range, the 6–12 range, and the 13–18 range. A handful of communities—the Loop, Lake View, Lincoln Park, North Center, and Near South Side—have a disproportionate share of 0–5-year-olds and a smaller share of 6–12-year-olds. These communities are typically on the lakefront and have higher average incomes.

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5 Data sources used in the population estimates/forecasts are: 1990 and 2000 censuses, U.S. Census Bureau; 1990–2005 Cook County population estimates; and Chicago Public Schools enrollment data (Chapin Hall analysis of CPS enrollment data). The data sources used for the poverty estimates/forecasts were: 2000 census; U.S. Census Bureau 1995–2003 age 5–17 poverty estimates for the Chicago Public Schools; Illinois Workforce Information Center Cook County unemployment data for 1990–2006; Chapin Hall population estimates/forecasts; and age-specific active food stamp population 1990–2004 (Chapin Hall analysis of the Illinois Department of Human Services Client Database).

6 K.M. Johnson. "Changing Demographic Trends in Metropolitan Chicago, 1990–2004." Working Papers on Recreation, Amenities, Forests, and Demographic Change, No. 4. 2005. Available at: [http://www.luc.edu/depts/sociology/johnson/Chicago%20Report\\_111605.pdf](http://www.luc.edu/depts/sociology/johnson/Chicago%20Report_111605.pdf)

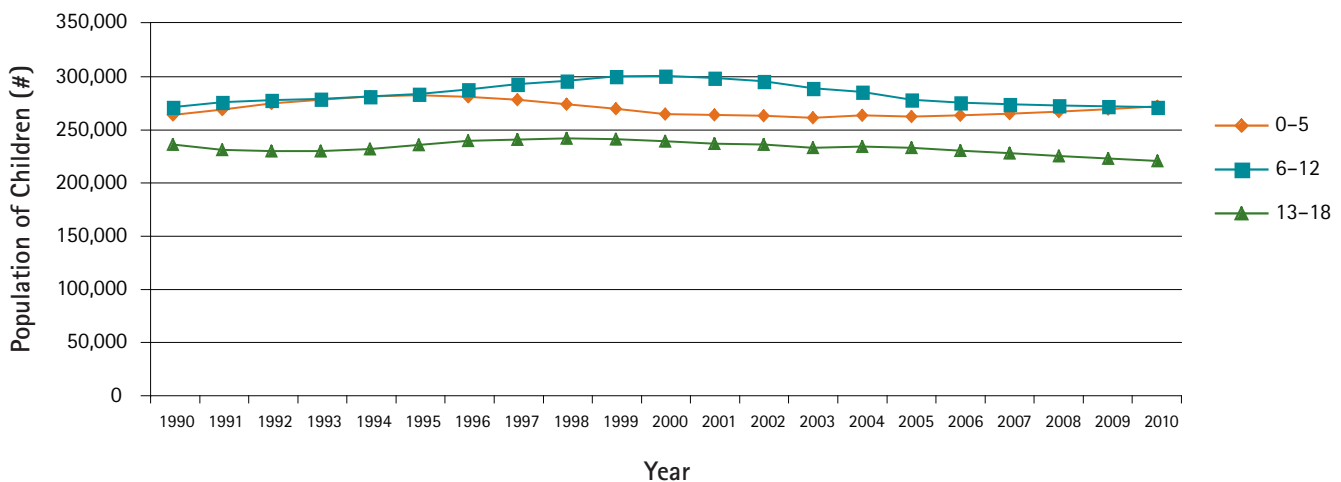




Across Chicago, however, there has been some fluctuation over time in the numbers of younger children since 1990, which creates a ripple effect increasing the number of older children after a few years. As shown in Figure 1, from 1990 to 1995, the number of 0–5- and 6–12-year-olds increased, and from 1995–2000, the number of 6–12-year-olds increased, reflecting the increase in the younger age group during the previous half decade. The number of 0–5-year-olds began to decrease in 1995 and continued to decrease through 2000. As a consequence, the number of 6–12-year-olds decreased after 2000. Since 2000, the number of 0–5-year-olds has stabilized. The number of children 13 to 18 years old remained relatively constant between 1990 and 2005.

**FIGURE 1**

**Number of Children, 1990–2010, by Age in Chicago**

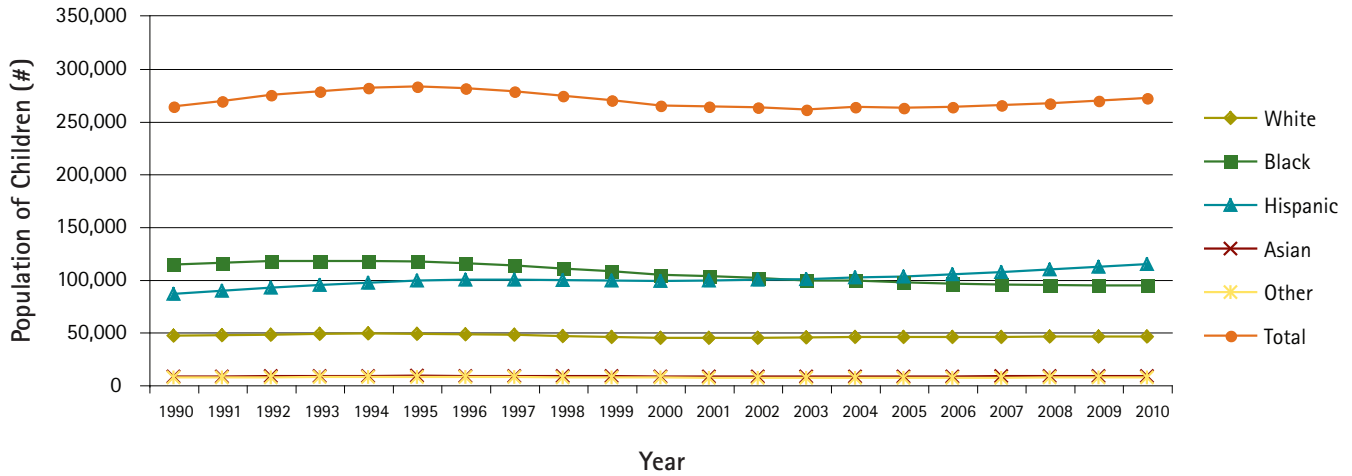


We project a slight decrease in the 13–18-year-olds from 2005–2010, while the number of 6–12-year-olds will level off during that period.

When we look at specific age groups of children, broken down according to race, an interesting phenomenon is revealed. Figure 2 shows the number of children ages 0–5, Figure 3 shows children ages 6–12, and Figure 4 shows children ages 13–17 from 1990 through 2010. Although the numbers for these age cohorts vary only slightly, among the youngest children, Hispanic children began to outnumber African American children in 2004. With regard to older children (those ages 6–12 and 13–17), the number of Hispanic and African American children has been converging since around 2000 and will become equal around 2010, and the number of white, Asian, and other children has been and is expected to remain relatively constant. Although not conclusive, this suggests that differences in fertility rates rather than mobility will drive the future distribution.

FIGURE 2

Population of Children Ages 0–5, 1990–2010, by Race in Chicago



Social service providers are typically less mobile than poor households—perhaps in part due to the lack of accurate, timely information—and their location does not always map well to the changing demographics of cities. This can generate a mismatch between population needs and services offered.

There is some evidence that a mismatch has been developing in the City of Chicago between population needs and available services. Although census tracts that were high-poverty tracts between 1990 and 2000 had greater access to service providers than tracts that were low-poverty tracts during that period, high-poverty tracts that became lower-poverty tracts had access to about 30 percent more service providers than those that transitioned from low to higher rates of poverty.<sup>7</sup>

The next sections of this report detail the changing trends in Chicago’s child and youth population at the community-area level since 1990 and explore the implications of these developing trends for K–12 education, after-school programs for children ages 13–17, and for childcare and early childhood programs.

7 Allard, Scott W. “Access to Social Services: The Changing Urban Geography of Poverty and Service Provision.” The Brookings Institution Metropolitan Policy Program. The Brookings Institution Survey Series, August 2004. Available on the web at: [http://www.brookings.edu/metro/pubs/20040816\\_allard.htm](http://www.brookings.edu/metro/pubs/20040816_allard.htm)



FIGURE 3

Population of Children Ages 6-12, 1990-2010, by Race in Chicago

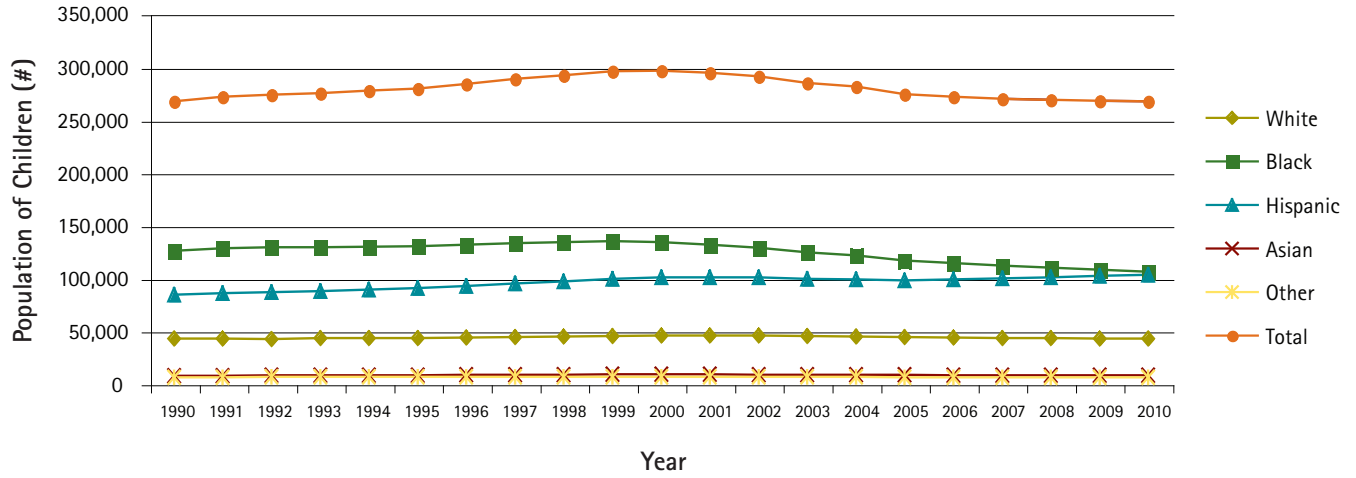
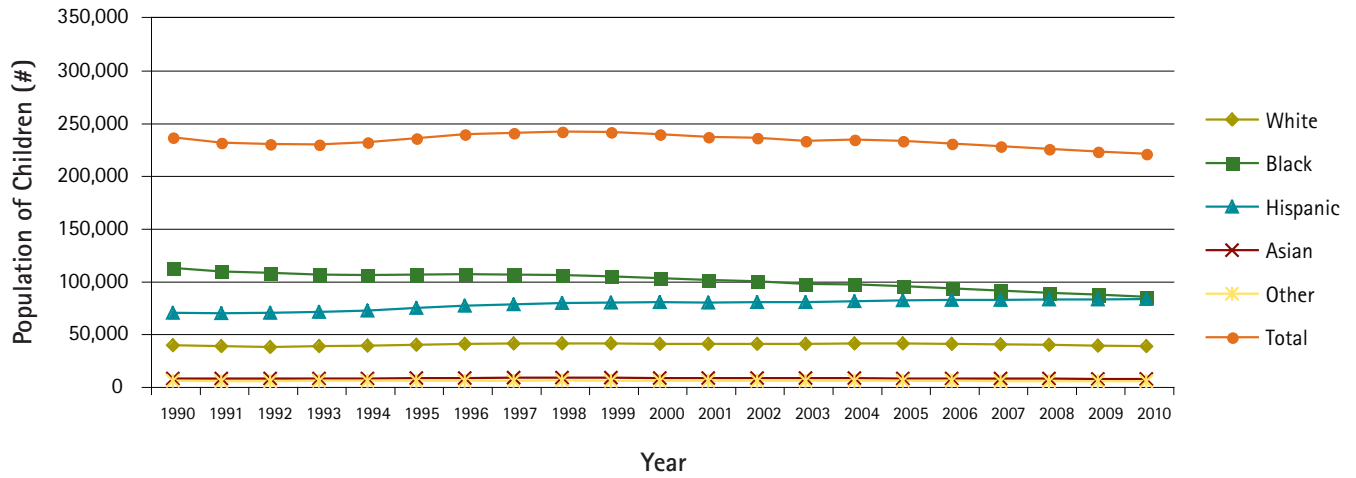


FIGURE 4

Population of Children Ages 13-17, 1990-2010, by Race in Chicago



# Trends in Chicago's Child and Youth Population

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## 1990–2005: Aggregate Stability Masks Opposing Forces

Community populations grow or shrink primarily in response to two forces: the number of births (fertility) and deaths, and the number of people moving into and out of the community. The impact of these forces across Chicago communities and among segments of the population will be explored in this section.

In 2005, there were approximately 730,000 children and youth living in Chicago, representing about a quarter of the city's total population—not very different from the child and youth population in 1990, which was just a little over 725,000. However, this apparent stability masks significant changes that have taken place in the last 15 years. The number of Chicago residents in the age range from 0 to 17 grew during most of the 1990s, peaking at 765,900 in 1997, and this growth was almost completely eroded by declines that began in the late 1990s.

This growth-and-decline pattern in the child and youth population mirrors the pattern of the city's total population, which also saw gains during the 1990s that began to be eroded in 2000. Over the past half century, the city of Chicago has seen a general trend of population loss to the suburbs. Although the city's population grew for the first time in 50 years during the 1990s, since 2000 it has again experienced losses that are consistent with the historical trends prior to the 1990s.<sup>8</sup>

During the 1990s, increases in the city's Hispanic population were the main source of population growth. Although the arrival of new immigrants to the city played a role in the growth of the Hispanic population, the most important driving force was the degree to which Hispanic births outnumbered deaths in the city. The size of the city's African American population was relatively stable during the decade because the natural rate of increase in this group (the excess of births over deaths) was about as large as the number of African Americans who left the city. In contrast, the city's white population decreased by 14 percent during the decade.

Since the year 2000, the population losses from out-migration have been greater than the gains resulting from the difference between births and deaths in the city. As a result, the city of Chicago lost approximately 34,000 residents between April of 2000 and July of 2004 (this compares with a population gain of 112,000 between 1990 and 2000). Chicago is experiencing migration losses for all ages except those between the ages of 20 and 30. As was the case during the 1990s, there have been marked differences among the city's racial and ethnic groups. Although Chicago's Hispanic population continued to increase between 2000 and 2004 at a rate of 5.6 percent, the city's non-Hispanic

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8 K.M. Johnson. "Changing Demographic Trends in Metropolitan Chicago, 1990–2004." Working Papers on Recreation, Amenities, Forests, and Demographic Change, No. 4. 2005. Available at: [http://www.luc.edu/depts/sociology/johnson/Chicago%20Report\\_111605.pdf](http://www.luc.edu/depts/sociology/johnson/Chicago%20Report_111605.pdf)



white population declined by 32,000 (-3.5%) and the non-Hispanic black population decreased by 42,000 (-3.9%).<sup>9</sup>

Although determining the specific causes of the growth or decline in particular neighborhoods is beyond the scope of this report, differences among races and ethnicities in fertility and mortality provide some clue to the differences among communities. Hispanic women in Chicago have a fertility rate nearly a third greater than African American women, while the infant mortality rate of African American women is twice that of Hispanic women. That, in part, accounts for the increase in the number of Hispanic children and the relative stability in the African American child population. Differential mortality rates may also play a role (albeit on a much smaller scale.) At an estimated rate of 51.9 deaths per 100,000 youth, African American children and adolescents are much more likely than Hispanic (33.2 per 100,000) or white (8.4 per 100,000) children to die by injury in Chicago.<sup>10</sup> Accumulated over a 20-year period, these differences in mortality rates may account for as much as a 1-percent difference in the number of children in a community when we compare high-mortality communities like West Englewood to low-mortality communities like Belmont Cragin.

## Growing Northwest and Southwest Sides

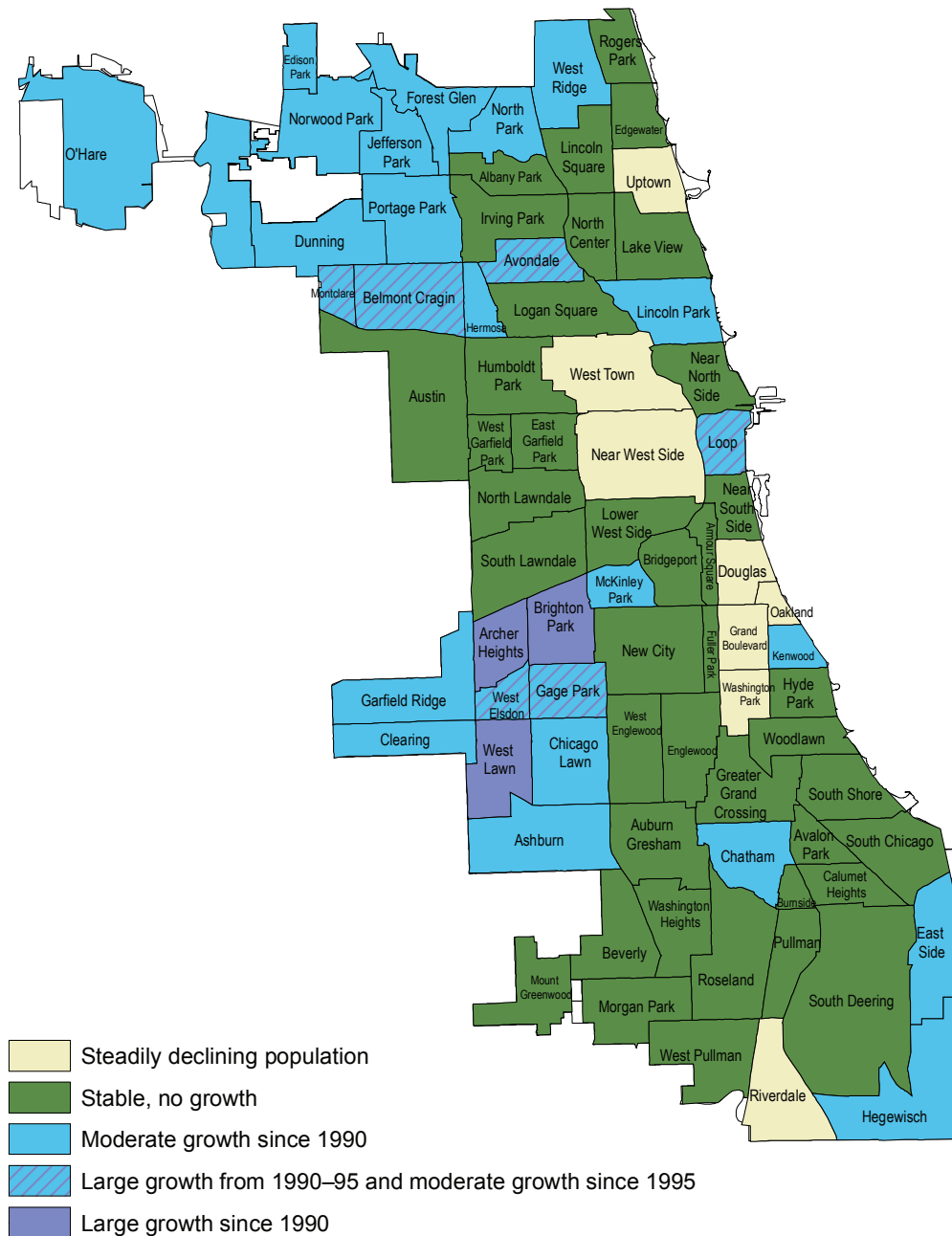
Although the aggregate figures for the child and youth population in Chicago show very little change between 1990 and 2005, at the smaller geographic level of Chicago's community areas, the forces of immigration, out-migration, and natural increase (excess of births over deaths) have led to divergent population sizes and neighborhood characteristics. Whereas some community areas have seen strong growth of their child and youth population of up to 10 percent for some years, others have seen marked declines—steadily losing population at a rate of almost 6 percent per year.

Of Chicago's seventy-seven communities areas, twenty-nine communities, primarily in the northwest and southwest sides of the city, have seen steady growth in the child and youth population since 1990 (see Figure 5). The rates at which these communities grew between 1990 and 2005 varied from one community to another. The highest growth rate occurred in the predominantly Hispanic community areas of Brighton Park, Archer Heights, and West Lawn, located in the city's southwest side, which have been growing at an average rate of 6 percent every year since 1990. Six other communities experienced very high growth rates of almost 10 percent per year from 1990 to 1995, but then slowed down to about 3 percent per year since then. These communities were, with the exception of the Loop, predominantly Hispanic and located in the southwest (West Elsdon, Gage Park) and the northwest (Montclare, Belmont Cragin, and Avondale) areas of the city. The remaining twenty communities experienced moderate growth, averaging about 2 percent per year since 1990.

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- 9 K.M. Johnson. "Changing Demographic Trends in Metropolitan Chicago, 1990–2004," Working Papers on Recreation, Amenities, Forests and Demographic Change, No. 4. 2005. Available on the web at: [http://www.luc.edu/depts/sociology/johnson/Chicago%20Report\\_111605.pdf](http://www.luc.edu/depts/sociology/johnson/Chicago%20Report_111605.pdf)
- 10 "Child and Adolescent Injury in Chicago, 1999–2001," SCRIPTS: State and Community Reports on Injury Prevalence and Targeted Solutions, June 2005. Available on the web at: <http://www.chdl.org/Projects/CHISCRIPTS99-01-linked.pdf>

FIGURE 5

## Growth Patterns in the Population of Children Ages 0–17, 1990–2005, by Chicago Community Area



In marked contrast with the areas of expanding populations, eight communities have been steadily declining over the period—losing about 6 percent of their population every year since 1990. The areas that have been losing residents have been predominantly African American neighborhoods. These communities include the neighborhoods that have lost population due to public housing transformation and—with the exceptions of Uptown to the north and Riverdale to the south—are mainly in the near south and near west sides of the city (Douglas, Grand Boulevard, Oakland, Washington Park, Near West Side, and West Town). Although the dispersal of residents due to the demolition of thousands of public housing units run by the Chicago Housing Authority certainly played a role, these communities had lost significant portions of their child population prior to public housing transformation.<sup>11</sup>

There is a rather stable group of forty communities that exhibit very little change in the size of their 0–17-year-old populations. At the most extreme, they have experienced on average about a 1-percent decrease in population each year since 1995.

Figure 6 shows the increases and decreases in the number of children in Chicago communities between 1990 and 2005. Growth was concentrated toward the northwest and southwest areas of the city, while a ring of communities surrounding the city’s central business district to the north, west, and south saw population losses in excess of 2,000 children between 1990 and 2005. West Town lost the largest number of children and youth between 1990 and 2005—a loss that exceeded 10,000 children during this period. The communities that saw the largest numerical increases in their child and youth population were Belmont Cragin and Brighton Park, again with increases of over 10,000 children.

## Projecting Overall Stability Despite Community Variation

Population forecasts for the city of Chicago’s community areas are dependent on changes in public housing policy, immigration policy, the housing market, and local labor markets, as well as on what happens outside the city in the near and outer suburbs, among other factors.

If current trends continue, the overall child and youth population of the city will likely remain relatively stable during the next 5 years. Nonetheless, as was the case between 1990 and 2005, the rate of growth in different community areas will likely diverge widely by 2010, with increases of over 40 percent in some community areas (Montclare and West Elsdon) and losses of over 40 percent of the 2005 population in Riverdale (see Figure 7).

<sup>11</sup> Although the demolition of public housing units had an impact on the child population of communities that had a large concentration of public housing, it had a much more dispersed and much smaller impact on the communities where these families relocated. The community that received the largest number of CHA housing development families with children was West Englewood, which received a total of 176 families, according to Chapin Hall analysis of CHA data. During the period of time in which these families moved into West Englewood, the child population of West Englewood decreased by about 6,000 children and the total number of children living in poverty in the community decreased as well. Of the top fifteen communities into which the CHA Housing Development-relocated families moved, only one, Chicago Lawn, was a community in which the population was increasing. And the number of children who moved into Chicago Lawn from CHA Housing Developments accounted for less than one-half of a percent of the children in Chicago Lawn.

FIGURE 6

## Change in the Size of the Population of Children Ages 0–17, 1990–2005, by Chicago Community Area

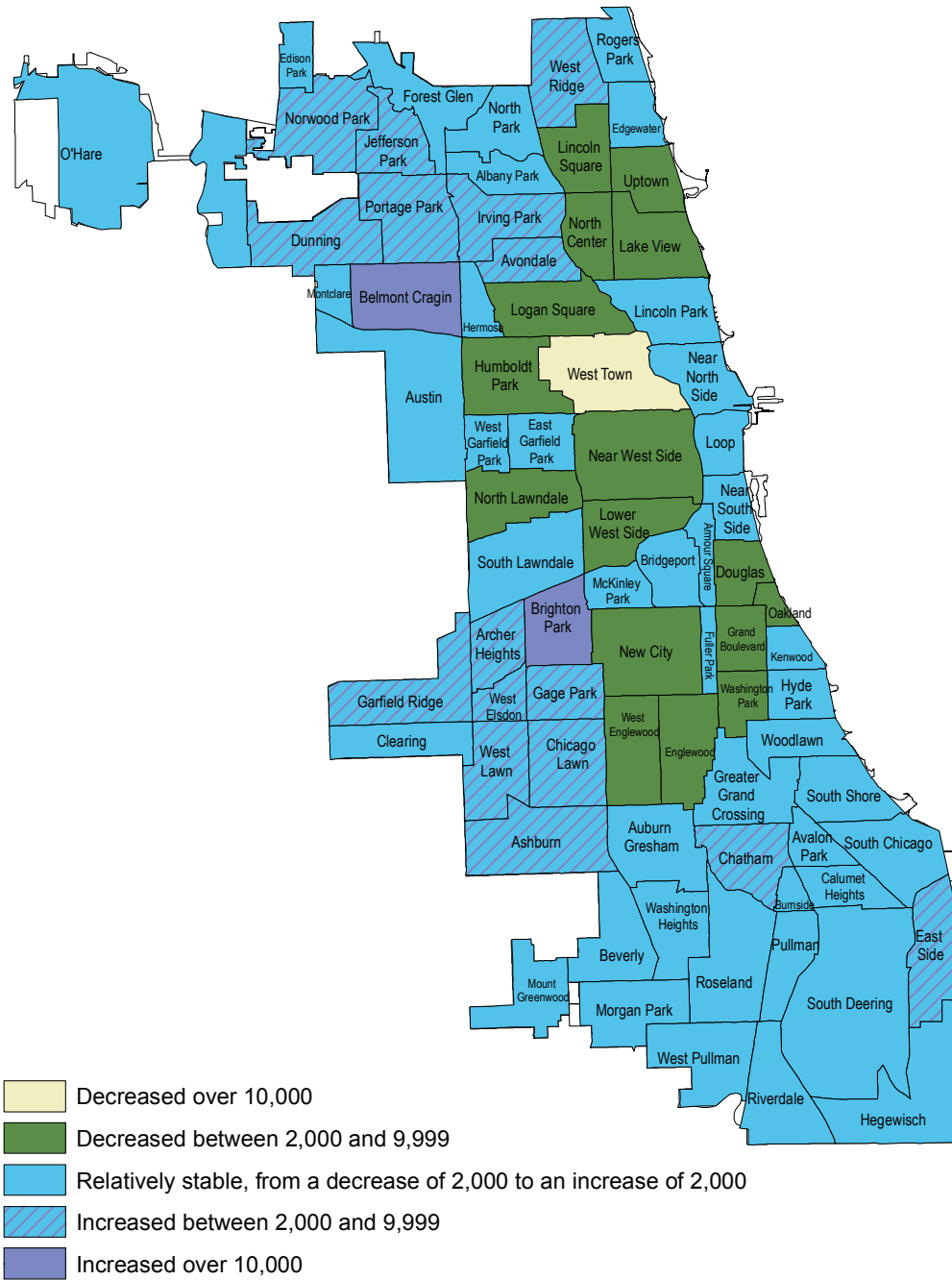
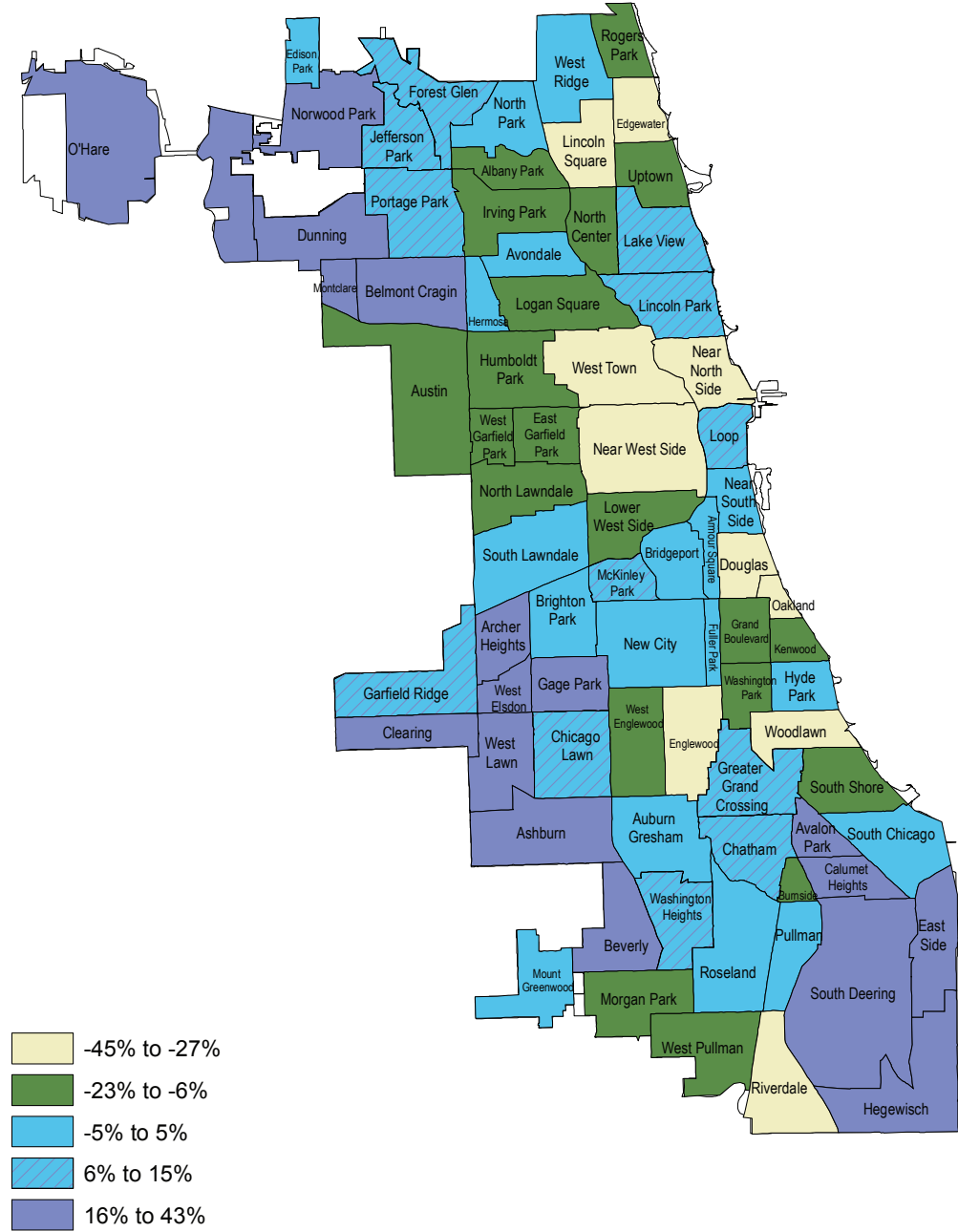




FIGURE 7

# Projected Change in the Population of Children Ages 0–17, 2005–2010, by Chicago Community Area



The overall pattern of growth will remain relatively the same if current trends remain constant, with the near west and near south sides losing population and the northwest and southwest corners gaining population. A notable exception to this pattern is a concentration of growth in the southeast corner of the city where we project growth above 16 percent in five communities: Hegewisch, South Deering, Calumet Heights, Avalon Park, and East Side.

In terms of the rate of change, we project that the eight communities that have been losing population at a fast clip over the past 5 years will continue to lose population over the next 5 years, albeit at a somewhat slower rate. Of the three communities that experienced the highest rate of growth between 1990 and 2005, Archer Heights and West Lawn will continue to grow at a fast pace through 2010, while Brighton Park will level off and remain at its current size.

## The Growing Hispanic Population

The child and youth population of Chicago includes a far greater share of minority groups than the total population would suggest: although the city's overall population was relatively evenly split by race-ethnicity (37.1% African American, 31.9% white, and 26.5% Hispanic) in the 2000 Census, the city's population aged 17 and under was 44.5 percent African American, 35 percent Hispanic, and 16 percent white.<sup>12</sup>

The racial-ethnic and age distribution in Chicago communities reflects, in part, the different migration patterns that result from families' circumstances and choices or constraints on where to live. White families have been more likely to leave the city for the suburbs after the birth of their first child, while Hispanic and African American families are much more likely to remain in the city. Only about half (53%) of the white babies born in Chicago remained in the city 5 years later. However almost three-quarters (74%) of African American babies, 91 percent of Asian babies, and 94 percent of Hispanic babies born in Chicago still resided in Chicago 5 years later.<sup>13</sup>

The communities where the child and youth populations have grown the most over the past 15 years are, for the most part, the communities in which the Hispanic population has increased. Figure 8 shows the change in the proportion of the child population that is Hispanic in each community. Of the twenty-nine communities that have exhibited moderate or significant growth over the past 15 years, twenty-seven have had increases in their Hispanic populations. Those community areas with the largest overall growth have seen the largest growth in the Hispanic population. As with the general population, the largest Hispanic growth is in the northwest and southwest sides of the city.

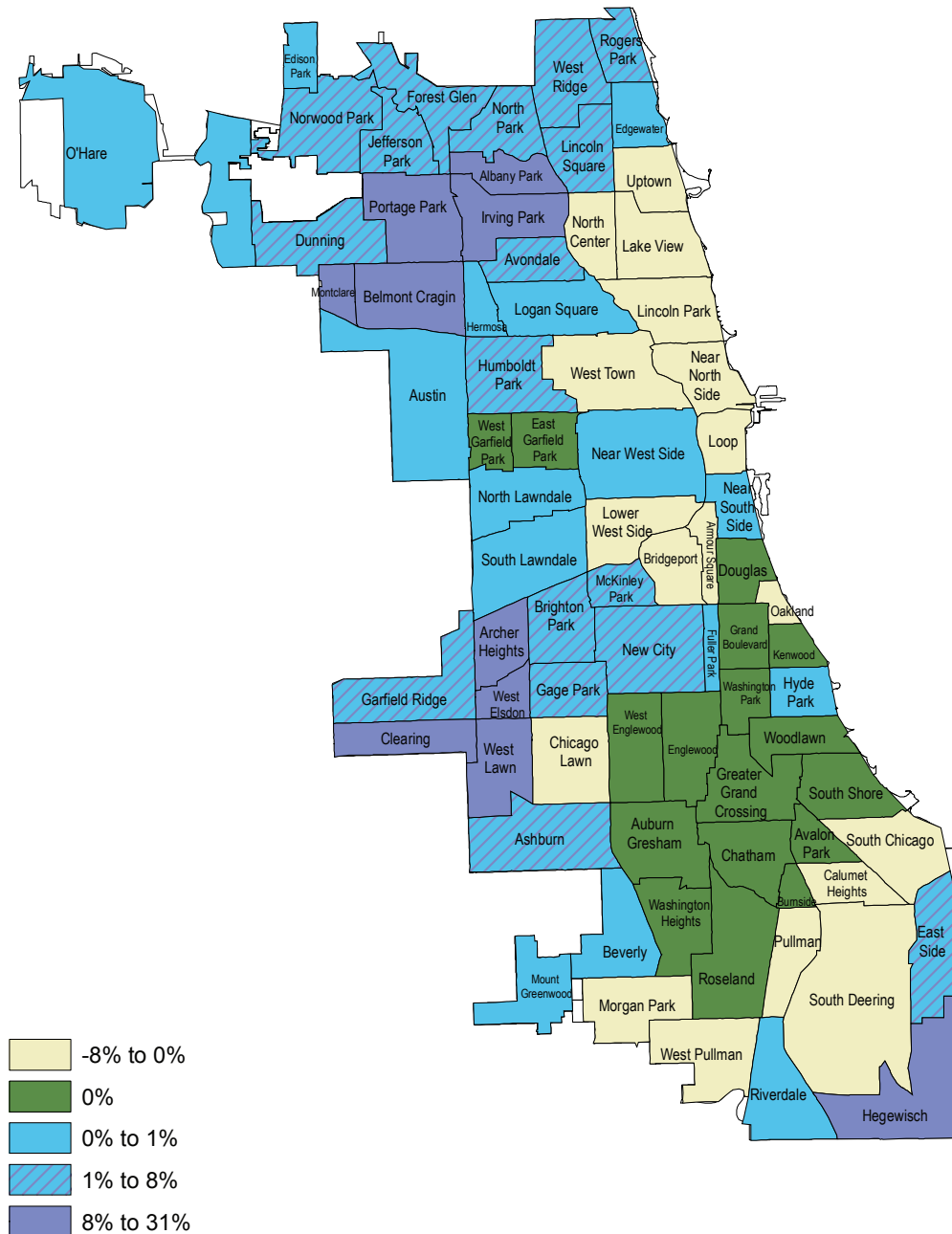
Given the fact that the main driver of population growth in the city of Chicago since 1990 has been the increase in its Hispanic population, as detailed in previous sections, the demographic profile of the children and youth of the city is rapidly changing.

12 "Children of Chicago, 2006: A Community Assessment." The Department of Children and Youth Services, 2006. Unpublished manuscript.

13 K. M. Johnson. "The Changing Face of Chicago: Demographic Trends in the 1990s." Chicago Fed Letter. The Federal Reserve Bank of Chicago. April 2002. Number 176.

FIGURE 8

## Percent Change in the Population of Hispanic Children Ages 0–17, 1990–2005, by Chicago Community Area



While the share of Hispanic children and youth has been on the rise in many communities, the percentage of children that is African American in each community has stayed largely unchanged between 1990 and 2005. There are only four communities that have seen an appreciable decrease in the percentage of children who are African American—Armour Square (-11 percentage points); Loop (-6); New City (-5); and Garfield Ridge (-4)—and two communities that have an increased percentage—Ashburn (+11) and South Chicago (+9). However, there have been changes in the number of African American children living in some community areas. In the community areas where there has been overall population growth, the number of African American children has grown also, in proportion to the overall population growth in the community. Likewise, in the community areas where there has been an overall population decline, the number of African American children has declined proportionately.

## Increasing Numbers of Children in Poverty in Chicago's Outer Edge

The overall poverty rate for Chicago children rose to a high of 40 percent in the mid-1990s and then decreased to 28 percent in 2000.<sup>14</sup> The percentage of children living in poverty has been rising again since 2000, so that about 35 percent of the city's children are living in poverty as of 2005.

As shown in Figure 9, the number of children and youth living in poverty increased in the community areas in the north, northwest, southwest, and southeast of the city, while the number of children in poverty decreased in the city's center between 1990 and 2005. The twelve communities that saw the largest increases in children in poverty (more than 1,000 additional children in poverty since 1990) were: Rogers Park, West Ridge, Irving Park, Avondale, Portage Park, Belmont Cragin, Austin, South Lawndale, Brighton Park, Gage Park, Chicago Lawn, and South Chicago. In contrast, the number of children in poverty decreased in some community areas that have had the highest concentrations of children in poverty during the past decades, such as Douglas, Oakland, Washington Park, Englewood, West Town, Near West Side, North Lawndale, and Riverdale, among others.

This change in the distribution of child poverty is consistent with the child population changes that Chicago experienced between 1990 and 2005. The areas to the northwest and southwest of the city, which saw general increases in their child population, also saw increases in the number of children living in poverty. At the same time, the near west and near south sides, which lost population in the 0–17 range and saw the demolition of many public housing units, experienced a decrease in the number of children living in poverty.

Figure 10 shows that, although the numbers of children in poverty have been growing toward the city's edges, the communities in Chicago's near west and near south sides continue to be the communities with the largest numbers of children and youth living in poverty. Moreover, as shown in Figure 11, the communities with the largest concentrations of children in poverty—where over 40 percent, and in some cases 60 percent,

<sup>14</sup> Poverty is defined as children living in families with income less than 100% of the federal poverty level. The level is different for different sizes of families.

of the child and youth population live in poverty—continue to be primarily those on the city’s near south and near west sides.

Although many of the neighborhoods that had high numbers of children in poverty in 1990 saw a decrease in their child poverty by 2005, this was not the case for Austin or South Lawndale. These two neighborhoods on the city’s western edge had among the highest populations of children and youth living in poverty in 1990 and also saw among the largest additions of children in poverty during the ensuing 15 years.

Children in poverty who live near the edges of the city are likely to require special policy attention because they are farther away from areas where services to populations in need are concentrated, and hence are likely to have greater difficulty accessing services.

FIGURE 9

## Change in the Number of Children Ages 0–17 Living in Poverty, 1990–2005, by Chicago Community Area

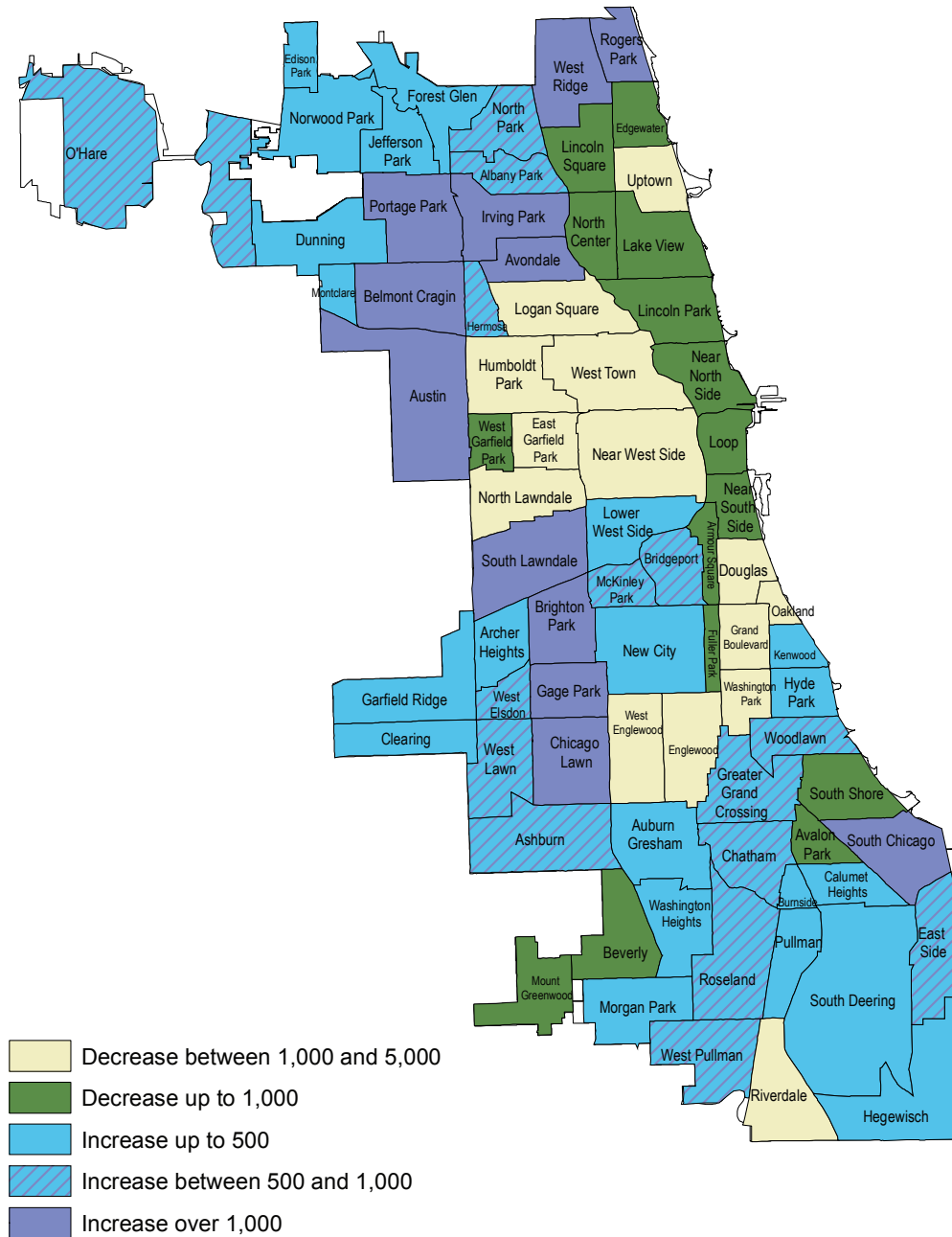


FIGURE 10

# Number of Children Ages 0–17 Living in Poverty, 2005, by Chicago Community Area

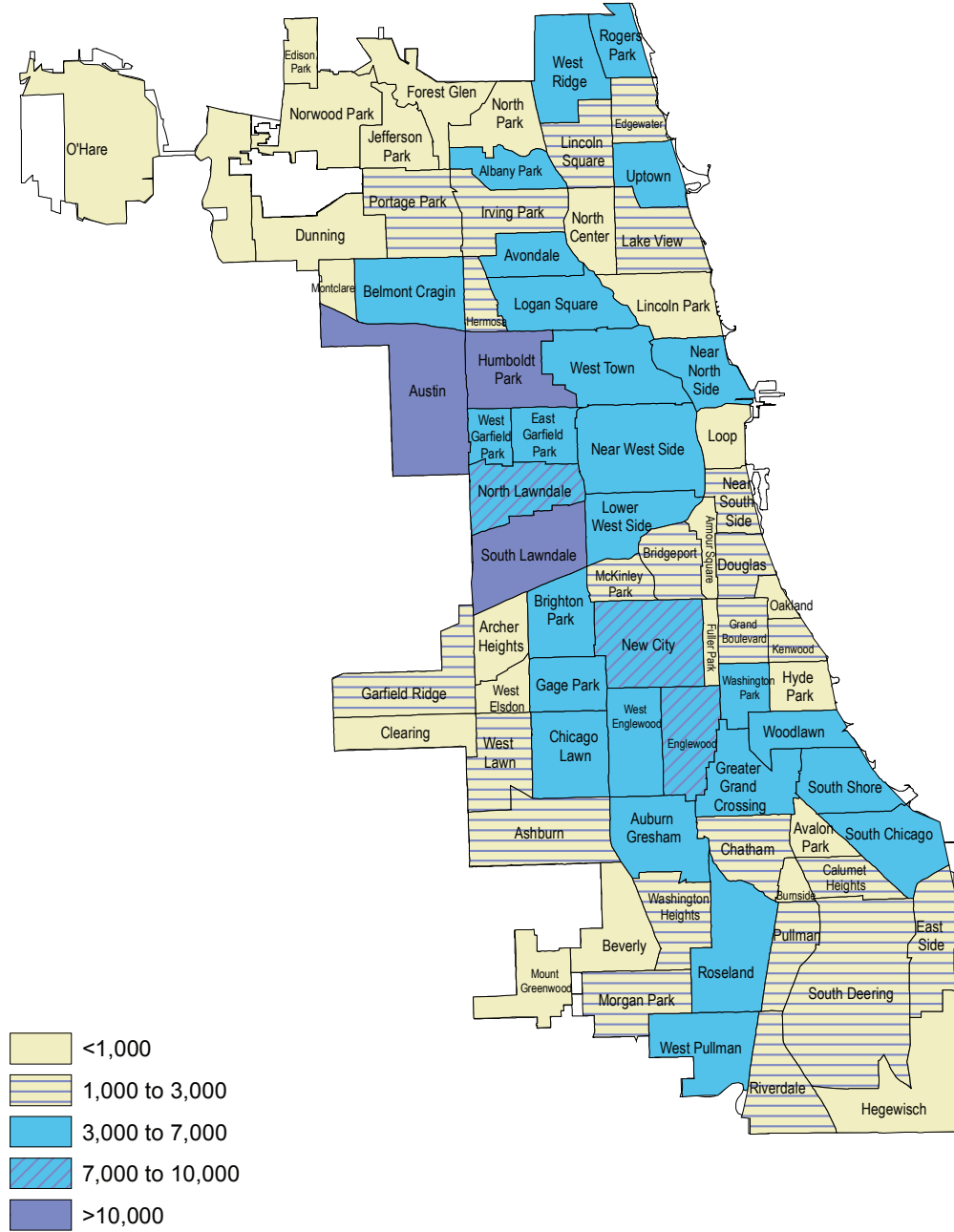
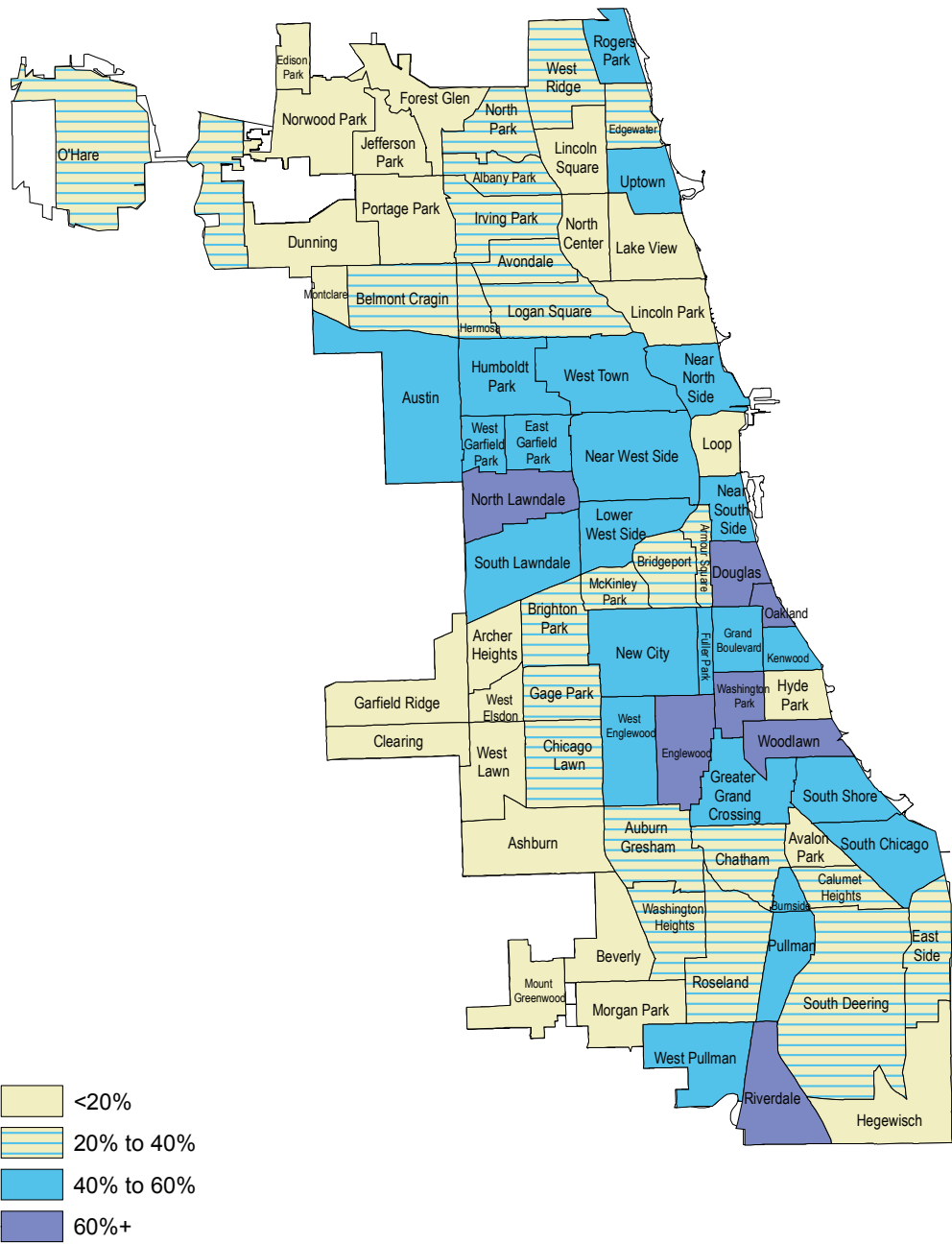


FIGURE 11

### Percent of Children Ages 0–17 Living in Poverty, 2005, by Chicago Community Area





# Implications for Services

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Three trends discussed in the previous section—(1) growth in the child and youth population in the northwest and southwest communities coupled with decreases in the communities surrounding the central business district, (2) the increasing share of Hispanic children in many communities, and (3) the new concentration of poverty in communities in the outer ring rather than in the center of the city—have significant implications for providers of social services, preschool and out-of-school programs, and schools, both public and private. The way in which service providers respond to demographic shifts depends on the type of service and the nature of the organization. Services that are more dependent on physical infrastructure, such as schools or health care providers, for instance, may require time to build new facilities. For all organizations, responding to demographic change is more complex than building facilities or adding staff. Regulatory, financial, staffing, and political considerations—among others—all impact the process of planning for and providing services. In order to expand the capacity of existing infrastructure, providers may have to consider full-year scheduling for schools, for example, or find other ways to expand the geographic reach of existing facilities by providing easy transportation to them.

The issues faced by an organization like Chicago Public Schools (CPS), which has a presence in every community area, are different from those faced by a community-based organization that is closely tied to one particular area or community. CPS has to decide how to reorganize its resources, where to close schools, and where to open new ones. Community-based organizations have to assess whether they are able to provide the services needed by the community they are in. For instance, social service agencies intended to provide job training and English language classes for recent immigrants may find themselves in a newly gentrified community no longer in need of those resources. A culturally and historically African American service organization may be located in a neighborhood that has become majority Hispanic and has different needs, culture, and language than it had previously. Such organizations may need to consider whether to continue serving the needs of people who have moved away and—if so—how to do so or whether to reorient their services and how they are provided. Some volunteer organizations may choose to bus families because although these families moved away, they still identify with the community and want to participate in their activities, and some may choose to relocate.

This changing picture raises the question of the degree to which mismatches develop between services needed and services available in different communities. In the next sections, we look at the relationship between the availability of services and the eligible population for some services that address the needs of the child and youth population: public education (kindergarten through twelfth grade), after-school programs for adolescents (ages 13 to 17), licensed childcare, Head Start, and pre-K education. These sections offer examples of the types of issues that arise for service provision in the face of demographic transitions, and can illustrate what other service providers might also be facing.

## Schools: A General Move West

The decision to open, close, or consolidate schools must be based on more than population change. CPS officials attend to quality and quality improvement, and must look at the demands of the system as a whole when planning to meet the needs of one community. However, it is possible to get a rough sense of how public schools are responding to the demographic changes in Chicago's communities by looking at where schools are closing and where new schools are opening.<sup>15</sup> In general, between 2002 and 2006, the majority of schools that closed were located in community areas that have seen some of the largest losses in the child and youth population. Figure 12 shows where public schools have closed between 2002 and 2006 due to demographic reasons or overcrowded conditions. The number of closings has been the largest in communities like Grand Boulevard (5 schools), Douglas (3 schools), Near West Side (3 schools) and Near North Side (2 schools). Nonetheless, school closings do not map exactly onto child and youth population losses. Although West Town saw the largest numerical drop in child and youth population (it lost over 10,000 children between 1990 and 2005), there were no school closings in this community area between 2002 and 2006 (although a school in Humboldt Park, near the West Town border, did close). However, the fact that no schools closed does not necessarily mean that there is excess capacity in the schools of a community that has lost child population. For instance, it may be that a loss of population relieved school overcrowding that may have existed in a community like West Town.

There is a general trend for new schools to be located in communities on the western side of the city, which coincides roughly with the direction in which the child and youth population of the city has been growing (see Figure 13, which shows public school openings between 2002 and 2006). Again, population growth and new school openings do not coincide perfectly. There were no new schools opened between 2002 and 2006 in Archer Heights and West Lawn, which saw some of the highest population growth rates among community areas between 1990 and 2005. At the same time, South Lawndale and Albany Park, which have not been experiencing large population changes, each saw the opening of new schools. However, in general, it seems that schools are being built in the regions in which the population is growing.<sup>16</sup>

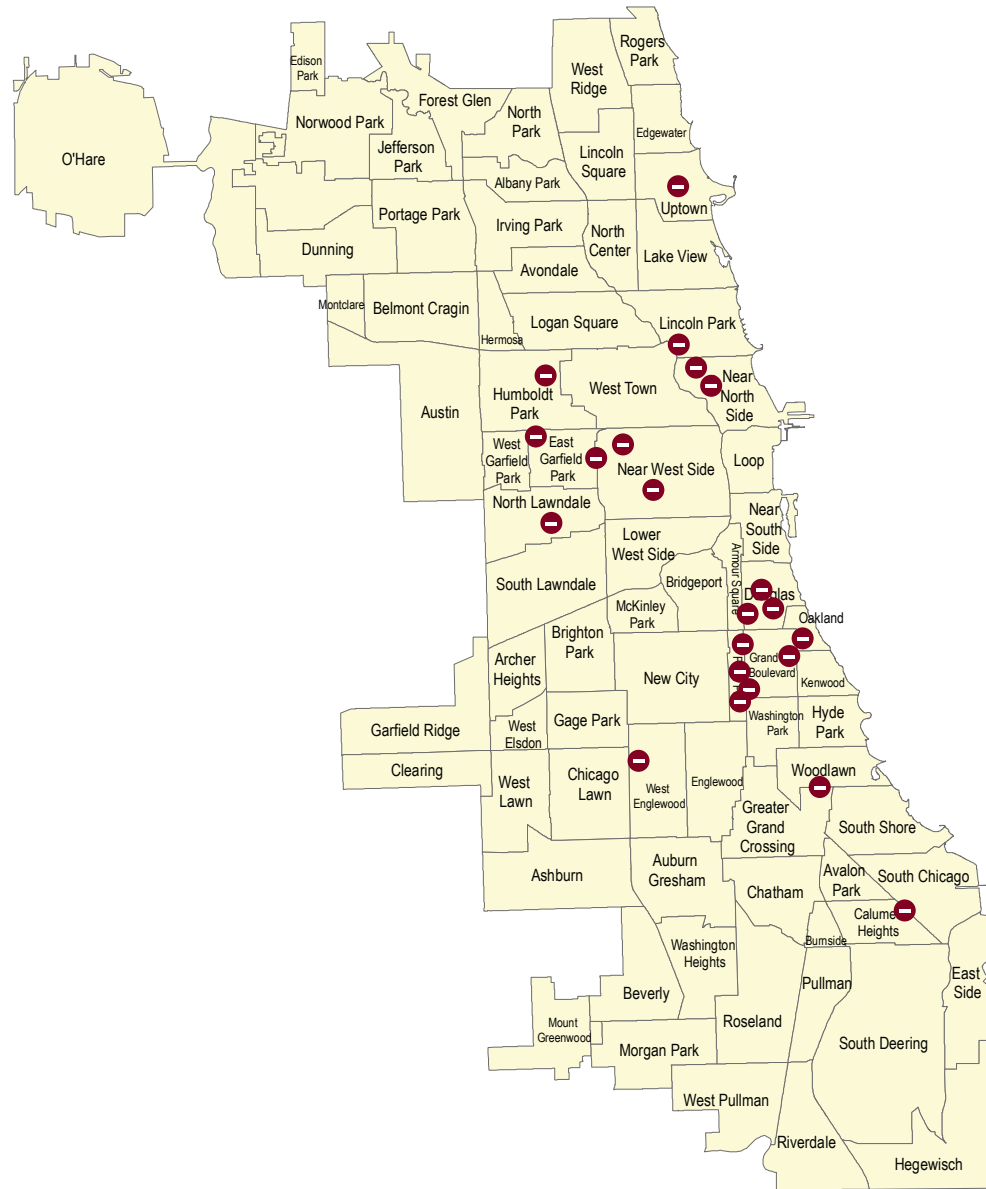
Different factors can contribute to an imperfect match between demographic changes and where schools have been opening and closing. It may appear that new school openings in communities that have experienced population losses reflect, to some extent, a public school system that overestimated how much new school resource was needed because it was not aware of long-term population trends. But new school openings may also be a response to needed changes in education quality. Some closings are related to underperforming schools being replaced by new schools and some openings reflect large schools being replaced by several smaller schools. The question that arises is: What is the best way to ensure that these investments in communities with declining populations reach their targets?

15 It is important to note that this does not accurately reflect the creation of new infrastructure, as many school openings take place on the existing campuses of schools that have been closed and, in some cases, there are several new schools operating out of the same campus.

16 We have not factored in the changes in school catchment areas that have occurred over the past 5 years, which will also affect where additional school capacity is needed.

FIGURE 12

## Chicago Public Schools Closed, 2002–2006, by Chicago Community Area

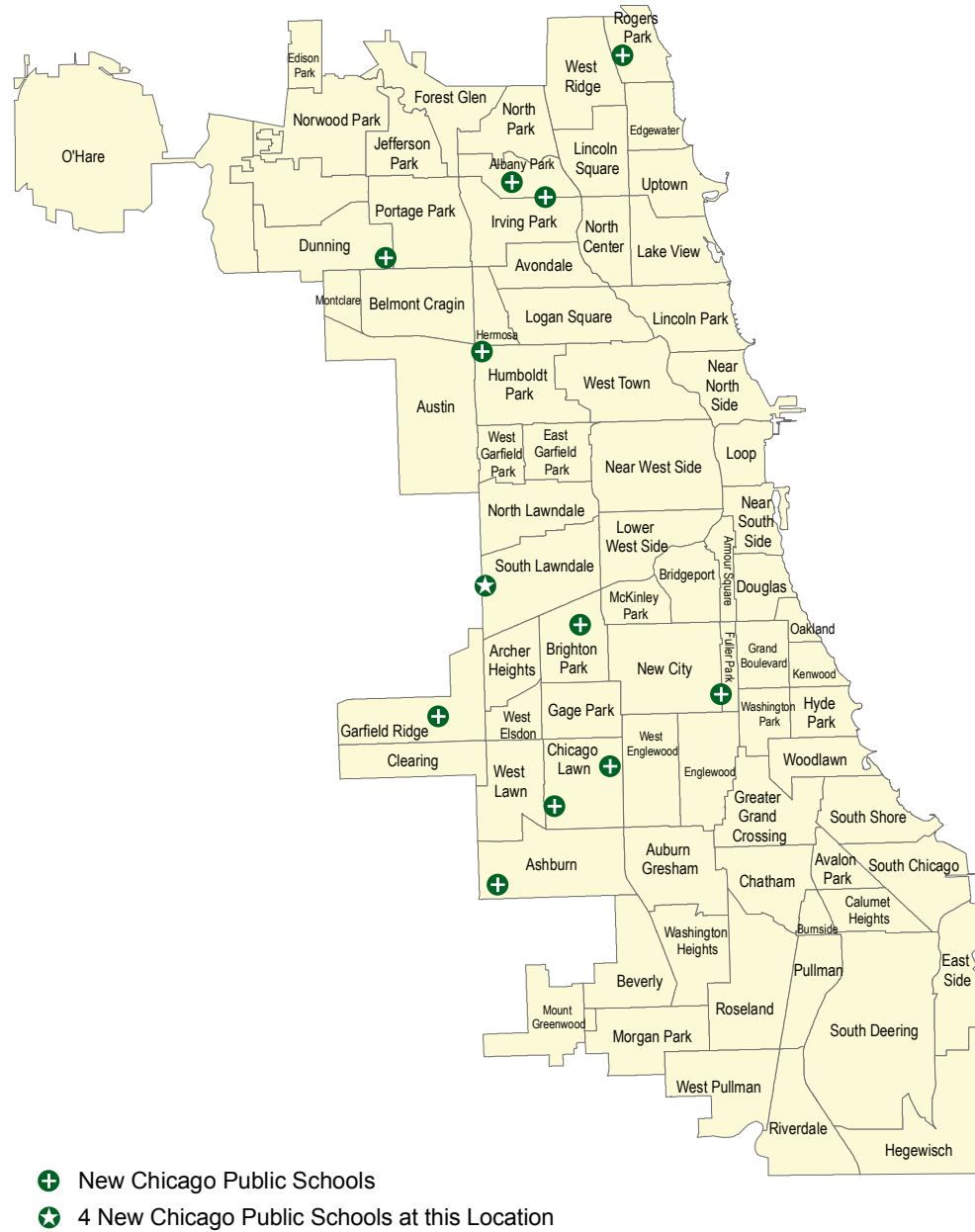


— Chicago Public Schools Closed

Source: Chicago Public Schools

FIGURE 13

## Chicago Public Schools Opened, 2002–2006, by Chicago Community Area



Source: Chicago Public Schools

The fact that there are more Hispanic children in some communities also presents a challenge for the school system. Schools that were not staffed to address the bilingual needs of Hispanic families must change to address the demographic change. In this way, the need is not just for bricks and mortar, but for qualified teachers and administrators to address the needs of children and their parents.

In addition, the use of magnet and charter schools—which, for the most part, are not as tied to geographically fixed attendance boundaries as traditional public schools—may mean that people are relatively less tied to their specific neighborhood for education. This might lead to a weaker connection between demographic changes in communities and corresponding school openings and closings.

Still, a large public entity like Chicago Public Schools faces constraints when trying to address demographic changes. Within these constraints, the Chicago Public Schools is addressing the shifts in the child population in Chicago in multiple ways. “Modern Schools in Chicago” was recently announced as a way to use school bond funds and tax-increment financing to build nine new high schools and fifteen new elementary schools. New high schools in South Chicago, Washington Heights, Chicago Lawn, Gage Park, Irving Park, Garfield Park, and Back of the Yards (New City) will be built. Four new elementary schools on the southwest side will be built. The replacement of other buildings in Austin, South Shore, Roseland, and Englewood will allow the capacity of these schools to be increased.

The opening of charter, contract, or performance schools through Renaissance 2010—an initiative to replace underperforming schools that aims to open 100 new schools by 2010<sup>17</sup>—can also provide relief in certain communities. When new construction is not possible, the use of mobile units, expanded-day and full-year scheduling, and the re-drawing of school catchment areas are other strategies CPS uses to address increases in number of students in particular communities.

## Out-of-School Time Activities for Youth: Relative Scarcity in High-Growth Areas

What teens do during the after-school hours has been an area of increasing interest to policymakers and those concerned with youth development for some time. Out-of-school opportunities such as art classes, sports teams, and community service may promote positive youth development and help prevent problem behaviors. Primarily through After School Matters (an organization that partners with public institutions, private organizations, and community-based nonprofits to extend and improve out-of-school opportunities for high school students), Chicago has been engaged in planning for teens and in developing options for their use of out-of-school time. A survey con-

17 Renaissance 2010 is an initiative that was announced in June of 2004 that calls for 100 new schools by 2010. The program sets out to replace chronically underperforming schools with new schools that are held accountable to a 5-year performance plan or agreement. Schools under this program can have one of the following governance structures: charter, contract, or performance. See: <http://www.ren2010.cps.k12.il.us/>

ducted by Chapin Hall during the winter of 2005–2006<sup>18</sup> found that there are about three after-school program slots for every ten youths ages 13 to 17 in the city of Chicago (0.29 slots per youth), but that this ratio varies greatly from community to community. These include programs that are funded by federal, state, county, city, and private sources, as well as some that might require fees.

In general, the areas that have grown the most in the past 15 years tend to have fewer slots per youth, while the areas that have lost population over the past 15 years, and especially over the last 5 years, tend to have the highest number of slots. The table on the facing page lists Chicago communities by name and by number, and Figure 14 shows the ratio of slots to youth (that is, the number of slots per young person ages 13–17) in Chicago’s community areas.<sup>19</sup> Although most of the census tracts in the growing communities of Brighton Park and Chicago Lawn have fewer than six slots for every 100 children, for instance, Douglas and Near West Side—communities that experienced some of the largest population losses—have close to a slot for each child in many of their census tracts.

Hence, there is a greater supply of after-school programs for teens in the community areas that have been losing population than in community areas that have been experiencing the greatest growth over the past 15 years. This could indicate that providers and funders of after-school activities for teens have not yet adjusted to the demographic changes within the city’s community areas, and may highlight a need to expand after-school programs in high-growth communities.

The areas that currently have the highest availability of after-school programs are in many cases high-poverty areas. Although need may not be a requirement for *participating* in the after-school programs, it may be a criteria for *funding* these programs. Therefore, it is possible that providers have intentionally set up and kept their programs in places with a high concentration of youth living in poverty.

- 
- 18 The universe of out-of-school time programs and activities for teens in Chicago is diverse, complex, and difficult to map with certainty. An original list of 2,645 agencies and sites was compiled using data previously collected by Chapin Hall, information provided by several public agencies, and infoUSA (a database similar to the Yellow Pages). Of the sites originally compiled for this survey, 838 reported that they provide out-of-school time activities for teens. The most common types of programming were sports (63% of sites), workforce preparation (58%), educational services (57%), leadership (54%), and arts (50%). Total reported capacity was over 63,000 teens per day and total reported utilization was nearly 61,000 teens per day, for total system utilization of 96 percent, or virtually full capacity. These utilization rates are higher than other estimates and could be considered something of an overestimate. Among provider auspices, community-based organizations (CBOs) were most common (60% of sites), followed by parks (23%) and public schools (9%). The 502 CBO sites had a total reported capacity of nearly 37,000 (58% of total capacity) and utilization of over 34,000 (56% of total utilization), for a utilization rate of 93 percent of capacity. The 193 park sites had a total reported capacity of about 4,500 (7% of total) and utilization of about 2,600 (4% of total), for a utilization rate of 58 percent of capacity. The 75 public schools had a total reported capacity of nearly 17,000 (26% of total) and utilization of nearly 16,000 (26% of total), for a utilization rate of 95 percent of capacity. In general, then, the schools account for roughly one-quarter of capacity and utilization, but the majority of opportunities are outside of the schools, with CBOs accounting for over half of capacity and utilization.
- 19 To determine the existing program slots in each community, the relationship between the number of youth ages 13–17 in each census tract and the number of slots in after-school programs in a 1-mile radius around that tract were mapped. A method that apportions slots in a way that prevents them from being multiply counted was used. The 1-mile radius is meant to capture the distance that teens will go to attend an after-school program. However, this figure is an approximation. There is no research on how far teens are willing to travel for an out-of-school time program and very similar results are obtained when a 2-mile radius is used. The methodology used to map after-school slots relative to eligible population by community in this section is the same methodology used for estimating the relationship between eligible youth and licensed childcare, pre-K education programs, and Head Start. A detailed description of the methodology is provided in Appendix B.

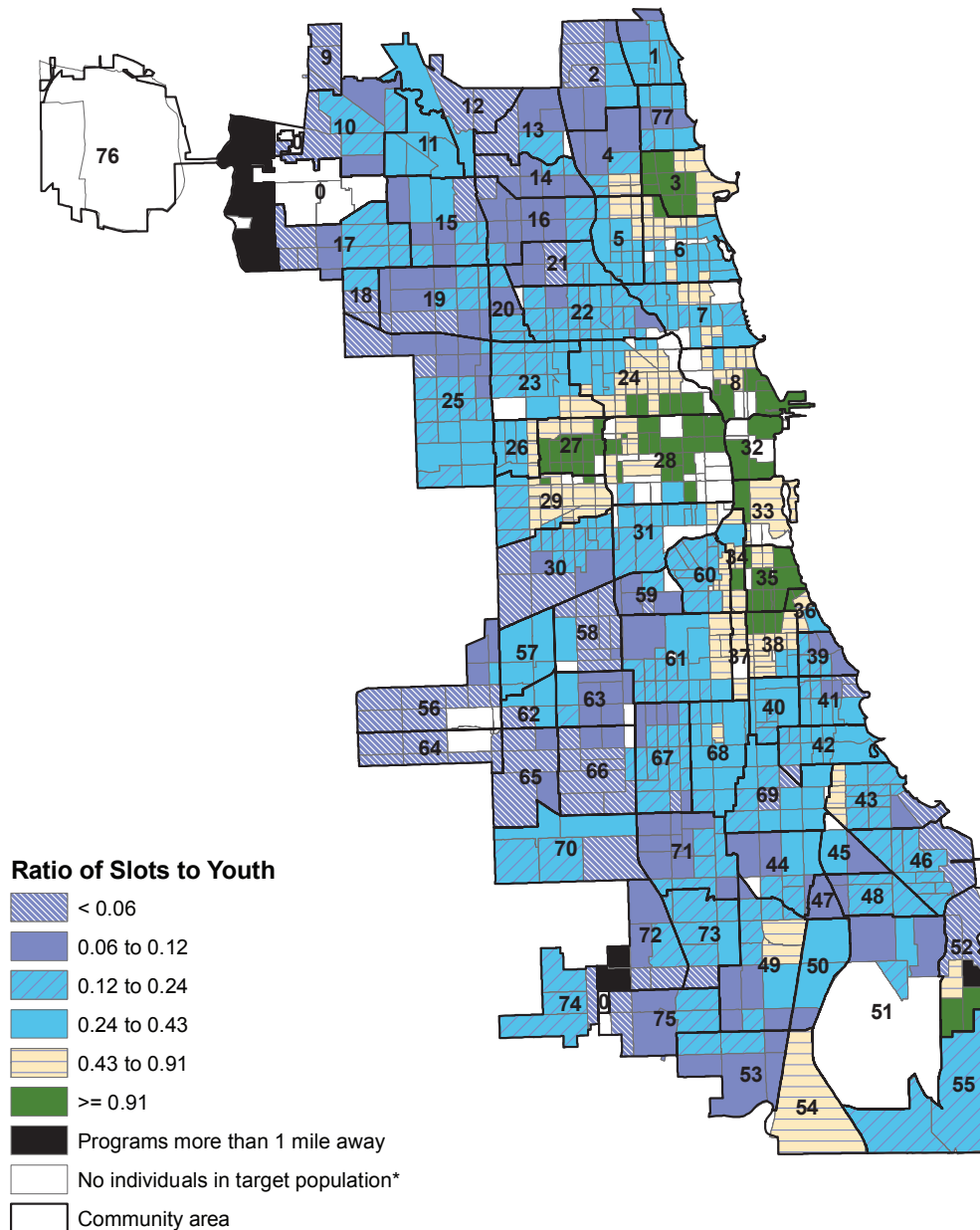
It is important to note that our measure of slots per youth cannot fully capture the demand for these programs. The Chapin Hall survey found a utilization rate of approximately 96 percent—that is, nearly all programs were fully enrolled. It may be that the need and desire to participate in these programs vary from one community to another, and thus a higher number of slots for teens may reflect higher unmet demand for these programs in that particular community. For this reason, the fact that a community has a relatively high number of slots per teen does not necessarily imply that there is excess capacity in that community.

## CHICAGO COMMUNITY AREAS

Number	Name	Number	Name	Number	Name
1	Rogers Park	27	East Garfield Park	53	West Pullman
2	West Ridge	28	Near West Side	54	Riverdale
3	Uptown	29	North Lawndale	55	Hegewisch
4	Lincoln Square	30	South Lawndale	56	Garfield Ridge
5	North Center	31	Lower West Side	57	Archer Heights
6	Lake View	32	Loop	58	Brighton Park
7	Lincoln Park	33	Near South Side	59	McKinley Park
8	Near North Side	34	Armour Square	60	Bridgeport
9	Edison Park	35	Douglas	61	New City
10	Norwood Park	36	Oakland	62	West Elsdon
11	Jefferson Park	37	Fuller Park	63	Gage Park
12	Forest Glen	38	Grand Boulevard	64	Clearing
13	North Park	39	Kenwood	65	West Lawn
14	Albany Park	40	Washington Park	66	Chicago Lawn
15	Portage Park	41	Hyde Park	67	West Englewood
16	Irving Park	42	Woodlawn	68	Englewood
17	Dunning	43	South Shore	69	Greater Grand Crossing
18	Montclare	44	Chatham	70	Ashburn
19	Belmont Cragin	45	Avalon Park	71	Auburn Gresham
20	Hermosa	46	South Chicago	72	Beverly
21	Avondale	47	Burnside	73	Washington Heights
22	Logan Square	48	Calumet Heights	74	Mount Greenwood
23	Humboldt Park	49	Roseland	75	Morgan Park
24	West Town	50	Pullman	76	O'Hare
25	Austin	51	South Deering	77	Edgewater
26	West Garfield Park	52	East Side		

FIGURE 14

## Number of Out-of-School Time Program Slots per Youth Ages 13–17 by Census Tract, 2006, by Chicago Community Area



\*Green borders denote community area. White sections within green borders may represent, for example, census tracts that are parks, industrial areas, or not part of the city.



## Services for Children Ages 0 to 5: Multiple Resources for Multiple Needs

Depending on their social and economic household circumstances, families want and need a range of early childhood program resources. Licensed child care provides a resource primarily intended as an employment support. Head Start has been an intensive early education and support program for the poorest children in the country for 40 years. State Pre-K programs are intended to provide children at risk of educational failure with a running start to elementary education. Therefore, variation in the availability of these programs by geographic and demographic characteristics should be expected.

Although there is on average about one slot of licensed childcare services for every five children ages 0 to 5 in the city of Chicago (.19 slots per child), this varies from one community to another.<sup>20</sup> As was the case for after-school programs for teens, there is a greater supply of licensed childcare services for children in the areas that have been losing population than in community areas that have been experiencing the greatest growth over the past 15 years. Most of the census tracts in the high-growth community areas of Brighton Park and West Lawn have fewer than seven slots of licensed childcare available for every 100 children 0 to 5. In Belmont Cragin, where the child and youth population increased by more than 10,000 between 1990 and 2005, the majority of census tracts have fewer than twelve slots of licensed childcare for every 100 children (see Figure 15). In contrast, areas like Near West Side, Grand Boulevard, and Washington Park—all of which lost over 2,000 children in the past 15 years—have close to one slot for every two children.

These numbers must be viewed with caution; they give us only a rough sense of the actual supply and demand for childcare services in these communities because they do not include the supply of unlicensed childcare, care by relatives, or measures of the need for childcare services and preference for type of childcare services—which could all vary in different communities. Still, the findings could be an indication that the provision of childcare services has not yet fully adjusted for the changes in community population size since 1990.

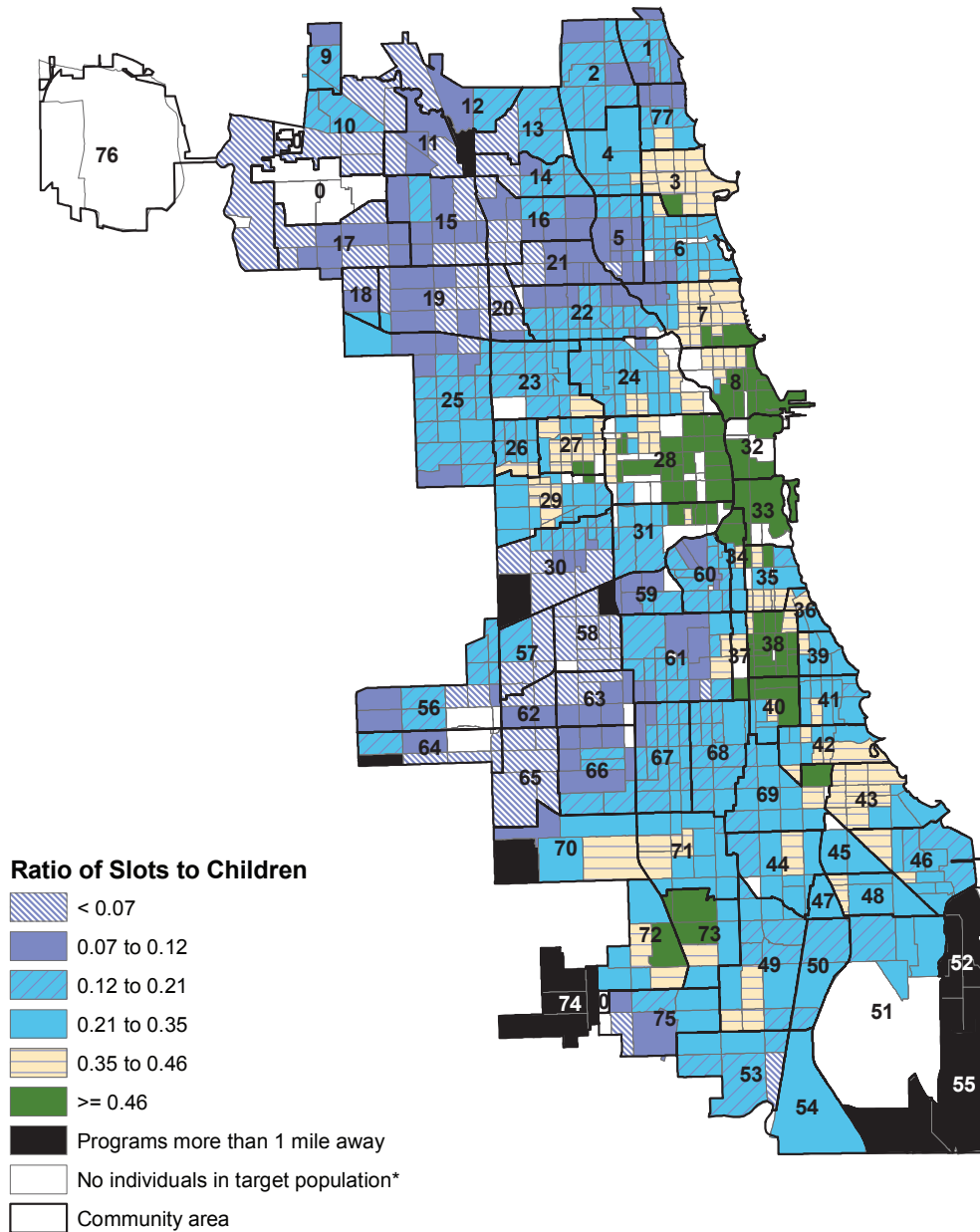
Head Start programs on average are more available to children in their target population than licensed childcare: citywide, there were just under six Head Start program slots for every ten eligible children (.57 slots for every child 3 or 4 years old who lives under the federal poverty limit).<sup>21</sup> However, some areas that have been losing population, such as Grand Boulevard and Lower West Side, have more available slots than eligible children (see Figure 16). At the same time, in most of the census tracts in Brighton Park (which gained over 10,000 children in the past 15 years) there is less than one slot for every five eligible children (or only 0.18 slots per eligible child). In the northwest, southwest, and south of the city, there are eligible children who live more than a mile away from the nearest Head Start program.

20 Numbers cited include both center- and home-based licensed childcare. Data from the Illinois Department of Children and Family Services. See footnote 19 and Appendix B for details on method.

21 Head Start providers come from DCYS-Copa data, November 2006. See footnote 19 and Appendix B for details on method.

FIGURE 15

## Number of State-Licensed Child Care Slots per Child Ages 0–5 by Census Tract, 2006, by Chicago Community Area



\*Green borders denote community area. White sections within green borders may represent, for example, census tracts that are parks, industrial areas, or not part of the city.

There are about three State Pre-K program slots<sup>22</sup> in Chicago for every ten children (.29 slots per child) living under or slightly above the federal poverty limit—a rough approximation of the population of children eligible for the current programs.<sup>23</sup> However, the population eligible for these programs is expected to grow over the next few years with the expansion of Pre-K education toward universal access.<sup>24</sup>

Because there is a large degree of overlap in the populations eligible for Head Start and State Pre-K programs—and because there has been a push to target Head Start programs toward the poorest populations—there are often more State Pre-K slots in areas where there are fewer Head Start programs. Communities with high concentrations of children living in poverty—Austin, Grand Boulevard, Washington Park, and South Shore—have fewer slots of preschool programs available (see Figure 17). These communities, however, have a greater supply of child care and/or Head Start resources than other communities. Officials do not report a waiting list of State Pre-K programs in these communities and suspect that there is unused capacity in these communities.

Leaders in Chicago agencies who are responsible for managing early childhood programs and combining funding streams assert that the availability of one type of program in a community is dependent on the number of other programs in that community. This is the result not only of the number of eligible children, but also the complexities of federal and state regulations as well as the availability of funding for each program. In order to maximize the benefit of funding streams for children, as the characteristics of children in a community change (number, poverty, language needs, and age), it may be necessary to increase the availability of one kind of program and decrease the availability of another.

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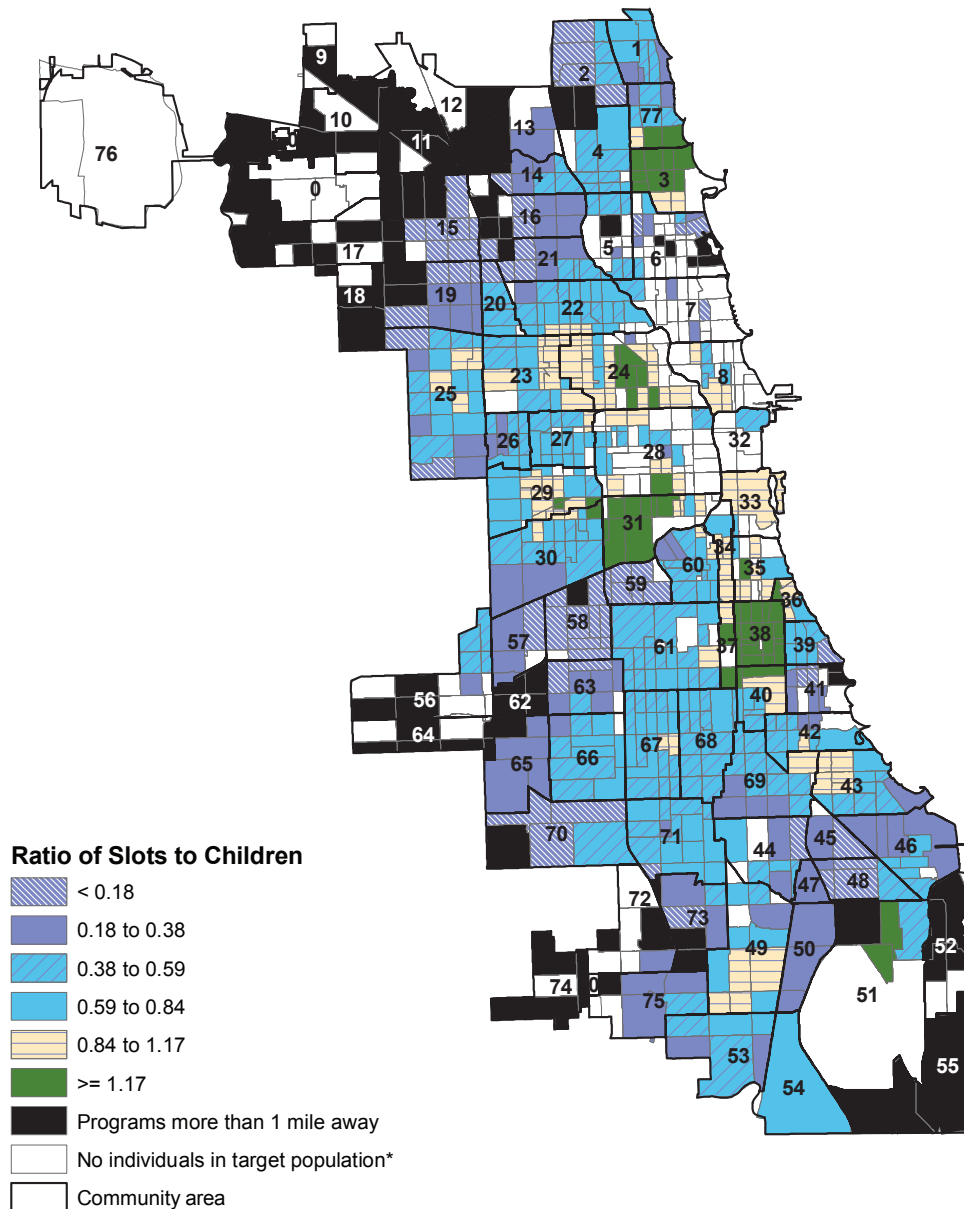
22 CPS Early Childhood Program Enrollment data, November 2006. See footnote 19 and Appendix B for details on method.

23 Current preschool programs are geared toward children at risk for academic failure due to home and environmental factors such as language, poverty, and/or health rather than any specific income guideline.

24 The “Preschool for All” legislation approved by legislators and signed by Gov. Rod Blagojevich in 2006 makes Illinois the first state in the nation with plans to offer voluntary, high-quality preschool to all 3- and 4-year-olds. The fiscal year 2007 state budget includes an additional \$45 million to extend Preschool for All to 10,000 more children.

FIGURE 16

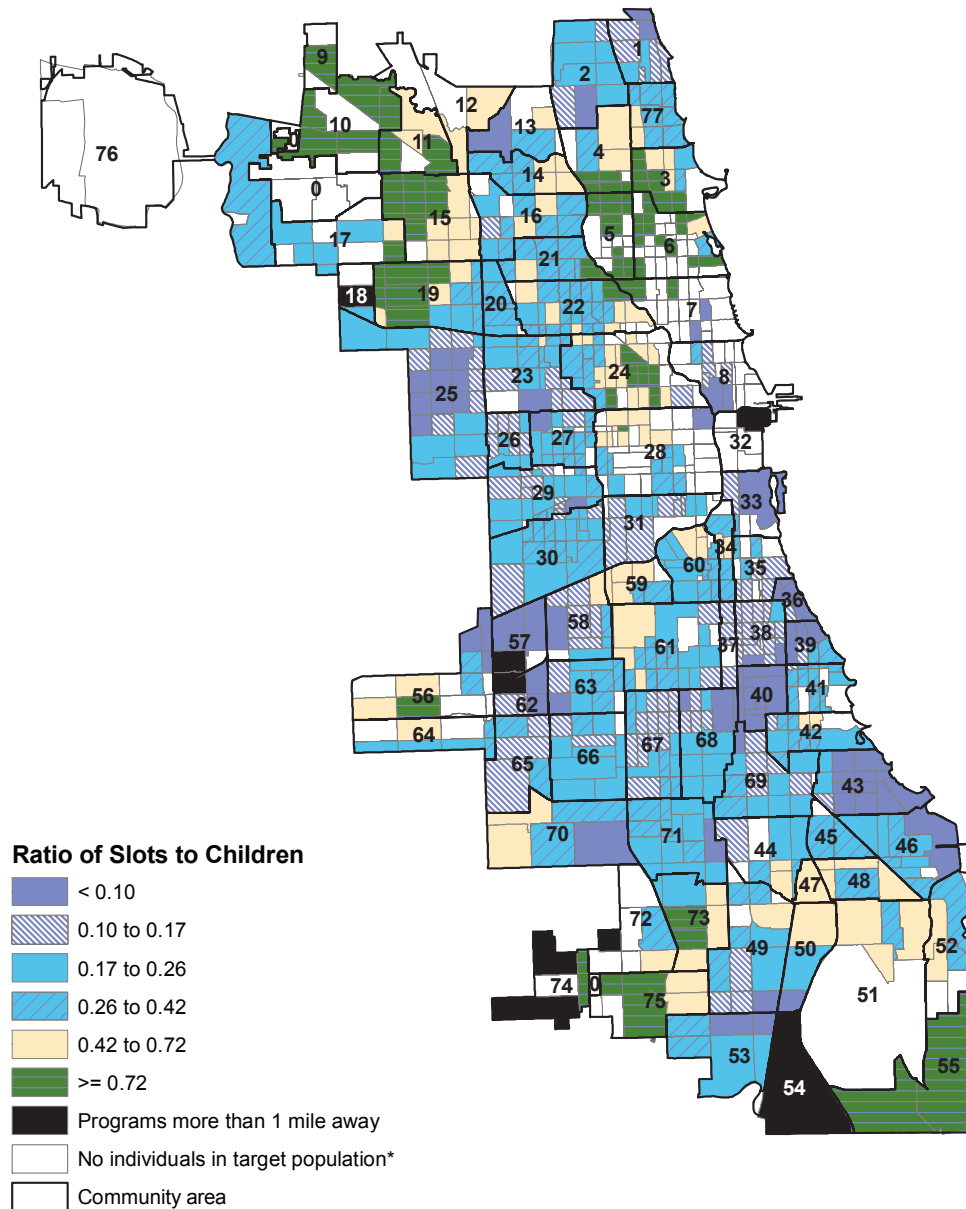
## Number of Head Start Slots per Eligible Child Ages 3–4 by Census Tract, 2006, by Chicago Community Area



\*Green borders denote community area. White sections within green borders may represent, for example, census tracts that are parks, industrial areas, or not part of the city.

FIGURE 17

## Number of State Pre-K Slots per Child Ages 3–4 from Low-Income Families\*\* by Census Tract, 2006, by Chicago Community Area



\*Green borders denote community area. White sections within green borders may represent, for example, census tracts that are parks, industrial areas, or not part of the city.

\*\*Based on 1.74% of Federal Poverty Level, which encompasses children living at or below 50% of the state median family income.

# Conclusion:

## Shaping the City We Want to Live In

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The population sizes and characteristics of the small community areas that make up the city of Chicago can change quite dramatically in relatively short periods of time. Accurate information that tracks these changes in a timely manner has historically been difficult to come by. Still, up-to-date information at the community level is very important to ensure that scarce public resources are allocated where they are most needed and that social services reach their target populations.

Chicago is experiencing major demographic changes in its child and youth population, and services do not appear—for reasons that are often understandable—to have kept up with the changes. A study of the population changes in Chicago’s seventy-seven community areas shows that communities to the northwest and southwest of the city have seen relatively large rates of growth in their child and youth populations while communities in the near west and near south have been losing children and youth. When these current community-level estimates are mapped with available slots in services targeted to the children and youth of Chicago—including public education, early childhood services, and after-school programs for youth—we find a general pattern of greater service availability in areas that have been losing population and relatively less service availability in areas that have been experiencing rapid growth.

The disconnects between population and services in certain communities require further analysis. It is important to gain a better understanding of service need and utilization in order to understand how service providers can best respond to population changes. Although the response to demographic changes by service providers working in other areas such as housing affordability, health care access, employment opportunities (for both adults and youth), and crime/violence also has an important bearing on the well-being of children and youth, it is beyond the scope of this study and merits further attention.

Many of the population changes taking place in the city of Chicago involve movement of people in and out of the city. In light of this, more information is needed on the availability of services for children in the broader metropolitan area and the extent to which families and children cross city boundaries to access needed services.

Some of the changing trends observed in Chicago, especially those that pertain to the distribution of poverty, raise some deep and contentious questions. Is Chicago developing a thriving inner city surrounded by communities with a growing number of low-income families? Can government and the private sector respond efficiently and effectively to demographic changes in communities in order to alleviate “growing pains” or facilitate needed changes to services available in them? Or is it necessary for community leaders to advocate for the services they need to address the changes that they see?

This report has highlighted demographic changes occurring over the past 15 years, and projected changes over the next 5 years. Understanding the changes that are taking place at the community level is the first step in being able to address them, and this information should be helpful to government officials and program planners in the near term. Over the long term, however, change will continue, and its direction may well shift.

We are left with two abiding conclusions. First, it is crucial to continue to collect, analyze, and disseminate in a timely fashion the information that is needed in order to maximize the likelihood that Chicago children will be able to access the kind and amount of services that will promote their healthy development. Second, government and service organizations need to develop and sustain the organizational capacity to understand and respond to the inevitable demographic changes in the city.

# Child Population by Community Area

Chicago Community Area	Community Number	Change in the number of children ages 0–17, 1990–1995	Change in the number of children ages 0–17, 1995–2000	Change in the number of children ages 0–17, 2000–2005	Change in the number of children ages 0–17, 2005–2010	Change in the number of children ages 0–17, 1990–2010	Percent change in the number of children ages 0–17, 1990–1995	Percent change in the number of children ages 0–17, 1995–2000	Percent change in the number of children ages 0–17, 2000–2005	Percent change in the number of children ages 0–17, 2005–2010	Percent change in the number of children ages 0–17, 1990–2010
ALBANY PARK	14	2,851	-669	-1,697	-1,038	-553	20%	-4%	-11%	-7%	-4%
ARCHER HEIGHTS	57	605	1,001	921	1,345	3,872	36%	43%	28%	32%	228%
ARMOUR SQUARE	34	99	81	-173	100	107	4%	3%	-7%	4%	5%
ASHBURN	70	1,100	2,247	2,507	2,663	8,517	13%	24%	21%	19%	101%
AUBURN GRESHAM	71	-188	-70	-55	152	-161	-1%	0%	0%	1%	-1%
AUSTIN	25	1,700	183	-3352	-4,720	-6,189	5%	0%	-9%	-13%	-17%
AVALON PARK	45	-121	110	142	606	737	-4%	4%	5%	21%	27%
AVONDALE	21	2,646	972	-407	-173	3,038	32%	9%	-3%	-2%	37%
BELMONT CRAGIN	19	5,790	4,375	3,619	4,941	18,725	44%	23%	15%	18%	141%
BEVERLY	72	-179	-59	-68	968	662	-3%	-1%	-1%	17%	11%
BRIDGEPORT	60	358	441	-313	-10	476	5%	6%	-4%	0%	6%
BRIGHTON PARK	58	2,035	4,704	3,281	329	10,349	24%	45%	22%	2%	123%
BURNSIDE	47	95	-46	-75	-64	-90	9%	-4%	-7%	-6%	-8%
CALUMET HEIGHTS	48	-39	-273	280	1,007	975	-1%	-7%	8%	26%	25%
CHATHAM	44	1,107	418	653	1,395	3,573	15%	5%	7%	14%	47%
CHICAGO LAWN	66	3,669	2,391	81	3,137	9,278	23%	12%	0%	14%	59%
CLEARING	64	5	649	1,203	1,252	3,109	0%	15%	24%	20%	71%
DOUGLAS	35	194	-2,571	-3,419	-1,329	-7,125	2%	-26%	-47%	-34%	-74%
DUNNING	17	490	1,117	1,431	2,379	5,417	7%	15%	17%	24%	79%
EAST GARFIELD PARK	27	-1,098	190	-171	-785	-1,864	-14%	3%	-2%	-11%	-23%
EAST SIDE	52	837	1,073	718	1,547	4,175	16%	17%	10%	19%	78%
EDGEWATER	77	441	-397	-1,432	-2,282	-3,670	4%	-4%	-14%	-27%	-37%
EDISON PARK	9	68	200	380	-19	629	3%	9%	16%	-1%	31%
ENGLEWOOD	68	-1,123	-1,132	-2,396	-3,847	-8,498	-7%	-7%	-17%	-32%	-51%
FOREST GLEN	12	78	563	688	688	2,017	2%	17%	17%	15%	61%
FULLER PARK	37	9	-203	11	-28	-211	1%	-17%	1%	-3%	-17%
GAGE PARK	63	3,830	2,774	1,943	3,132	11,679	51%	24%	14%	19%	155%
GARFIELD RIDGE	56	394	1,003	661	1,062	3,120	6%	13%	8%	12%	44%
GRAND BOULEVARD	38	-78	-3,588	-4,264	-1,356	-9,286	-1%	-26%	-42%	-23%	-68%
GREATER GRAND CROSSING	69	1,059	586	-85	1,294	2,854	11%	5%	-1%	11%	29%
HEGEWISCH	55	-49	252	328	446	977	-2%	12%	14%	17%	46%
HERMOSA	20	1,025	806	-86	190	1,935	14%	10%	-1%	2%	26%
HUMBOLDT PARK	23	-354	-1,041	-3,278	-2,626	-7,299	-1%	-4%	-14%	-13%	-29%
HYDE PARK	41	-265	293	-90	-18	-80	-6%	7%	-2%	0%	-2%
IRVING PARK	16	2,929	474	-948	-1,617	838	25%	3%	-6%	-12%	7%
JEFFERSON PARK	11	333	736	960	841	2,870	8%	17%	19%	14%	71%
KENWOOD	39	-356	435	191	-833	-563	-9%	12%	5%	-20%	-15%
LAKE VIEW	6	-1,394	-1,063	-161	570	-2,048	-16%	-15%	-3%	9%	-24%
LINCOLN PARK	7	628	118	518	908	2,172	10%	2%	8%	12%	36%
LINCOLN SQUARE	4	288	-1,172	-1,643	-2,000	-4,527	3%	-12%	-19%	-28%	-47%
LOGAN SQUARE	22	-737	-2,677	-4,988	-4,166	-12,568	-3%	-11%	-22%	-23%	-48%
LOOP	32	289	-6	193	77	553	47%	-1%	22%	7%	90%



Chicago Community Area	Community Number	Change in the number of children ages 0–17, 1990–1995	Change in the number of children ages 0–17, 1995–2000	Change in the number of children ages 0–17, 2000–2005	Change in the number of children ages 0–17, 2005–2010	Change in the number of children ages 0–17, 1990–2010	Percent change in the number of children ages 0–17, 1990–1995	Percent change in the number of children ages 0–17, 1995–2000	Percent change in the number of children ages 0–17, 2000–2005	Percent change in the number of children ages 0–17, 2005–2010	Percent change in the number of children ages 0–17, 1990–2010
LOWER WEST SIDE	31	-716	-1,527	-1,219	-1,086	-4,548	-4%	-9%	-8%	-8%	-27%
McKINLEY PARK	59	501	577	336	294	1,708	13%	13%	7%	6%	45%
MONTCLARE	18	817	229	533	1,479	3,058	40%	8%	17%	41%	151%
MORGAN PARK	75	-471	150	256	-423	-488	-7%	2%	4%	-6%	-7%
MOUNT GREENWOOD	74	226	52	5	241	524	5%	1%	0%	5%	12%
NEAR NORTH SIDE	8	251	177	-1,240	-2,447	-3,259	3%	2%	-16%	-37%	-44%
NEAR SOUTH SIDE	33	436	-436	-59	-58	-117	17%	-14%	-2%	-2%	-5%
NEAR WEST SIDE	28	-1,814	-1,677	-2,740	-2,518	-8,749	-12%	-13%	-24%	-29%	-59%
NEW CITY	61	68	-956	-1,296	-832	-3,016	0%	-5%	-7%	-5%	-15%
NORTH CENTER	5	-695	-1,506	-530	-344	-3,075	-9%	-23%	-10%	-7%	-42%
NORTH LAWDALE	29	-1,273	-311	-2,210	-2,320	-6,114	-7%	-2%	-14%	-17%	-35%
NORTH PARK	13	235	442	270	112	1,059	6%	11%	6%	2%	29%
NORWOOD PARK	10	23	696	1,627	1,352	3,698	0%	11%	24%	16%	60%
O'HARE	76	110	288	405	410	1,213	9%	21%	25%	20%	97%
OAKLAND	36	-846	-318	-1,048	-406	-2,618	-24%	-12%	-44%	-30%	-73%
PORTAGE PARK	15	2,045	1,997	2,110	2,373	8,525	20%	16%	15%	14%	81%
PULLMAN	50	131	-102	-29	-124	-124	5%	-4%	-1%	-5%	-5%
RIVERDALE	54	75	-465	-1,573	-1,329	-3,292	2%	-9%	-35%	-45%	-67%
ROGERS PARK	1	2,366	-990	-2,584	-1,019	-2,227	17%	-6%	-17%	-8%	-16%
ROSELAND	49	-560	224	78	48	-210	-4%	2%	1%	0%	-1%
SOUTH CHICAGO	46	848	-931	-716	34	-765	7%	-7%	-6%	0%	-6%
SOUTH DEERING	51	-765	228	-39	909	333	-14%	5%	-1%	19%	6%
SOUTH LAWDALE	30	89	-156	-1,412	-893	-2,372	0%	-1%	-5%	-3%	-8%
SOUTH SHORE	43	1,998	-1,095	-1,850	-922	-1,869	12%	-6%	-11%	-6%	-11%
UPTOWN	3	-1,076	-2,477	-2,462	-1,216	-7,231	-8%	-19%	-24%	-15%	-52%
WASHINGTON HEIGHTS	73	-259	29	567	1,137	1,474	-3%	0%	8%	14%	19%
WASHINGTON PARK	40	-482	-1,448	-1,069	-848	-3,847	-7%	-21%	-20%	-20%	-53%
WEST ELSDON	62	1,220	822	1,273	2,385	5,700	54%	23%	29%	43%	250%
WEST ENGLEWOOD	67	-977	-1,412	-1,637	-1,497	-5,523	-5%	-8%	-10%	-11%	-31%
WEST GARFIELD PARK	26	-354	470	-995	-976	-1,855	-4%	6%	-12%	-13%	-23%
WEST LAWN	65	1,755	1,882	3,297	4,328	11,262	36%	28%	39%	37%	232%
WEST PULLMAN	53	-714	-582	-596	-785	-2,677	-5%	-5%	-5%	-7%	-20%
WEST RIDGE	2	2,378	1,950	76	-261	4,143	17%	12%	0%	-1%	30%
WEST TOWN	24	-2,802	-4,935	-5,623	-4,257	-17,617	-10%	-20%	-28%	-30%	-64%
WOODLAWN	42	1,155	-37	-771	-2,162	-1815	15%	0%	-9%	-27%	-24%
<b>Chicago Total</b>		<b>31,894</b>	<b>2,077</b>	<b>-29,257</b>	<b>-7,503</b>	<b>-2,789</b>	<b>1%</b>	<b>0%</b>	<b>-1%</b>	<b>0%</b>	<b>0%</b>

## Child Population Living in Poverty by Community Area

Chicago Community Area	Community Number	Change in the number of children ages 0–17 in poverty, 1990–2005	Percent change in the number of children ages 0–17 in poverty, 1990–2005	Percent of children ages 0–17 in poverty, 1990	Percent of children ages 0–17 in poverty, 2005	Change in the percent of children ages 0–17 in poverty, 1990–2005	Change in the percent of children ages 0–17 in poverty, 1990–2010	Number of children ages 0–17 living in poverty, 2005
ALBANY PARK	14	695	20%	25%	29%	4%	4%	4,219
ARCHER HEIGHTS	57	342	611%	3%	9%	6%	5%	398
ARMOUR SQUARE	34	-635	-56%	48%	21%	-27%	-34%	490
ASHBURN	70	960	156%	7%	11%	4%	5%	1,577
AUBURN GRESHAM	71	376	8%	28%	31%	3%	1%	5,044
AUSTIN	25	2,139	15%	38%	45%	8%	13%	16,009
AVALON PARK	45	-44	-8%	19%	17%	-2%	-5%	475
AVONDALE	21	1,235	57%	26%	29%	3%	3%	3,392
BELMONT CRAGIN	19	4,137	280%	11%	21%	10%	11%	5,615
BEVERLY	72	-4	-1%	6%	6%	0%	1%	354
BRIDGEPORT	60	814	46%	23%	32%	9%	4%	2,586
BRIGHTON PARK	58	4,031	235%	20%	31%	11%	12%	5,749
BURNSIDE	47	22	6%	37%	40%	3%	-8%	418
CALUMET HEIGHTS	48	446	72%	16%	27%	12%	7%	1,066
CHATHAM	44	903	45%	26%	30%	3%	-1%	2,915
CHICAGO LAWN	66	2,296	55%	27%	30%	3%	0%	6,489
CLEARING	64	377	122%	7%	11%	4%	3%	687
DOUGLAS	35	-4,670	-66%	73%	62%	-11%	-19%	2,413
DUNNING	17	336	86%	6%	7%	2%	3%	725
EAST GARFIELD PARK	27	-1,479	-30%	63%	51%	-12%	-17%	3,527
EAST SIDE	52	724	71%	19%	22%	3%	1%	1,742
EDGEWATER	77	-468	-18%	27%	26%	-1%	5%	2,161
EDISON PARK	9	37	137%	1%	2%	1%	2%	64
ENGLEWOOD	68	-1,260	-13%	57%	68%	11%	19%	8,281
FOREST GLEN	12	101	174%	2%	3%	2%	3%	159
FULLER PARK	37	-508	-54%	77%	41%	-35%	-44%	429
GAGE PARK	63	4,004	333%	16%	32%	16%	14%	5,207
GARFIELD RIDGE	56	252	19%	18%	17%	-1%	-3%	1,550
GRAND BOULEVARD	38	-9,086	-77%	86%	47%	-39%	-50%	2,735
GREATER GRAND CROSSING	69	897	19%	48%	49%	1%	-8%	5,649
HEGEWISCH	55	222	99%	10%	17%	6%	3%	446
HERMOSA	20	571	35%	22%	24%	2%	1%	2,185
HUMBOLDT PARK	23	-1,091	-10%	45%	50%	5%	5%	10,374
HYDE PARK	41	144	24%	14%	17%	4%	4%	751
IRVING PARK	16	1,336	85%	14%	21%	7%	11%	2,903
JEFFERSON PARK	11	185	95%	5%	6%	1%	3%	379
KENWOOD	39	422	28%	39%	47%	8%	15%	1,941
LAKE VIEW	6	-165	-13%	15%	19%	4%	3%	1,135
LINCOLN PARK	7	-337	-37%	15%	8%	-7%	-7%	572
LINCOLN SQUARE	4	-487	-25%	20%	20%	0%	5%	1,424
LOGAN SQUARE	22	-2,849	-30%	36%	38%	1%	8%	6,681
LOOP	32	-58	-91%	10%	1%	-10%	-9%	6

Chicago Community Area	Community Number	Change in the number of children ages 0–17 in poverty, 1990–2005	Percent change in the number of children ages 0–17 in poverty, 1990–2005	Percent of children ages 0–17 in poverty, 1990	Percent of children ages 0–17 in poverty, 2005	Change in the percent of children ages 0–17 in poverty, 1990–2005	Change in the percent of children ages 0–17 in poverty, 1990–2010	Number of children ages 0–17 living in poverty, 2005
LOWER WEST SIDE	31	235	4%	34%	45%	11%	7%	6,014
McKINLEY PARK	59	634	105%	16%	24%	8%	7%	1,239
MONTCLARE	18	122	72%	8%	8%	0%	-1%	291
MORGAN PARK	75	80	6%	19%	20%	1%	3%	1,404
MOUNT GREENWOOD	74	-3	-1%	5%	4%	0%	1%	203
NEAR NORTH SIDE	8	-999	-24%	56%	48%	-8%	-4%	3,163
NEAR SOUTH SIDE	33	-559	-29%	74%	54%	-20%	-34%	1,357
NEAR WEST SIDE	28	-5,574	-53%	70%	56%	-14%	-15%	4,858
NEW CITY	61	55	1%	44%	49%	6%	1%	8,975
NORTH CENTER	5	-672	-50%	18%	15%	-4%	-2%	675
NORTH LAWDALE	29	-1,920	-17%	64%	67%	4%	-3%	9,158
NORTH PARK	13	649	190%	9%	22%	12%	13%	991
NORWOOD PARK	10	300	435%	1%	4%	3%	5%	369
O'HARE	76	552	1,255%	4%	29%	26%	25%	596
OAKLAND	36	-2,130	-69%	86%	69%	-17%	-21%	936
PORTAGE PARK	15	1,705	227%	7%	15%	8%	10%	2,457
PULLMAN	50	326	40%	32%	45%	13%	7%	1,133
RIVERDALE	54	-1,295	-35%	74%	79%	5%	5%	2,354
ROGERS PARK	1	1,933	51%	28%	46%	18%	19%	5,741
ROSELAND	49	819	21%	26%	32%	6%	5%	4,809
SOUTH CHICAGO	46	1,275	27%	36%	49%	13%	7%	5,949
SOUTH DEERING	51	434	30%	26%	38%	12%	3%	1,864
SOUTH LAWDALE	30	5,180	60%	30%	50%	20%	22%	13,868
SOUTH SHORE	43	-20	0%	39%	41%	2%	-2%	6,421
UPTOWN	3	-2,683	-46%	42%	40%	-2%	-5%	3,150
WASHINGTON HEIGHTS	73	491	39%	16%	22%	5%	4%	1,750
WASHINGTON PARK	40	-1,753	-32%	75%	86%	11%	3%	3,657
WEST ELSDON	62	551	338%	7%	13%	6%	4%	714
WEST ENGLEWOOD	67	-1,211	-15%	43%	47%	4%	-1%	6,622
WEST GARFIELD PARK	26	-741	-15%	59%	56%	-3%	-11%	4,067
WEST LAWN	65	898	215%	9%	11%	3%	2%	1,316
WEST PULLMAN	53	833	23%	28%	40%	12%	11%	4,509
WEST RIDGE	2	2,503	92%	20%	29%	9%	11%	5,236
WEST TOWN	24	-4,934	-44%	41%	44%	3%	10%	6,318
WOODLAWN	42	780	19%	53%	61%	7%	10%	4,899
<b>Chicago Total</b>		<b>724</b>	<b>0%</b>	<b>34%</b>	<b>34%</b>	<b>0%</b>	<b>-3%</b>	<b>247,985</b>

## Hispanic Child Population by Community Area

Chicago Community Area	Community Number	Percent change in the number of Hispanic children ages 0–17, 1990–2005	Percent of Hispanic children ages 0–17, 1990	Percent of Hispanic children ages 0–17, 2005	Change in the percent of Hispanic children ages 0–17, 1990–2005
ALBANY PARK	14	20%	52%	60%	8%
ARCHER HEIGHTS	57	348%	39%	70%	31%
ARMOUR SQUARE	34	-7%	4%	4%	0%
ASHBURN	70	89%	23%	25%	3%
AUBURN GRESHAM	71	-5%	1%	1%	0%
AUSTIN	25	-2%	5%	5%	0%
AVALON PARK	45	9%	1%	1%	0%
AVONDALE	21	52%	73%	79%	7%
BELMONT CRAGIN	19	134%	71%	81%	11%
BEVERLY	72	0%	3%	4%	0%
BRIDGEPORT	60	6%	43%	43%	0%
BRIGHTON PARK	58	139%	81%	88%	7%
BURNSIDE	47	0%	0%	0%	0%
CALLUMET HEIGHTS	48	-6%	9%	8%	0%
CHATHAM	44	33%	1%	1%	0%
CHICAGO LAWN	66	31%	42%	40%	-2%
CLEARING	64	122%	25%	39%	14%
DOUGLAS	35	-59%	1%	1%	0%
DUNNING	17	112%	16%	24%	8%
EAST GARFIELD PARK	27	-15%	1%	1%	0%
EAST SIDE	52	61%	81%	87%	7%
EDGEWATER	77	-13%	36%	36%	0%
EDISON PARK	9	68%	4%	5%	1%
ENGLEWOOD	68	-29%	1%	1%	0%
FOREST GLEN	12	64%	9%	11%	2%
FULLER PARK	37	-12%	4%	4%	0%
GAGE PARK	63	131%	82%	89%	7%
GARFIELD RIDGE	56	64%	23%	29%	6%
GRAND BOULEVARD	38	-59%	0%	0%	0%
GREATER GRAND CROSSING	69	14%	1%	1%	0%
HEGEWISCH	55	97%	34%	54%	20%
HERMOSA	20	25%	90%	91%	1%
HUMBOLDT PARK	23	-15%	48%	50%	2%
HYDE PARK	41	1%	6%	6%	0%
IRVING PARK	16	52%	49%	61%	12%
JEFFERSON PARK	11	116%	17%	24%	7%
KENWOOD	39	5%	2%	2%	0%
LAKE VIEW	6	-44%	28%	22%	-5%
LINCOLN PARK	7	-4%	10%	8%	-2%
LINCOLN SQUARE	4	-20%	39%	42%	3%
LOGAN SQUARE	22	-31%	81%	82%	1%
LOOP	32	44%	13%	11%	-2%

Chicago Community Area	Community Number	Percent change in the number of Hispanic children ages 0–17, 1990–2005	Percent of Hispanic children ages 0–17, 1990	Percent of Hispanic children ages 0–17, 2005	Change in the percent of Hispanic children ages 0–17, 1990–2005
LOWER WEST SIDE	31	-21%	95%	95%	0%
McKINLEY PARK	59	52%	68%	75%	7%
MONTCLARE	18	181%	39%	61%	22%
MORGAN PARK	75	-4%	3%	3%	0%
MOUNT GREENWOOD	74	11%	6%	6%	0%
NEAR NORTH SIDE	8	-12%	6%	6%	0%
NEAR SOUTH SIDE	33	10%	2%	2%	0%
NEAR WEST SIDE	28	-39%	10%	10%	0%
NEW CITY	61	-1%	50%	55%	5%
NORTH CENTER	5	-42%	37%	34%	-3%
NORTH LAWNDALE	29	-20%	4%	4%	0%
NORTH PARK	13	41%	19%	22%	2%
NORWOOD PARK	10	85%	9%	12%	3%
O'HARE	76	72%	12%	12%	1%
OAKLAND	36	-63%	2%	2%	0%
PORTAGE PARK	15	148%	26%	41%	15%
PULLMAN	50	-8%	10%	9%	-1%
RIVERDALE	54	-37%	4%	4%	0%
ROGERS PARK	1	-6%	39%	41%	1%
ROSELAND	49	-3%	1%	1%	0%
SOUTH CHICAGO	46	-29%	35%	27%	-8%
SOUTH DEERING	51	-14%	36%	34%	-2%
SOUTH LAWNDALE	30	-5%	93%	93%	0%
SOUTH SHORE	43	-6%	1%	1%	0%
UPTOWN	3	-47%	36%	34%	-2%
WASHINGTON	73	3%	2%	2%	0%
WASHINGTON PARK	40	-42%	2%	2%	0%
WEST ELSDON	62	323%	43%	74%	31%
WEST ENGLEWOOD	67	-23%	1%	1%	0%
WEST GARFIELD PARK	26	-14%	1%	1%	0%
WEST LAWN	65	292%	46%	74%	28%
WEST PULLMAN	53	-17%	6%	6%	0%
WEST RIDGE	2	66%	18%	23%	5%
WEST TOWN	24	-51%	72%	68%	-3%
WOODLAWN	42	1%	1%	1%	0%
<b>Chicago Total</b>		<b>18%</b>	<b>32%</b>	<b>37%</b>	<b>5%</b>

## Chicago Community Area Population Estimates and Forecast Methodology

### 1990–2005 Population Estimates

The U.S. Census Bureau produces mid-year population estimates for counties and some metropolitan areas, which are currently available for both the 1991–1999 inter-censal period and from 2000 to 2005. Because of the high quality of the Census Bureau estimates, the standard practice of using these as a benchmark was followed here, and sub-county estimates were produced using methods that ensure that county totals correspond to the Census Bureau estimates for Cook County. The final result is a series of July 1 estimates for each 5-year age group (0–4 through 85+) in each Chicago Community Area (CCA) for the period 1990–2005. These can be interpolated within age groups using the Sprague multiplier method to calculate any desired age grouping.

The shift-share method was used for the 2000–2005 period, where each sub-area's share of the Cook County population was estimated for each point in time, and final population estimates were calculated using these shares and the Census Bureau county-level estimates. Thus:

$$P_{ijt} = P_{cit} * ((P_{ijt-1} / P_{cit-1}) * r)$$

where

i specifies the 5-year age group

j identifies the CCA

c identifies the Cook County estimate

r is the rate of change in the population share from t-1 to t

For age groups 5–9, 10–14, and 15–19, the rate of change was calculated from Chicago Public Schools enrollment data. For all other age groups, the yearly rate of change calculated from the 1990 and 2000 census data was used. After generating estimates for the 2000–2005 period, inter-censal estimates for the 1990–1999 period were calculated using cubic spline interpolation, in which polynomial segments are fitted together to produce a smooth curve consistent with the existing data points. The results of this interpolation were adjusted to sum to the Census Bureau county-level estimates.

### 2006–2010 Population Forecasts

Generating population forecasts for points in time after 2005 required extrapolation of trends seen in the 1990–2005 period, without the benefit of independently produced forecasts for a larger area such as Cook County. An extension of the shift-share method was selected as the approach that produced the most plausible forecasts. This involved first forecasting the Cook County population for each 5-year age group, and then forecasting the population share for each 5-year age group in each CCA and calculating the populations. ARIMA models were used to generate both sets of forecasts. The ARIMA methodology allows for highly sophisticated modeling, incorporating varying orders of autoregressive and moving average terms. Here, relatively simple models involving only autoregressive terms were used, following the general form:



$$x_t = \zeta + \Phi_1 x_{(t-1)} + \Phi_2 x_{(t-2)} + \Phi_3 x_{(t-3)} + \dots + \varepsilon$$

where

$\zeta$  is a constant (intercept), and  
 $\Phi_1, \Phi_2, \Phi_3$  are the autoregressive parameters

Thus, each observation is modeled as a result of random error and a linear combination of prior observations.

For Cook County, Census Bureau population estimates for 5-year age groups were available for the 1980–2005 period, which provided enough data to incorporate cyclical patterns of growth and decline where appropriate. For most age groups, the model utilized did involve a seasonal lag structure to control for cyclicity.

## Chicago Community Area Child Poverty Estimates/Forecasts 1990–2010

### 1990–2003 Estimates

The U.S. Census Bureau Small Area Income and Poverty Estimates program (SAIPE) produces inter- and post-censal poverty estimates for children ages 5–17 at the geographic level of school districts for years 1995–2003. In the case of Chicago, the Chicago Public Schools district boundary is equivalent to that of the city, making these estimates a useful component in producing further estimates of Chicago Community Area (CCA) poverty in that they provide information on the overall trend in poverty seen in the city. In estimating CCA child poverty, the current method utilizes this Chicago-level data in conjunction with data at the CCA level from the decennial censuses, inter- and post-censal CCA population estimates, and administrative data on participation in the food stamp program.

Because the Census Bureau relies on a methodology that combines decennial census data, administrative records, and survey data, the SAIPE estimates are not expected to be entirely consistent with decennial censuses. The documentation provided with these estimates discusses census undercount of the poor population in connection with this issue, suggesting that in general the SAIPE poverty estimates for 2000 should be higher than the census estimates. Paradoxically, this is not the case for Chicago, where the SAIPE school district estimates for the year 2000 are markedly below census data tabulated for the same age group. Because the decennial censuses provide the only direct measurement of the poverty population in Chicago Community Areas and because of the commonly held perception that the censuses undercount the poor population, the SAIPE estimates for Chicago are incorporated into the current method as a source of information on inter- and post-censal trends in poverty rather than as a benchmark measure of the total poverty population in Chicago.

In estimating the child poverty population for CCAs, Chapin Hall relied on a simple regression model approach to produce base estimates for the 5–17 age group, and a subsequent similar model to estimate poverty in the 0–4 age group. For the 5–17 age group, the following model was used:

$$y_i = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \epsilon_i$$

where

$y_i$  = census 5–17 poverty in CCA  $i$  / SAIPE 5–17 Chicago estimate

$x_{1i}$  = 5–17 population in CCA  $i$  / Chicago 5–17 population

$x_{2i}$  = 5–17 food stamp recipients in CCA  $i$  / Chicago 5–17 food stamp recipients

$\epsilon_i$  = error for CCA  $i$

Thus, each CCA's share of the SAIPE Chicago poverty estimate is modeled in relation to its share of Chicago population and food stamp recipients. Estimated values of the dependent variable are used in conjunction with the SAIPE estimate to calculate a CCA poverty estimate for years 1995–2003. In order to establish consistency with the 2000 census, the resulting estimates for each CCA were then adjusted such that the 2000 estimate was equal to that of the 2000 census. Finally, estimated values for years 1991–1994 were produced using cubic spline interpolation.

For the 0–4 age group, the following model was used:

$$y_i = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \epsilon_i$$

where

$y_i$  = census 0–4 poverty in CCA  $i$  / 0–4 population in CCA  $i$

$x_{1i}$  = estimated 5–17 poverty in CCA  $i$  / 5–17 population in CCA  $i$

$x_{2i}$  = 0–4 food stamp recipients in CCA  $i$  / 0–4 population in CCA  $i$

$\epsilon_i$  = error for CCA  $i$

Here, the 0–4 poverty rate within CCAs is modeled in relation to the 5–17 poverty rate and the 0–4 food stamp receipt rate. Estimated values of the dependent variable are used in conjunction with the CCA 0–4 population estimates to calculate a CCA 0–4 poverty estimate for years 1995–2003. Again, the resulting estimates for each CCA were then adjusted such that the 2000 estimate was equal to that of the 2000 census, and estimated values for years 1991–1994 were produced using cubic spline interpolation.

## 2004–2010 Forecasts

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Producing CCA poverty forecasts beyond 2003 is a difficult task, not only because of the lack of any independently produced poverty forecasts to draw on, but also because of the close relationship between poverty levels and trends in the local economy. In order to produce plausible forecasts, a method was required that would incorporate available data related to the economy and allow for modeling of the cyclical nature of poverty trends. The approach selected involved two steps: first forecasting Chicago-level poverty to 2010, and then forecasting CCA shares of Chicago poverty and calculating CCA poverty using these results.

Chicago-level poverty forecasts for both ages 5–17 and 0–4 were produced using autoregression models. The dependent variable (poverty) is modeled as a function of the value in the previous time period, and for years through 2006, Cook County unemployment in the previous time period is included as a measure of economic health:



$$y_t = \beta_0 + \beta_1 x_{1t-1} + \beta_2 x_{2t-1} + v_t$$

where

$x_{1t-1}$  = lagged poverty

$x_{2t-1}$  = lagged Cook County unemployment

$$v_t = -\delta_{1vt-1} - \delta_{2vt-2} - \dots - \delta_{mvt-m} + \varepsilon_t$$

Regression coefficients  $\beta$  are estimated simultaneously with the autoregressive error model parameters  $\delta_i$ , correcting for error autocorrelation over time.

## Method for Determining Ratio of Slots to Number of Children in Target Population

The following method was used to calculate the ratio of slots to children for the youth program, child care licensing, Head Start, and State Pre-K analyses.

These analyses were conducted using a two-step floating catchment area (2SFCA) method (Lou & Wang, 2003). By addressing two important issues in spatial accessibility—distance and demand relative to supply—this method is considered more advanced than traditional measures. This method is useful in identifying local areas that have below-average accessibility ratios.

Three components of data were needed for the gap analysis: 1) estimates for supply (program slots) and demand (number of eligible children); 2) longitude and latitude information on census tracts of residence and on program providers; and 3) a radius defining a service area centered at each provider. Below is a more detailed description of the two-step floating catchment area method.

### *Two-Step Floating Catchment Area Method*

The census tracts in Chicago ( $N=866$ ) were chosen as the analysis unit for the target population, or demand. Its latitude/longitude location was approximated by population-weighted centroids of a census tract (based on blockgroup-level population) instead of a simple geographic centroid to represent population locations more accurately. Location information on providers ( $N=771$ ) was obtained by street-level geocoding (Version 1.4 of Centrus Geocoder for ArcGIS).

Assuming a threshold travel distance of a certain number of miles for providers, a service area centered at each provider location was drawn as its “catchment” area, varying with its radius. We experimented with its radius, first 1-mile and second 2-mile radius: the larger the radius the smoother the ratios. The circle with the same radius “floats” from the location of one provider to another. The underlying assumption is that the provider is fully reachable by all children and families living within the area.

Based on the distance between a provider and a census tract, a group of census tracts falling within the distance radius identified above were identified for each provider. Accessibility ratios were calculated in two steps. In the first step, accessibility ratios for

the census tracts within the service area were calculated by dividing the capacity of the provider by all of the individuals in need within the service area. This means that an identical ratio is assigned to individuals in the same service area. Therefore, the ratio is considered as a neighborhood average. A second step is needed to address the fact that some census tracts are included in more than one service area, that is, census tracts in overlapping service areas. To account for the better accessibility for individuals living in those areas, final accessibility ratios for census tracts were calculated by summing the ratios obtained in the first step by census tract. In this way, children living close to concentrated providers can get higher accessibility ratios.

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