

Finding Food in Chicago and the Suburbs

The Report of the Northeastern Illinois Community Food Security Assessment

Report to the Public

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A joint project of the Chicago State University Frederick Blum Neighborhood Assistance Center and the University of Illinois-Chicago School of Public Health, Division of Community Health Sciences

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Finding Food in Chicago and the Suburbs: The Report of the Northeastern Illinois Community Food Security Assessment

Executive Summary

Access to healthy, culturally appropriate food is a struggle in many Chicago area communities. Many inner-city communities, in particular, lack chain supermarkets. While these patterns are well known, they are extremely complex and dynamic. While there may be many stores in a community, there may be no full-service supermarket. Stores also open and close on a daily basis, so current situations can be difficult to track.

The Northeastern Illinois Community Food Security Assessment studied these patterns at four levels. For the six-county Chicago metropolitan area, location data was collected for a variety of grocery store categories including: independent supermarkets and groceries; full-service supermarkets; supercenters; and specialty and discount chains. Chain store data was collected in both 2005 and 2007. In addition, data was collected on chain drug stores, chain convenience stores, food pantries, farmers' markets, and chain fast-food restaurant. These data were then compared to neighborhood demographics.

To give a greater understanding of the effect of differences in food access on a community, six communities within Chicago were studied in depth. In Englewood, Hegewisch, Lower West Side (Pilsen), Portage Park, and Riverdale and Uptown, we completed price and availability studies of community groceries, and in five communities (all but Uptown) we conducted a series of structured group interviews with consumers, store owners and managers, and service providers (such as food pantry managers). Finally, in Riverdale, Hegewisch, and Englewood, a series of door-to-door household surveys on hunger and access to emergency food and social safety net programs was collected. In each of these communities, researchers partnered with local community groups to collect data and help disseminate results.

Results are both enlightening and concerning. Primary conclusions include:

Food Access Mapping:

- Lower-income African-American neighborhoods, both in the city and in the suburbs, have relatively low access to supermarkets, whether chain or independent.
- Hispanic neighborhoods have similarly low access to chain supermarkets, but have many independent stores. Residents, however, see a need for full-service markets, which are often missing.

- Particular areas of poor food access (defined by access to supermarkets) found include: portions of Chicago's South, Southeast, and West Sides; an area of the southern suburbs running from Lynwood, through Lansing and Calumet City to Burnham; northeastern Kane County; central Aurora; Maywood; North Chicago and southern Waukegan, and the Round Lake area.
- New areas with low access to full-service chain stores appeared between 2005 and 2007, particularly in the Austin/West Humboldt Park area of Chicago and the southern suburbs from Riverdale through Burnham, Calumet City, Lansing, and Lynwood.
- More full-service chain stores, such as Jewel and Dominick's closed than opened during the period 2005 to 2007. Other stores, such as discount chains, including Aldi, and specialty chains such as Whole Foods, have opened many new locations. However, except discount chains, few stores are opening in predominantly African-American neighborhoods.

Consumer and Retailer Interviews:

- Inadequate transportation is a barrier to getting to food; many people need to travel by bus, often with transfers. This limits what can be purchased, often to foods that will not spoil, but that may be less healthy.
- Consumers felt small stores in their communities were dirty and unkempt, sometimes with rude and disrespectful staff.
- Many retail food owners feel they offer healthy foods, but also cited some barriers to doing so.
- In several communities, food insecurity was seen as being made worse by increasing gentrification, which reduced the sense of community between residents.
- Particularly vulnerable groups included older adults, and unemployed, disabled, and homeless individuals.

Price and Availability Study:

- Full-service chain supermarkets carried by far the most grocery items, followed by discount and independent supermarkets.
- Discount supermarkets were by far the cheapest of the store types, but often carried few items specific to the dominant ethnic group in a community.

Door-to-door and Food Pantry Recipient Surveys:

- With only one exception, everyone surveyed who utilized a food pantry was Food Insecure. Anecdotal accounts of recipients abusing Food Pantries appear from our findings to be grossly inaccurate.
- Gardening was an uncommon activity among those surveyed with low incomes. Promotion of gardening in communities could reduce food insecurity among low income households.

I. Introduction

The Northeastern Illinois Community Food Security Assessment:

In fall, 2003, researchers at Chicago State University and UIC were funded by the Chicago Community Trust to perform a region-wide analysis of the Chicago food system. This study, named the Northeastern Illinois Community Food Security Assessment, was designed to both find “gaps” within the current mainstream food system and to compare these gaps to demographic variables such as race, as well as to identify the consequences of varying levels of food access on communities. Through this, the study aims to provide a baseline picture of food access levels in the Chicago metropolitan area.

Study Structure

Food systems are exceedingly complex. For instance, communities vary not only in terms of how many stores they have, but also in terms of what kinds of stores they have, and the quality of the groceries available in these stores. In addition, the relationship between community stores and the community may vary greatly. For this reason, mixed methodologies were used to describe and analyze the food system of the Chicago area. The study was thus designed with four separate but interconnected pieces:

- 1. Mapping and analysis of food access sites including supermarkets, fast-food restaurants, food pantries, chain drug stores, and chain convenience stores. This portion of the study was designed to describe the “food access landscape” or “foodscape” of the Chicago metropolitan area and the relationship of this landscape to neighborhood demographics. This study thus addresses where there are and are not stores and what kinds of stores are in what kinds of communities. This study was completed for the entire six-county Chicago metropolitan area.***
- 2. A market basket study, which plots the price and availability of a standard grocery list of foods, by store type and by community for six Chicago case study communities. This study expands our understanding of the food access landscape by giving us more knowledge of the characteristics of particular types of stores in particular communities and addresses whether particular communities seem to have higher prices for food than others.***
- 3. A set of structured group interviews with consumers, store owners and managers, and service providers in five Chicago case study communities. This portion of the study gives us an extremely rich portrait of how varying levels of food access affect those who live in and serve a community, and to study the relationship between store owners and managers and community members.***

- 4. A set of randomized door-to-door hunger and food access surveys. These were fully completed in one Chicago community, and partially completed in two others. Surveys were also completed among food pantry recipients in these communities.***

Geographic Scope

The mapping portion of the study was completed for the six-county Chicago area, including Cook, DuPage, Lake, Kane, McHenry, and Will Counties. This large scope is a particularly important characteristic of the study. Most food access studies, both of Chicago and of other cities have focused on inner-city communities. While these may often be areas of low food access, potential suburban or rural “food deserts” have been overlooked. We found areas of poor food access in a number of suburban communities as well as some surrounding rural areas.

While six counties constitute a large area, it is not the entire metropolitan area. The Chicago area continues to grow and now extends beyond this core area; Kendall County is currently the third fastest growing in the United States, and communities there such as Oswego and Plano are now part of the Chicago metropolitan area. Northwestern Indiana, including Lake and Porter Counties, is an important part of the Chicago metropolitan area but is often studied separately. These areas were not included in this study, but should be sites for future investigation.

Six case study areas were chosen within Chicago itself. These included Englewood, Hegewisch, Lower West Side (Pilsen), Portage Park, Riverdale (Altgeld Gardens), and Uptown. These communities were chosen with a goal of studying a group of Chicago communities that are diverse by race, median age, food access levels, income, levels of chronic disease, and geography. In the end, after studying a large number of variables representing these characteristics, three south side, one west side, and two north side communities were chosen. Two communities are predominantly African-American (Englewood and Riverdale), one is predominantly Latino (Lower West Side), two are predominantly white with growing Hispanic populations (Hegewisch and Portage Park), and one has a racially mixed population (Uptown). The communities are similarly diverse when other variables are viewed.

While six case study areas were chosen, one (Uptown) was not included in the structured group interviews. This was primarily due to the difficulties identifying a community partner in this community. The door-to-door surveys, perhaps the most time-demanding piece of the study, were conducted in three South Side communities, Riverdale, Hegewisch, and Englewood.

Table 1: Basic Demographics of Case Study Areas

Community	Population	% Black	% White	% Hispanic	% Other	Median Household Income (\$)
Englewood	40222	97.8	0.4	0.9	0.2	18955
Hegewisch	9781	1.3	67.0	28.8	0.8	43665
Lower West Side	44031	1.8	8.1	88.9	0.5	27763
Portage Park	65340	0.5	69.5	23.0	4.1	45117
Riverdale	9809	96.6	0.7	1.6	0.3	13178
Uptown	63551	21.1	42.1	19.9	13.7	32328

Source: Census 2000

Philosophy of the Assessment: Community-based Participatory Research

Overall, the purpose of the assessment is to create a rich picture of the food system of the Chicago metropolitan area and to define the gaps within it, working closely with community organizations, social service providers, and leaders in government and industry to make sure the information is both relevant and usable. To achieve this, the project adopted a community-based participatory research approach, partnering with community organizations in each case study area to help collect data and identify participants for structured interviews as well as choose particular data to emphasize within their communities. In addition, the project recruited an advisory council with a wide range of interests in food access and food security. Project investigators also remain involved with food security organizations throughout the region. These practitioners are also the part of the “community” for this project. A community-based participatory research approach was chosen because community-based approaches often lead towards more usage of the data collected as well as the collecting of data that more closely identifies community needs.

In community-based research, community members become part of the research team, rather than remaining passive subjects. Their familiarity with and knowledge of their own communities is emphasized. In addition, research is immediately connected back to community groups upon its release (and sometimes even during its gathering), providing greater opportunities for more immediate responses (Agency for Healthcare Research and Quality, 2003). Since the goal of this project was both to inspire creative action among food security and community professionals as well as to draw a baseline

picture of access to healthy food in the Chicago area, the community-based approach fits well. To support this goal, previous to the area-wide release of this data, community meetings in the five case study communities have been held and ongoing collaborations have formed Englewood and Pilsen.

II. Finding Food: The Food Access Landscape in the Chicago Area

The first step in a community food security assessment is to map the food access sites, primarily stores, in the study region. This may sound simple, but the supermarket industry is in a constant state of flux. Stores open and close all the time. Also, stores greatly vary, and the type of stores available in a community is just as important as the number of stores available. In talking to community residents prior to beginning our work, it became clear that residents may shop at many kinds of food stores during a typical month. For instance, a resident of the Austin community stated:

“...I shop at Tony's, Dominick's, Jewel.... Billy's sometimes 'cause I go get some vegetables sometimes. But most of my shopping is done at Tony's because they have a reasonable price, they got everything that I need right there and they not as high as Jewel's, or, oh, and Leamington's sometimes.”

This resident stated that she shopped at least five different stores, of at least three distinctive types. Tony's and Leamington's are local “independent” full-service supermarkets. Billy's is a small grocery specializing in fresh produce and meats, and Jewel and Dominick's are full-service chains owned by the national retailers SuperValu and Safeway. Other residents talked of going to Aldi for canned goods, a local store for meats, and to Sam's Club or Costco once a month for bulk items. In addition, in an earlier study of Austin and Oak Park, we had found that the availability and quality of grocery items, in particular fresh produce, varied greatly by store type. While it is true that other residents reported using only one or two stores, it is clear that having a diverse set of food stores in or near a community is important for many consumers.

Store Data

Because of the importance of store type to consumers and in terms of availability of fresh produce, we divided supermarkets and groceries into nine classes, based on industry standards and our own research. These are:

1. National, full-line chains (Jewel, Dominick's, and Food 4 Less) 2007 and 2005
2. Discount Chains (Aldi, Save-A-Lot) 2007 and 2005
3. Supercenters (SuperTarget, Wal-Mart Supercenter, Meijer) 2007 and 2005

4. Specialty Chains (Whole Foods, Trader Joe's) 2007 and 2005
5. Membership Warehouse (Costco, Sam's Club) 2007 and 2005
6. Large Independents and Local/Small Chain Supermarkets (such as Pete's Produce, Cermak Produce, Ultra, and Tony's) 2007
7. All Large Supermarkets (large independents, combined with national, full-line chains, supercenters, and Whole Foods stores) 2007
8. Small Independent Groceries (larger than corner stores, with fresh produce and meats as well as packaged goods) 2007
9. Chain Convenience Stores (Seven Eleven, JJ Peppers) 2007

Chain store data (store types 1 through 5) were collected in both 2005 and 2007. Independent and small chain supermarket data was collected summer 2007. In addition, we also collected or analyzed the following data sets. Years indicate the year of data collection:

10. Chain Drug Stores (Walgreen's, CVS) 2006
11. Food Pantries (pantries associated with either the Greater Chicago Food Depository, Northern Illinois Food Bank, or the Chicago Anti-Hunger Federation) 2005
12. Farmers' Markets 2005
13. Chain Fast-food Restaurants 2003
14. Corner Stores (only studied for Chicago) 2003

Data Collection

Store location data is often difficult to gather. Store location data may be purchased, but the purchased data often has many omissions. In particular, local chains are often listed with just their headquarters address. Data may also be collected from local regulatory sources, but in the Chicago area these often have little information about the stores other than their location. We utilized purchased data sets solely for only two data sets, which had large numbers of locations but were not our primary focus, chain fast-food restaurants and corner stores.

Chain supermarket data (classes 1 through 5) was collected using web sites, telephone directories and inquiries, news reports, and, in some cases, in person checks. Chain drug store and convenience store data were also collected in this manner.

Independent and small chain store data was more difficult to collect, which is likely why these stores have been less studied. It is difficult to say from its name, for instance, whether a store

called Tony's is part of the local supermarket chain or a corner store. We followed these steps in creating our store database:

1. Using purchased databases and lists of stores accepting Link cards and WIC Vouchers, we put together a list of stores likely to be "supermarkets."
2. Next, we used web sites and phone directories to identify stores of the same name that were likely to be part of a small local chain.
3. We then visited these stores with a short survey and added more as we investigated the area. A store was defined as an independent supermarket or grocery if it had fresh produce, fresh meat, and packaged good sections, and had at least two checkout lanes.
4. Based on this survey, we classified the stores. An independent or small chain store was defined as "large" if it had at least five checkout lanes in general use (those with no checkout machine or those being currently used for storage were not counted).

The number of checkout lanes is an imperfect measure of store size, but given that we had no sales data for many of these stores, the difficulty with measuring floor space, and the fact that we were comparing urban stores often with little floor space but high sales with suburban stores that might be larger in size but have lower sales, checkout lanes was a reasonable measure to use.

Other data came from a variety of sources. Food pantry locations came from the three largest food banks in the area. Note that this data thus does not include independent pantries not served by these food banks. Farmers' market locations came from newspaper listings, plus inquiries with the individual markets.

Data Analysis Methodologies

Analysis techniques for the study of retail patterns, particularly supermarkets, have left much to be desired. Many analyses have involved counting the number of stores in a particular region, such as a census tract, dividing the population of the region by the number of stores, and then comparing this to the demographic characteristics of the region. This method has the benefit of being very easy to understand. The problem with it is that people do not necessarily shop in their own census tract or community. What if, for instance, most of the population in a community lives in one corner of the area, but the supermarket is just across the boundary. In this case, this method might show a "food desert" where there is none. A further development of this method is to add a buffer area around the enumeration zone so that sites either inside the zone or within, say, a half mile of the outer boundary are counted. This is an improvement, but it may bring in stores that are very far from some areas of the zone.

This project used two methodologies. First, counts were made by Chicago community area and suburban municipality. While flawed, this method gives community groups, funders, and regulators easy to understand data that can be compared across communities. As an accompaniment to this method, a new method has been developed to create a “food access landscape” for each store category. This method uses the GIS program ArcMap and its Spatial Analyst extension and a land use map developed by the Chicago Metropolitan Agency for Planning, to transform the data point files into a street grid (or surface) showing street distance from any point on a street in the six-county area to the nearest store or other food access site. From these maps, average distance to the nearest store within a particular area, such as a census tract or municipality was calculated. For census tract calculations, the population of particular areas of a tract was taken into account, so that areas with higher populations were weighed more heavily in the calculation (these are called population weighted average distances).

Once this distance data by census tract was established, it was analyzed using two means. The first method utilized a neighborhood type classification developed by the University of Chicago Map Library, which classified all census tracts in the Chicago metropolitan area into ten types using four cluster variables. Population weighted average distances were calculated for all ten neighborhood types and a matrix was created of average distances to all fifteen store types compared to each neighborhood type. We then recalculated the mean distances after removing the power of population density through a statistical technique whereby the researcher studies the “residual” when a particular variable (in this case population density) is removed. This allows us to compare urban and suburban areas of different densities by their food access levels.

The ten neighborhood types are (see <http://www.lib.uchicago.edu/e/su/maps/chi2000.html> for more information):

1. Very urban, impoverished, English-speaking. Mainly African-American.
2. Somewhat impoverished, mostly English-speaking. Mostly African-American.
3. Somewhat urban and somewhat linguistically-isolated. Mostly blue-collar.
4. Very well-off neighborhoods with many non-family households.
5. Urban, impoverished, and very linguistically-isolated/Hispanic
6. Very urban and very linguistically-isolated/Hispanic, with non-family households. Often possess a large non-Hispanic population.
7. Urban, very well-off, with a great many non-family households.

8. Suburban. Not especially wealthy.

9. Suburban, well-off. More prosperous suburbia.

10. Very suburban, very wealthy, mostly English-speaking. Highly prosperous suburbia.

This method is very enlightening in terms of comparing neighborhoods of various types throughout the area, but does not point to specific areas of low food access. To do this, we utilized a second technique using a GIS program called GeoDa, which searches for clusters of areas with high or low values, in this case areas close to or far away from the nearest store. Because suburban and urban areas are so different in terms of distance, we did this analysis using the residuals after the effect of population density has been removed. So, we were able to map clusters of areas that are particularly underserved by each store type given their population density.

Overall, the methodologies utilized for the GIS analysis led to three types of output:

1. Counts and numbers of people served per store by municipality and community area.
2. Analysis of distance to the nearest store of each store type compared to neighborhood type.
3. Identification of clusters of underserved regions in the metropolitan area.

Mapping Results and Analysis of Store and Other Food Access Point Data

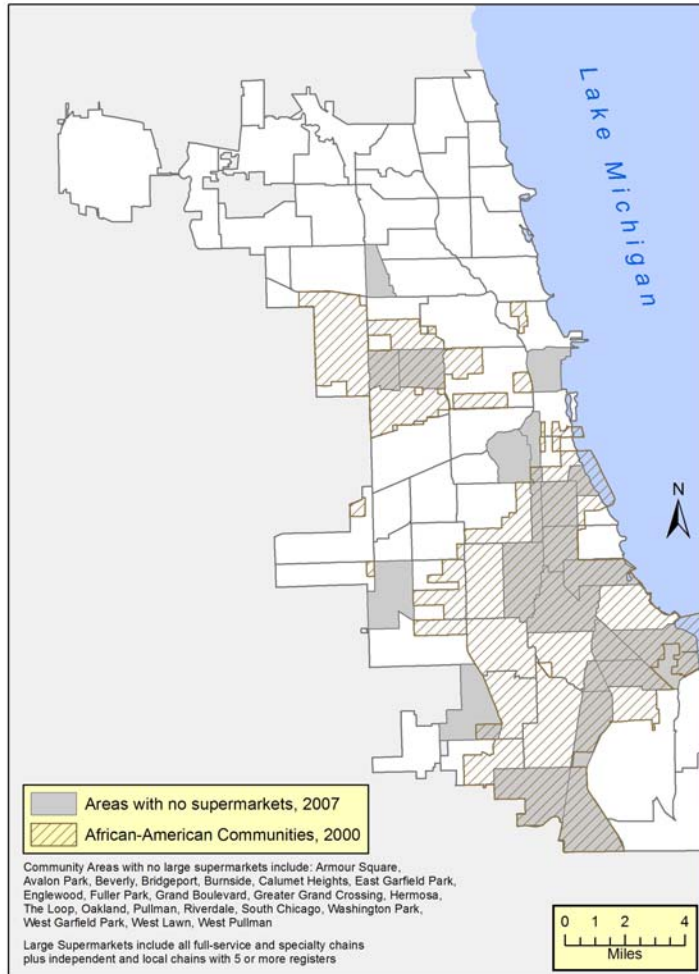
Store Counts

Counts of stores were calculated for all store types by Chicago Community Area and municipality. The full data listing will be available on-line at www.csu.edu/nac/ and by request. Since many communities have no stores of any one particular type, studying store counts for all supermarkets, all large supermarkets, and all chain full-service markets is most relevant.

Viewing the location of the extreme cases is particularly enlightening. Let us first look at Chicago Community Areas. Looking at Chicago, not counting corner stores, in June 2007 the city had 347 groceries and supermarkets. This was one grocery of any size for each 8345 residents. There were 133 large stores, which included full-service chains, Whole Foods stores, and independents and small chains with five or more registers. In 2007, there were 57 full-service chain supermarkets in the city, a drop of 11 stores from 68 in 2005. In contrast, the number of discount chain stores (Aldi and Save-A-Lot) in the city increased by 8, from 43 to 51. By community area, the amount and density of stores varied wildly. Neighborhoods served by more total supermarkets per person tended to be either upper income urban areas such the Near

North Side or predominantly Latino neighborhoods such as McKinley Park. This was particularly true if all groceries and supermarkets (rather than just large stores) were counted.

Map 1: Chicago Community Areas With No Supermarkets, 2007 and African-American Communities



Sources:
Supermarkets: Company Websites and In-person Surveys, Summer, 2007
Other Map Items: US Census Bureau, 2000; Chicago Metro Agency for Planning, 2001.

Northeastern Illinois Community Food Security Assessment
Funded by the Searle Funds of the Chicago Community Trust
Map and Research Completed by
Chicago State University, Neighborhood Assistance Center
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Perhaps the most interesting piece of the store count data is looking at the communities which have no supermarkets at all. In 2007, 22 of the 77 Chicago communities had no large groceries or supermarkets. Of these, 15 were predominantly African-American. Five of the rest were mixed-race South Side communities. The final two were the Loop and the small northwest side community of Hermosa (see Map 1).

For the 2005 chain store data, a specific analysis was completed comparing communities and community areas with no stores to those which had at least one. This analysis showed that the

following areas were most likely to have at least one store of a particular type, in addition areas with higher populations being more likely to have at least one store.

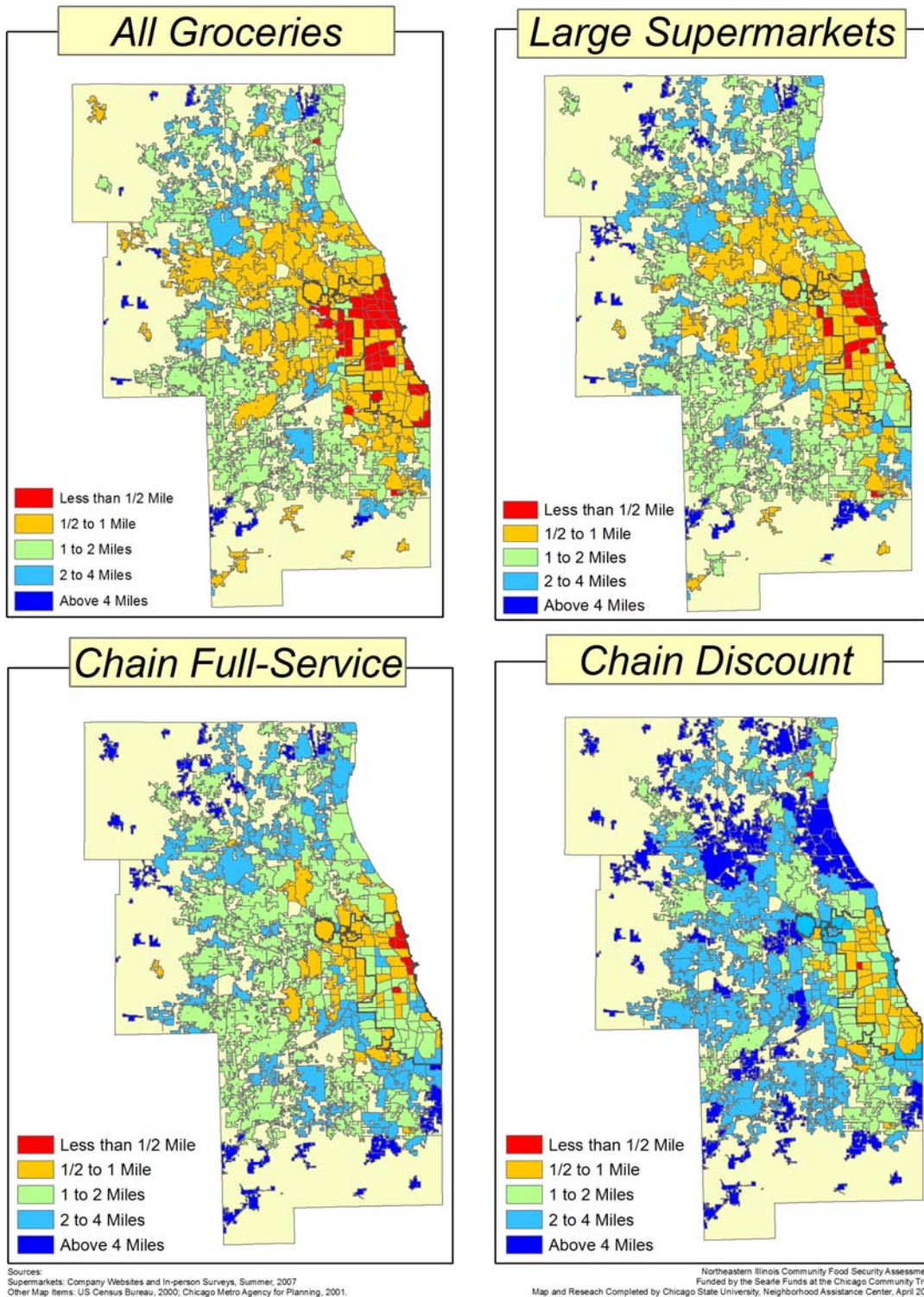
- **National Full-Service chains**-areas with lower % of African Americans and higher % of high school grads
- **Discount chains**-areas of lower Median Household Income
- **Supercenters**-areas with lower Median Household Incomes and higher % of households having a vehicle
- **Specialty chains**-areas with higher % of high school graduates

Distances to Store by Community Area and Municipality

While counts of stores per community are useful in terms of reporting, people generally do not refuse to shop outside of their community, especially in the many cases where official community or municipal boundaries do not reflect physical or ethnic barriers on the ground. In addition, many outer-ring suburbs have extremely complex borders that reflect land available for annexation. Stores, in particular, sometimes choose to locate just outside these borders to avoid sales taxes. In this case, a store that serves a community would not count as being part of a community if the borders are taken strictly. Because of this, most of our analysis involves a calculation of distance to the nearest store. This is on Map 2, which shows distance to the nearest grocery, supermarket, full-service market, and chain discount store.

The maps all show a trend towards increasing distance to the nearest store of all types with distance from downtown Chicago. This is generally caused by decreasing population density, which is taken into account in the studies discussed below. However, other trends can also be seen. On the map of distance to the nearest grocery, almost all of Chicago's north side, as well Near Western suburbs and the near southwest side communities of South Lawndale (Little Village), McKinley Park, and surrounding areas have distances of less than a half a mile. Most of the south side has an average distance to the nearest grocery of 0.5-1 miles, the same as most near north and northwest suburban areas. In the western suburbs, residents of more densely populated suburbs along the Metra lines, such as Glen Ellyn, Villa Park, Elmhurst, and Downer's Grove generally are closer to the nearest grocery than surrounding suburbs. When we look only at distance to the nearest supermarket, a different pattern emerges. Most of Chicago's north lakefront still is within a half mile of the nearest store, but this pattern extends less far inland. The near southwest side concentrations also lessen. Most importantly, a large area of the south side averages over a mile to the nearest supermarket, a level similar to most outer ring suburbs, but in a relatively densely populated area with many households not having cars.

Map 2: Distance to Nearest Supermarket, 2007



When just chain full-service (Jewel, Dominick’s and Food 4 Less) are viewed, this pattern becomes even more marked. Chicago’s north side still has few areas that average more than a mile to the nearest chain supermarket, but there is a general area of low access from the south side into the southern

suburbs, as well as a new food access poor area on the west side. In addition, the pattern of increasing distance to the nearest store with distance from the city center continues. The final map shows the contrasting pattern of chain discount markets Aldi and Save-A-Lot. A ring of Chicago communities averaging between 1 and 2 miles to the nearest discount store stretches from the northwest side, through the west and south sides. Interestingly, the high rent areas of the Loop and Near South and Near North sides are particularly far from a discount store, as are the wealthy suburbs of the North Shore and the Barrington area. This pattern is almost opposite the chain supermarket pattern.

Distance to Nearest Store by Neighborhood Type

Distances to the nearest store by neighborhood type for the 2007 data are seen on Table 2. A number of interesting differences appear. In all cases, distance is closely related to neighborhood type. Overall, the largest difference is between the urban neighborhoods (types 1 through 7) and the suburban (8 through 10). The only store categories in which the suburban neighborhood types were not all further from the nearest store than all the urban ones were chain specialty stores (Whole Foods and Trader Joe's), supercenters (SuperTarget, Meijer, Wal-Mart Supercenter), and chain convenience stores (7-Eleven and others). This illustrates the overwhelming influence of population density. Despite this, a number of other interesting patterns can be seen looking particularly at the urban neighborhoods (types 1 through 7):

1. For all stores types that include independent stores, neighborhood types 4 through 7, generally upper-income and Hispanic and mixed race urban areas, are less than one mile to the nearest store.
2. Neighborhood types 5 and 6, which generally have the highest percentage of ethnic, non-English speaking, populations, both average under a half mile to the nearest independent or small chain supermarket of any size. They are also the closest to large independents and small chains, followed by neighborhood types 4 and 7.
3. Looking at chain stores, distance to all chains is fairly similar among urban neighborhoods, except for the wealthy neighborhood type seven, which averages under a half mile to the nearest chain of any type.
4. Patterns for full-service and discount chains are somewhat opposite. It is less than a mile to the nearest full-service chain from neighborhood types 4 and 7, the wealthy mainly white urban neighborhoods, and type 6, the complex, often gentrifying mixed Hispanic and other ethnicity communities of the north and northwest side. But, from both African-American neighborhood types and the predominantly Hispanic type 5 and the working class neighborhood type 3, distances to the nearest full service chain are 1.4 miles or above. Distances to the nearest discount chain are lowest in neighborhood types 1 and 5, generally the most impoverished communities.

5. Distances to chain specialty stores vary greatly, generally by income, while distances to supercenters are hugely different between urban and suburban areas. There are no supercenters within Chicago itself.
6. Of any store type, the difference between African-American and other neighborhoods is greatest in chain convenience stores, with both predominantly African-American neighborhood types being over two miles to the nearest chain convenience store. All other neighborhood types except for middle class suburbia are below two miles.

Table 2: Chicago metro neighborhood types, miles to nearest store, 2007

	Population, 2000	All Groceries Except Convenience	All Super-markets	Independents & Sm. Chains	Large Independents	All Chains	Chain Full-Service	Chain Discount	Chain Specialty	Super-centers	Chain Convenience
1	613780	0.59	1.00	1.04	1.35	0.83	1.39	1.00	7.24	11.77	2.23
2	580935	0.74	1.21	1.14	1.78	1.23	1.85	1.39	11.31	9.22	2.57
3	1185065	0.75	1.03	1.01	1.54	1.12	1.41	1.77	6.98	7.54	1.19
4	428762	0.42	0.56	0.72	0.98	0.70	0.91	1.92	2.56	12.41	0.76
5	723275	0.37	0.61	0.44	0.76	0.87	1.44	1.02	5.71	9.30	1.13
6	475812	0.37	0.50	0.48	0.72	0.64	0.79	1.28	2.61	13.03	0.54
7	84871	0.37	0.41	0.91	0.99	0.48	0.61	1.78	1.15	14.01	0.28
8	1726541	1.20	1.47	1.73	2.33	2.03	2.24	2.95	10.53	7.16	2.36
9	1894502	1.27	1.35	2.19	2.50	1.48	1.63	3.03	6.12	5.73	1.94
10	376639	1.24	1.30	2.07	2.54	1.55	1.65	5.03	3.51	8.67	1.85
<i>Mean</i>		<i>0.90</i>	<i>1.12</i>	<i>1.40</i>	<i>1.83</i>	<i>1.21</i>	<i>1.48</i>	<i>2.10</i>	<i>6.44</i>	<i>7.62</i>	<i>1.60</i>

Sources: University of Chicago, CSU Neighborhood Assistance Center

1. Very urban, impoverished, English-speaking. Mainly African-American; 2. Somewhat impoverished, mostly English-speaking. Mostly African-American; 3. Somewhat urban and somewhat linguistically-isolated. Mostly blue-collar; 4. Very well-off neighborhoods with many non-family households; 5. Urban, impoverished, and very linguistically-isolated/Hispanic; 6. Very urban and very linguistically-isolated/Hispanic, with non-family households. Often racially mixed.; 7. Urban, very well-off, with a great many non-family households; 8. Suburban. Not especially wealthy; 9. Suburban, well-off. More prosperous suburbia; 10. Very suburban, very wealthy, mostly English-speaking. Highly prosperous suburbia.

The suburban data is also interesting, but is somewhat difficult to study because of the differences in population density. Wealthy suburbs (types 9 and 10) seem generally well-served by full-service chains. Distances to these stores are lower than to independents and small chains, while in most urban areas (with the exception of the wealthy white communities) distances to full-service chains are greater. For middle class suburbia (type 8), this pattern reverses. This neighborhood type actually shows somewhat worrying patterns. Residents average over two miles to the nearest full-service chain, but are also far from chain convenience stores and are more similar to suburban than urban areas on other store types. Essentially, these areas seem to have many of the characteristics of some of the poorer urban communities, while also being similar, in terms of density, to suburban communities, but not having as many of the chain stores typical of wealthier suburban communities.

Distance with Population Density Removed

These patterns become clearer when population density is taken out as a factor. This was done by running a regression of the log of population density against the log of the distance for each store type. Distances to the nearest store were strongly related to population density in all cases. Except for supercenters, the relationship was negative, so as population density of a census tract went up, the distance to the nearest store went down. For supercenters, opposite was true (as population density went up, distance to the nearest store went up). The “residuals” of this regression represent what is not predicted by population density. Positive residuals mean that a census tract is further from the nearest store than predicted by population density while negative residuals mean that a census tract is closer to the nearest store than predicted by population density. For this analysis, population based means were calculated by neighborhood type, in the same way that this was done for the distance calculations. By relating residuals to neighborhood type we are can study what types of areas are further or closer to the nearest store than would be predicted just from population density. Table 3 shows the results.

Table 3: Chicago metro neighborhood types, standardized residuals after linear regression of log of mean distance with log of pop per sq mile, 2007

Neighborhood Type ¹	All Stores	All Supermarkets	All Independents & Small Chains	Large Independents and Small Chains	All Chain Supermarkets	Chain Full-Service	Chain Discount	Chain Specialty	Supercenters	Chain Convenience
1	0.38	0.62	0.53	0.45	0.13	0.43	-0.40	0.62	0.33	1.03
2	0.23	0.54	0.21	0.39	0.26	0.56	-0.37	0.91	-0.06	0.85
3	0.11	0.16	-0.14	0.00	0.15	0.07	-0.03	0.24	-0.32	-0.23
4	-0.58	-0.71	-0.39	-0.37	-0.37	-0.60	0.64	-1.04	0.30	-0.79
5	-0.36	-0.21	-0.76	-0.61	0.43	0.68	-0.19	0.46	-0.18	0.30
6	-0.20	-0.26	-0.37	-0.22	-0.05	-0.31	0.24	-0.37	0.35	-0.45
7	-0.19	-0.55	0.35	0.04	-0.57	-0.80	0.73	-1.56	0.61	-1.28
8	0.11	0.07	0.01	0.02	0.18	0.08	0.01	0.35	-0.26	-0.14
9	0.26	0.03	0.36	0.18	-0.01	-0.16	0.25	-0.37	-0.53	-0.03
10	0.15	-0.08	0.24	0.19	0.01	-0.18	1.08	-0.93	0.26	-0.06

Sources: University of Chicago, CSU Neighborhood Assistance Center, Company Web Sites

.5 S.D. or more closer than predicted

.5 S.D. or more further than predicted

1. Very urban, impoverished, English-speaking. Mainly African-American; 2. Somewhat impoverished, mostly English-speaking. Mostly African-American; 3. Somewhat urban and somewhat linguistically-isolated. Mostly blue-collar; 4. Very well-off neighborhoods with many non-family households; 5. Urban, impoverished, and very linguistically-isolated/Hispanic; 6. Very urban and very linguistically-isolated/Hispanic, with non-family households. Often racially mixed.; 7. Urban, very well-off, with a great many non-family households; 8. Suburban. Not especially wealthy; 9. Suburban, well-off. More prosperous suburbia; 10. Very suburban, very wealthy, mostly English-speaking. Highly prosperous suburbia.

In viewing this chart, focus on the shaded areas as well as the sign of the numbers. Positive numbers, again, indicate neighborhood types that average further than predicted by population density while negative numbers indicate areas that are closer than predicted. Results generally support those discussed above, but are stronger here. Highlights are as follows:

1. Neighborhood type 1, impoverished African-American neighborhoods, are further than predicted by population to all store types except chain discount. The other predominantly African-American neighborhood type is similar, except for supercenters. In particular, these African-American communities are further than would be predicted for all supermarkets, perhaps the most important category. They are also further than would be predicted to independent supermarkets, either large or small. Distances to chain convenience stores are also much greater than predicted.
2. Predominately Hispanic communities, neighborhood type 5, are particularly closer than predicted for independent stores. They are also closer to all supermarkets, but further than predicted to chain full-service and specialty stores.
3. Store types 4 and 7, wealthy urban communities, are closer than would be predicted to all supermarkets, and chain full-service, specialty, and convenience stores.

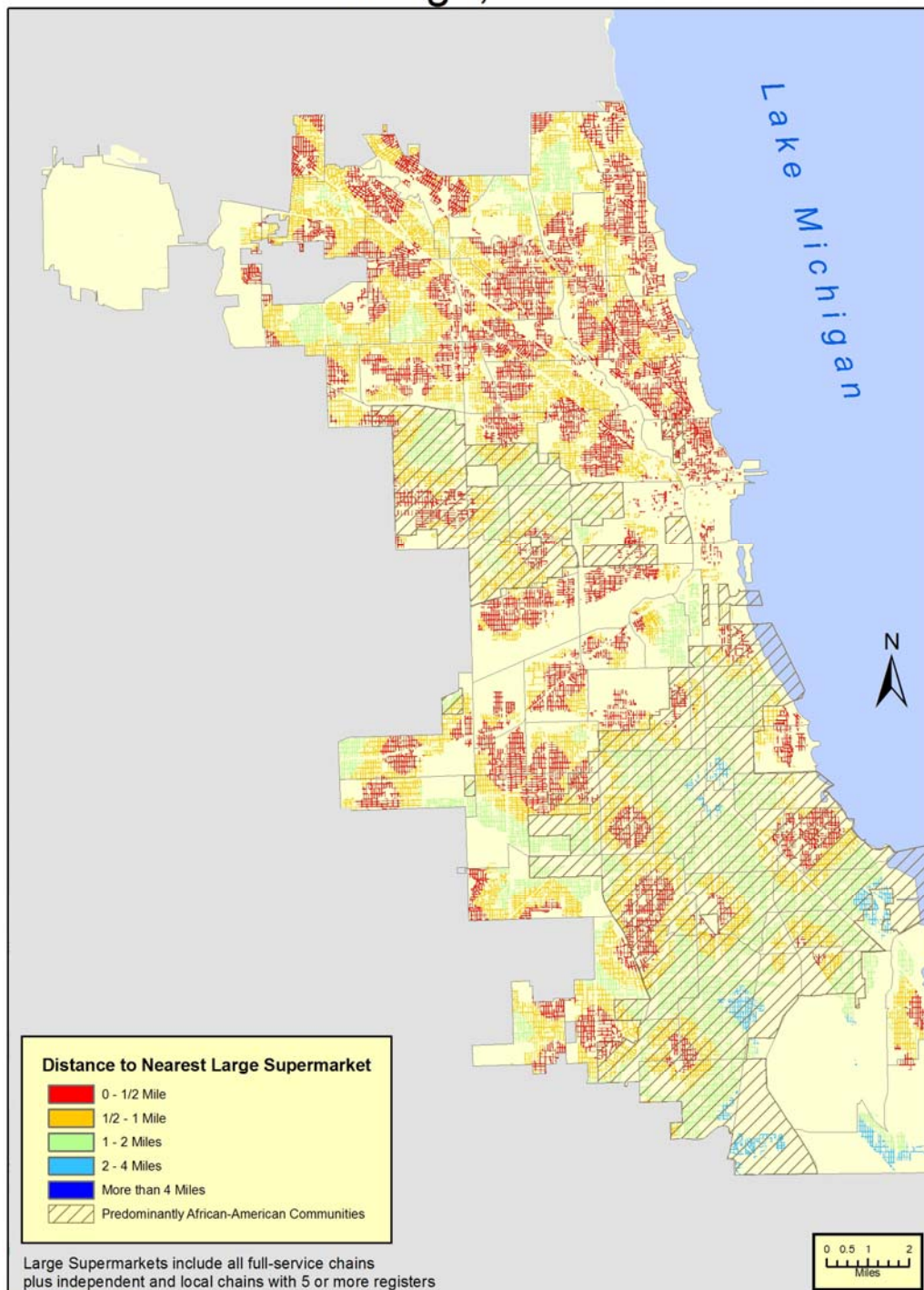
Chicago Distances and Race

The main points of the Chicago data are summarized on maps 3 and 4 showing distance to the nearest supermarket overlaid with African-American communities (neighborhood types 1 and 2) and distance to chain full-service stores overlain with predominantly Hispanic communities (neighborhood type 5).

Summarizing the urban data, from both these maps and map 2:

- Predominantly African-American communities average over a mile to the nearest supermarket. Compared to other urban communities, they are generally further away than other neighborhoods from all store types except discount chains.
- Predominantly Hispanic communities are particularly well-served by independent and small chain supermarkets, as well as discount chains. However, they are not well served by full-service chains.
- Almost every neighborhood in the region has access to some kind of grocery. However, neighborhoods vary greatly in terms of the number, variety and type of stores available. Impoverished African-American and Hispanic neighborhoods, for instance tend to be closer to the nearest discount store than other neighborhood types, but they are far from full-service chains.

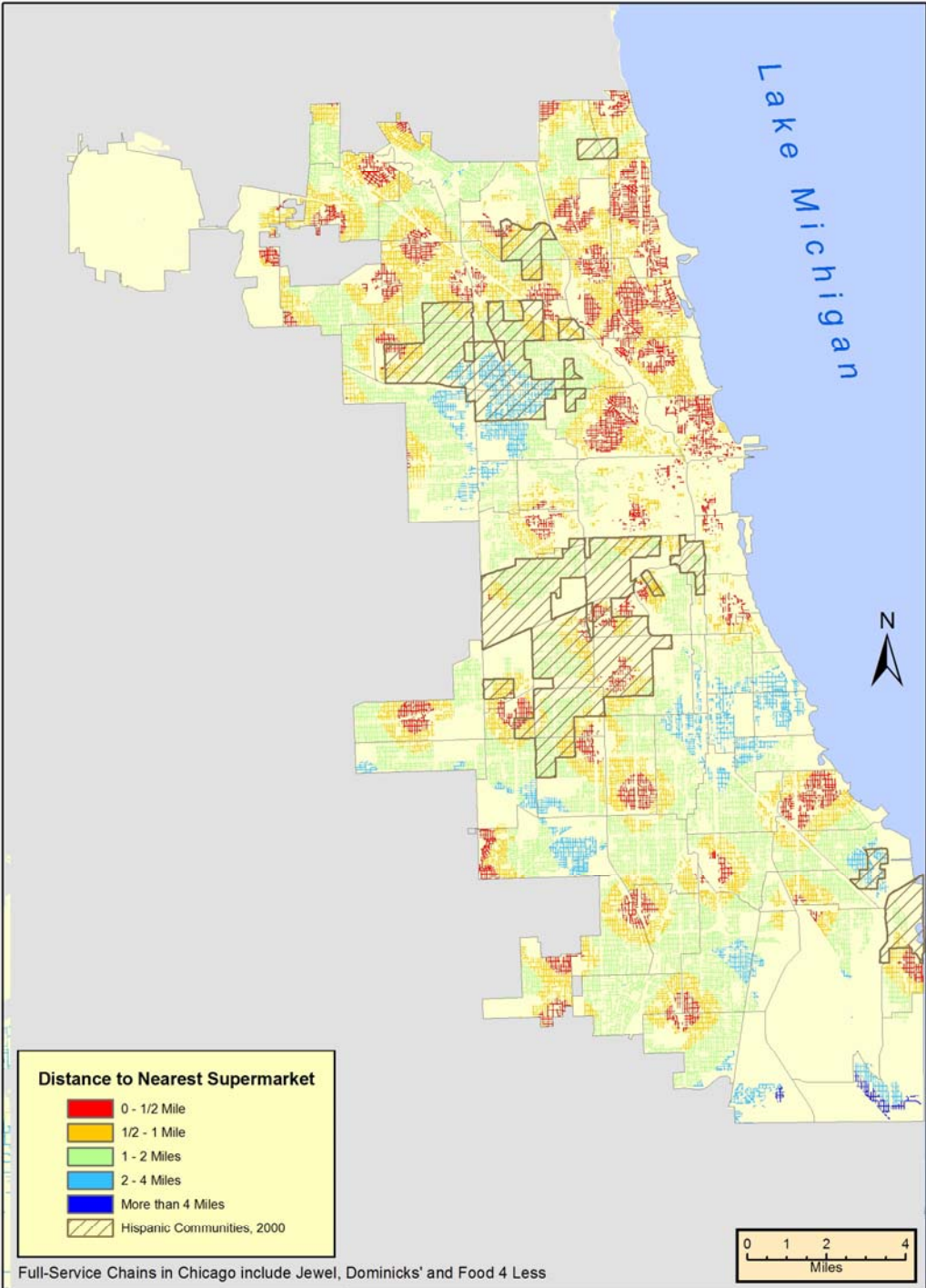
Map 3: Distance to the Nearest Large Supermarket and Predominantly African-American Communities Chicago, 2007



Sources:
 Supermarkets: Company Websites and In-person Surveys, Summer, 2007
 Other Map Items: US Census Bureau, 2000; Chicago Metro Agency for Planning, 2001.

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 Funded by the Searle Funds of the Chicago Community Trust
 Map and Research Completed by
 Chicago State University, Neighborhood Assistance Center
 February 2008

Map 4: Distance to Nearest Full-Service Chain Supermarket and Predominately Hispanic Communities, Chicago, 2007



Sources:
 Supermarkets: Company Websites and In-person Surveys, Summer, 2007
 Other Map Items: US Census Bureau, 2000; Chicago Metro Agency for Planning, 2001.
 Neighborhood Type Classes: University of Chicago Map Library

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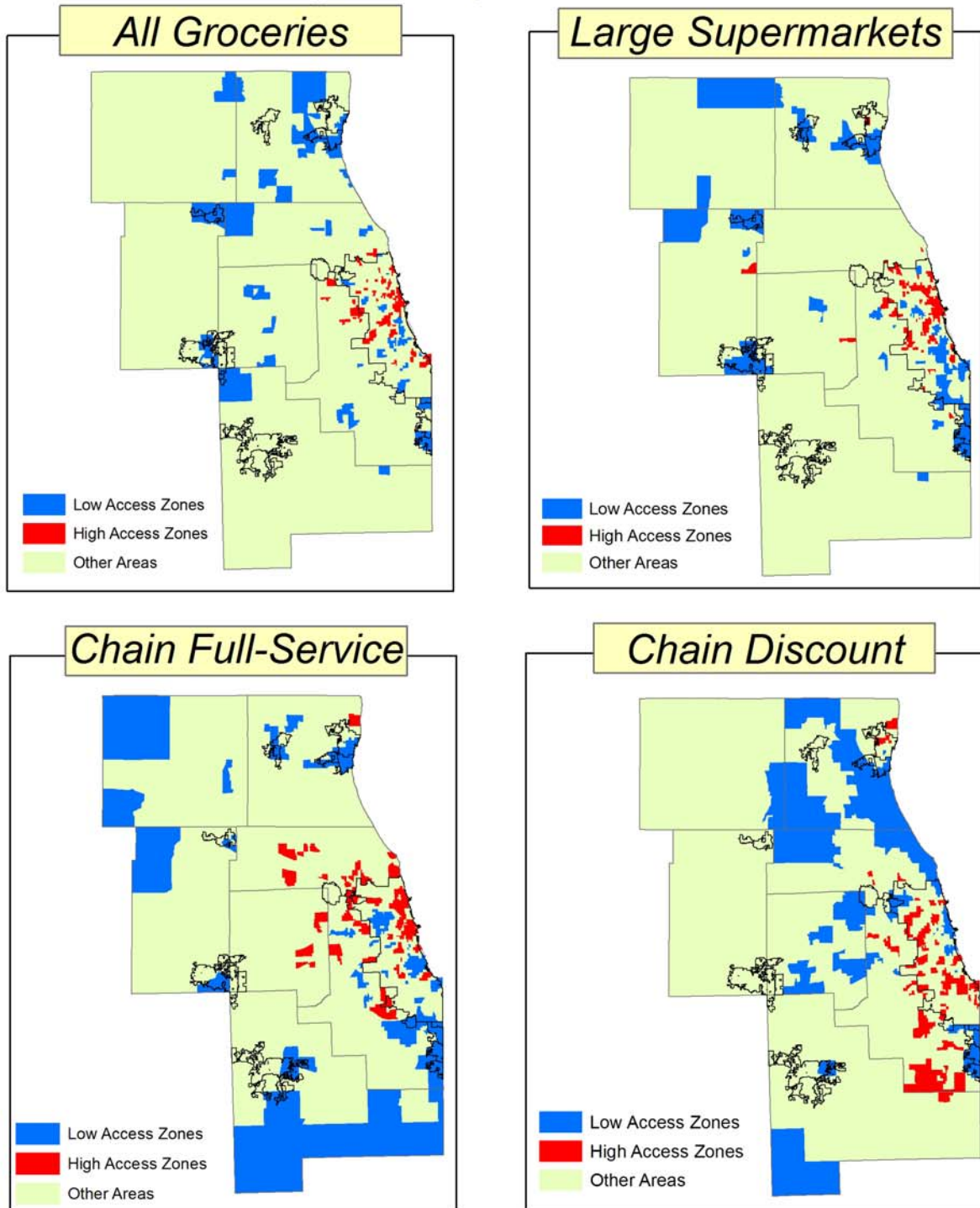
Specific Regions of Low Food Access

Analysis by neighborhood type leads us to general conclusions about the relationship between race, income, population density and store access, but it does not point out specific regions of low food access. Another form of analysis is needed for this. In areas of similar population density, one can map distance to the nearest store of a particular type and view, for instance, the areas that have distances to the nearest supermarket above a mile. This works well in areas that have relatively the same population density, but in areas with a variety of densities, such as Chicago and its suburbs, miles to the nearest store generally increases with distance from the city and areas outside the city would not be comparable to those inside. Instead, a method that finds areas in which values of nearby regions (in this case census tracts) are similar or different from one another, so that regions with a large number of particularly high or low values are highlighted. This was used with the residuals left after the regressions with population density, so that the maps should show regions in which distances to the nearest store are much higher or lower than would be predicted by population density. In other words, after adjusting for population density, what areas seem particularly well or poorly served by any one store type? These results are presented on a series of maps of the Chicago area and the city.

Map 5 shows clusters of high and low access for all groceries, supermarkets, chain full-service supermarkets, and discount supermarkets for the Chicago area. Map 6 highlights Chicago showing the same datasets. These maps point out particular food access patterns and point to specific regions of concern. The blue areas are further than predicted from the nearest store, while the red are closer. On the maps showing clusters of access and lack of access to all groceries, only small areas of concern emerge, but the pattern is somewhat unclear. On the city close-up, map 6, areas of concern emerge on the city's south and west sides. When small and discount stores are removed, the patterns showing access to all large supermarkets emerge. These are the closest maps here to "food desert" maps, showing access to full-service stores, whether chain or independent. Further than predicted clusters seen on the area-wide map (Map 5) include:

1. North Chicago and southern Waukegan
2. Round Lake and surrounding area
3. Central Aurora
4. A strip of communities along the Indiana border, including Burnham, Calumet City, Lansing, and Lynwood
5. A number of more minor zones including some of the furthest two rural areas, as well as Maywood and Carpentersville.

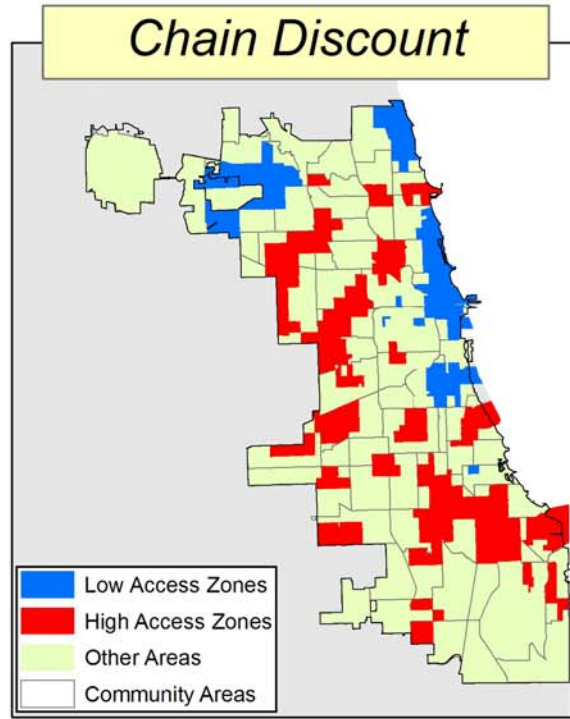
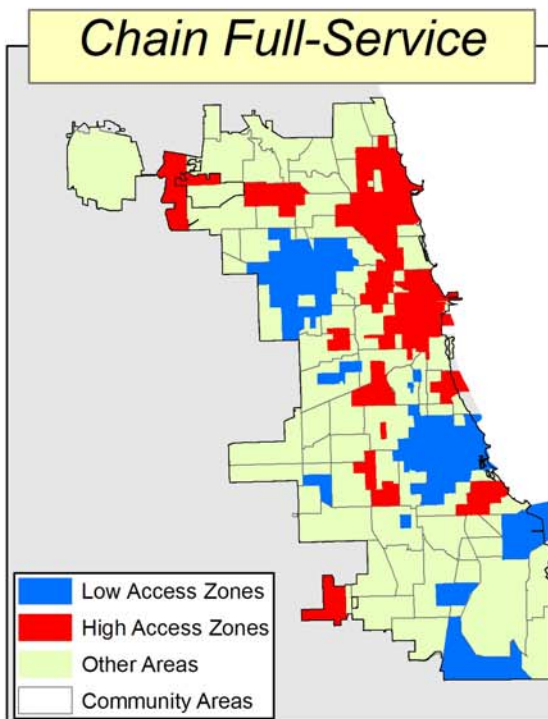
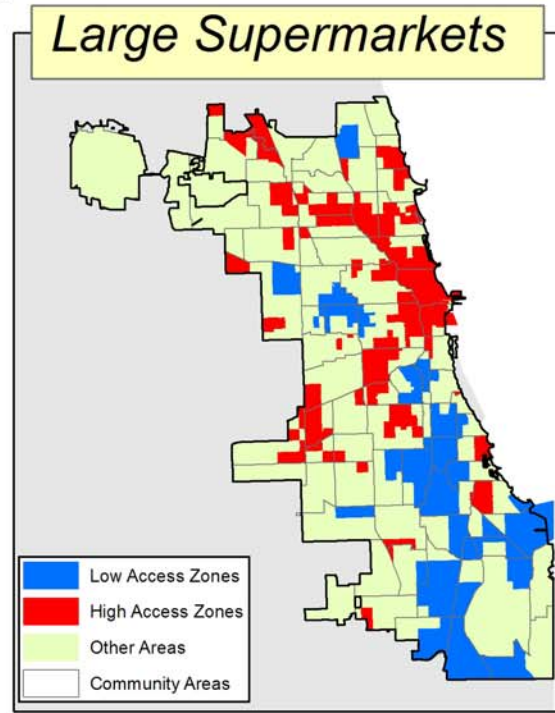
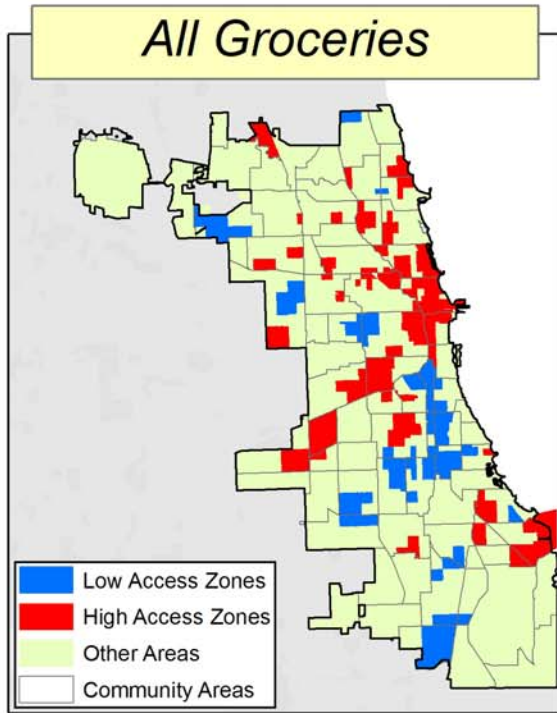
Map 5: High and Low Food Access Zones Chicago Metropolitan Area, 2007



Sources:
Supermarkets: Company Websites and In-person Surveys, Summer, 2007
Other Map Items: US Census Bureau, 2000; Chicago Metro Agency for Planning, 2001.

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Map 6: High and Low Food Access Zones Chicago, 2007



Sources:
 Supermarkets: Company Websites and In-person Surveys, Summer, 2007
 Other Map Items: US Census Bureau, 2000; Chicago Metro Agency for Planning, 2001.

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Clusters seen in Chicago (Map 6) include:

1. Chicago's mid-south side, centering around West Washington Park and Greater Grand Crossing
2. Chicago's far south side, centering on Roseland, Pullman, West Pullman, and the Riverdale community area, and the adjoining suburb of Riverdale.
3. Chicago's southeast side, centered on South Chicago and South Deering.
4. Chicago's west side, centered on northwest Austin and the Garfield Park area.

While there are a number of exceptions, the majority of the clusters listed above are predominantly African-American communities. Aside from rural areas, Round Lake, and West Rogers Park, all of the remaining low-access areas are in predominantly or mixed Hispanic communities. The patterns for chain full-service stores are similar. Clusters again appear in North Chicago and south Waukegan, Aurora, and a more extensive area of the southern suburbs. National chains are not present in the rural areas surrounding Chicago, particularly in Will County. An area of low access to chain stores also appears on the east side of Joliet. In the city, large clusters of low access appear on the northwest and mid-south sides. Smaller areas occur on the far south and southeast sides. The discount chains follow an interesting, somewhat opposite pattern, with a few, important exceptions. In general, there is higher access to discount stores than would be predicted throughout much of Chicago and the southern suburbs. Low access occurs primarily on the wealthy north side and the wealthier northern and northwest suburbs. However, an area of low access also exists in the same region of the southern suburbs, including Burnham, Lansing, Calumet City, and Lynwood, as was depicted on the previous maps. This is particularly worrying for this area. In addition, a somewhat surprising area of relatively low access occurs in working class northeast DuPage County, near Bensenville.

Change in Distance to the Nearest Chain Stores, 2005-2007

Chain store locations were mapped in 2005 and in 2007, making possible a study of changes in distance to the nearest store among the chain store types. During this time, the overall numbers of full-service chain supermarkets decreased while numbers of discount and specialty supermarkets as well as supercenters increased. Both Jewel and Dominick's closed a number of locations, while Cub Foods closed all Chicago area locations as a result of parent SuperValu buying Jewel. It should be noted that some of these reopened as local chains, in particular Ultra, which are counted as independent stores and are not considered on this map. On Map 7, the impacts of these changes by census tract are clearly shown. It shows changes in distance between 2005 and 2007 for all chain stores, full-service chains, and chain discount stores are shown by census tract. On these maps red and pink indicate areas of decreasing distance to the nearest store (higher store densities), while blue and light blue indicate

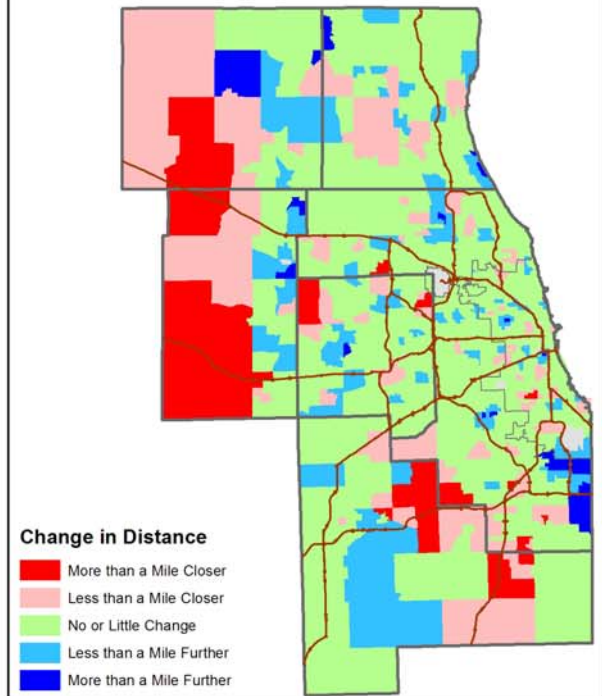
increasing distance to the nearest store (lower store densities). Five issues are worth pointing in particular.

1. Distance to the nearest chain store increased over a large areas of the far south side and southern Cook County, particularly along the Indiana border. This includes the communities of Lansing, Calumet City, Burnham, Dolton, and Riverdale, and the Riverdale community area of Chicago. This area was caused by the closing of a two Dominick's stores (in Calumet City and Lansing) and a Jewel store in Dolton. Note that there is a large Ultra store in this area.
2. Similar increased distances to the nearest store caused by the closing of a concentration of full-service chains were seen in the Oak Lawn area, Chicago's Northwest Side (centered around northwest Austin, Hermosa, and West Humboldt Park), southern Waukegan and North Chicago, Carpentersville and East Dundee, Highland Park, and South Elgin.
3. In general, with the exception of western Kane and McHenry counties, the Orland Park/Homer Glen area, and isolated areas in the city, most of the region was either the same distance or further away from a full-service supermarket in 2007 than in 2005.
4. Discount chains (Aldi and Save-A-Lot) are expanding rapidly, particularly in the suburbs and on Chicago's South Side. There are, however, some areas of decrease. The stores take low levels of investment to open and seem to close or move fairly quickly if they are not profitable. Examples of closed stores were in Joliet, West Chicago, Carol Stream, and Prospect Heights.
5. Other chain groceries, including supercenters and specialty stores such as Whole Foods and Trader Joe's expanded area-wide, with the exception of Super Kmart stores. Note that there are no supercenters within Chicago itself.

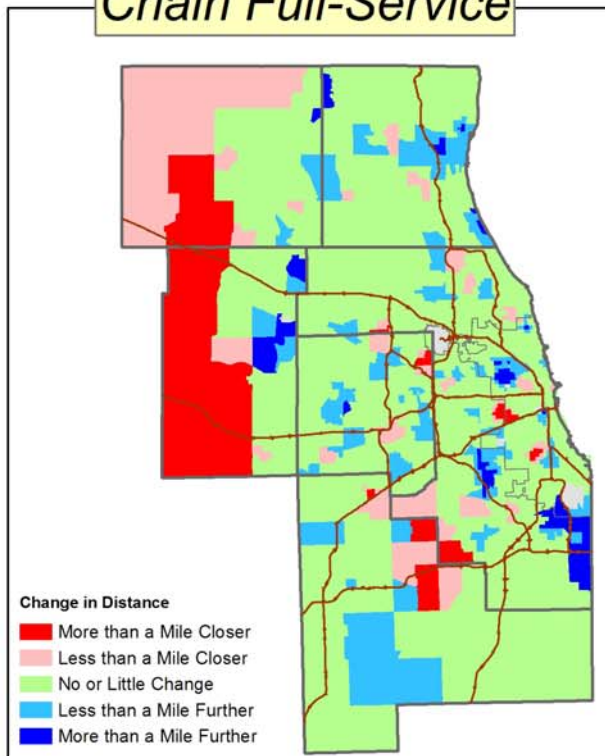
Map 7: Change in Distance to Nearest Chain Supermarket 2005-2007

Sources:
Supermarkets: Company Websites and In-person Surveys, Summer, 2007
Other Map Items: US Census Bureau, 2000; Chicago Metro Agency for Planning, 2001.
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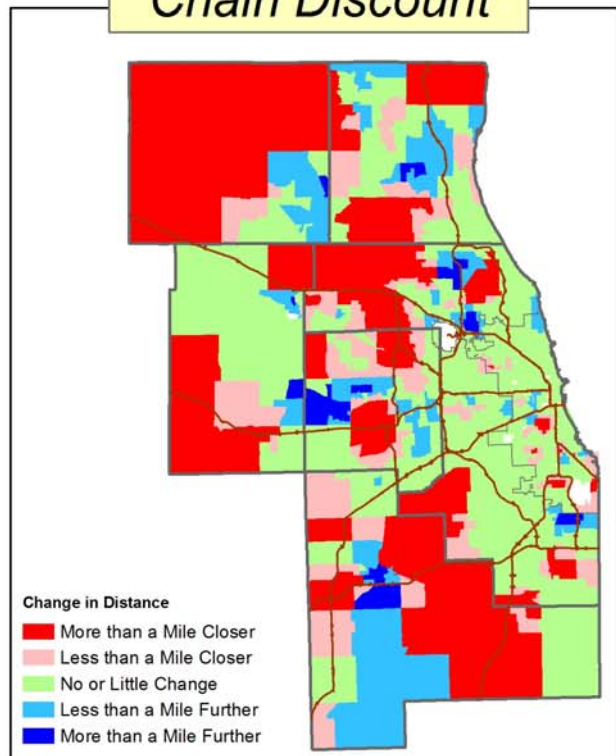
All Chain Supermarkets



Chain Full-Service



Chain Discount



Change in Distance to Chain Supermarkets by Neighborhood Type

Table 4 shows changes in distance to the nearest store, calculated by neighborhood type. In this method, population based averages were calculated of all census tracts in the region within a particular neighborhood type. The following conclusions may be drawn from this data:

1. With the slight exception of well-off suburban communities, distances to the nearest chain supermarkets remained about the same or increased very slightly.
2. Distances to the nearest full-service chain have increased in all neighborhood types except well-off suburban communities.
3. Distances to the nearest discount chain dropped in all but the wealthy urban and mixed race neighborhood types. Decreases were particularly large in suburban areas.
4. Distances to the nearest specialty chain and supercenter dropped across the board.

It should be noted that just because the distance to the nearest store declines, it does not mean that an area has good food access. Inner-city African American communities, for instance, were slightly closer to a Whole Foods in 2007 than in 2005, but most were still very far away. These numbers are more interesting overall, showing the decrease in full-service markets in many areas. This change is particularly important, because in many inner-city areas, particularly in African-American communities, there are few alternatives.

Neighborhood Type	All Stores	Full Service	Discount	Specialty	Supercenters
1	-0.02	0.05	-0.04	-0.07	-7.37
2	0.10	0.30	-0.09	-0.07	-4.75
3	0.05	0.12	-0.26	-0.56	-4.37
4	0.01	0.04	-0.14	-0.03	-8.29
5	0.07	0.18	-0.06	-0.15	-9.04
6	0.05	0.07	0.08	-0.14	-6.73
7	0.05	0.05	0.05	-0.01	-8.32
8	0.02	0.09	-0.61	-0.76	-2.63
9	-0.11	-0.04	-0.70	-0.79	-1.51
10	0.01	0.04	-0.40	-0.05	-3.27
		.1 Miles or More Closer			
		.1 Miles or More Further Away			

Distance to other Food Access Sources: Chain Drug Stores, Chain Fast-Food Outlets, Food Pantries, and Farmers' Markets

Although this project concentrated on supermarkets, consumers utilize a wide variety of other places to access their food. Chain drug stores, such as Walgreen's and CVS, are carrying a larger and larger amount of groceries. In addition, like groceries, pharmacies are a necessary community service. Chain fast-food outlets are important both because Americans are eating increasing numbers of meals away from their homes. In addition, both chain drug stores and chain fast food outlets offer possibly contrasting patterns to supermarket locations. It should be noted that in both cases, there are independent and small chain locations which were not studied and may be particularly important in urban areas. This is particularly true for fast-food outlets. Many urban communities have large numbers of independent fast-food outlets (such as taquerias, hot dog stands, etc.). In depth neighborhood studies are necessary to map these more closely.

The data collection methodologies for these data layers differed somewhat from the store data. The chain drug store data was collected in 2006 from company web sites. Walgreen's, CVS, and stand alone Osco locations were included. Soon afterward, all stand alone Osco stores were purchased by CVS. Some locations, mainly those near a CVS, were closed. The chain fast-food outlet data was purchased from InfoUSA in 2003, which included all restaurants in the area, but was not classified by type. To isolate fast-food chains, all restaurants with ten or more locations were viewed. Sit down restaurants were taken out of the list. The remaining included both national and local chains. The remaining stores were classified by cuisine. Dessert and coffee locations were eliminated from the list to create the final list of outlets. It should be noted that the remaining list includes a variety of cuisines including burger, chicken, hot dog, fish, Chinese, Mexican, and sub specialties.

Food pantry data was collected from the three major food banks in the region in 2005: the Greater Chicago Food Depository; the Chicago Anti-Hunger Federation; and the Northern Illinois Food Bank. Unaffiliated food pantries are not included. Farmers' market data was also from 2005. It was collected using published data, a state web site, and personal inquiries. Farmers' market locations change each year, so this data set may not accurately reflect the current situation. Note also that all farmers' markets are counted equally here whether large or small.

The results generally indicate that chain drug stores and fast-food outlets are more evenly spaced throughout the neighborhood types. The largest difference is between suburban and urban neighborhoods, particularly for chain drug stores. No urban neighborhood type averages over a mile to

the nearest chain drug store. The data is similar for chain fast-food outlets, only all neighborhoods are closer, with all but the working class, primarily white neighborhood type 3 averaging less than a half a mile to the nearest location. Even suburban neighborhoods average just over a mile to the nearest chain fast-food outlet. Looking at the residuals, the wealthy urban neighborhood types 4 and 7 average somewhat closer to the nearest drug store than other communities, and the impoverished African-American community type 1 is somewhat further than predicted. Patterns for chain fast-food outlets are similar, the urban wealthier communities are closer than predicted by population density while impoverished African-American and Hispanic communities are further than predicted. These patterns parallel the patterns for much of the supermarket data, but the overall distances are much less, indicating

primarily that chain drugstores and fast-food outlets are in most communities in the Chicago area.

Table 5: Chicago metro neighborhood types, miles to nearest store: Chain Drug Stores, Fast-Food Outlets, Food Pantries, and Farmers' Markets

Neigh. Type	Population, 2000	Chain Drug Stores, 2006	Chain Fast-Food Outlets, 2003	Food Pantries, 2003	Farmers' Markets, 2005
1	613780	0.67	0.36	0.27	2.48
2	580935	0.79	0.49	0.61	3.91
3	1185065	0.80	0.56	1.64	3.50
4	428762	0.49	0.27	0.62	1.28
5	723275	0.53	0.39	0.53	2.98
6	475812	0.45	0.33	0.47	2.01
7	84871	0.30	0.22	0.45	0.94
8	1726541	1.78	1.02	2.99	5.05
9	1894502	1.41	1.06	3.47	3.71
10	376639	1.38	1.10	3.47	2.88
Mean		1.01	0.67	1.86	3.22

Sources: University of Chicago, CSU Neighborhood Assistance Center, Company Web Sites, Greater Chicago Food Depository, Chicago Anti-Hunger Federation, Northern Illinois Food Bank, InfoUSA

Food pantry data is interesting. Food pantries show a great difference between suburban and urban areas. It might be predicted that these distances would vary by income. Within the urban areas, residents of impoverished African-American communities average much closer to the nearest pantry than predicted from their population density. Surprisingly,

impoverished Hispanic communities do not. In addition, middle class neighborhood types 3 and 8 are somewhat further away from the nearest pantry than would be predicted by population density. This pattern needs more study to see if pantries may be needed in these areas. Farmers' market patterns in 2005 generally followed patterns for specialty stores, with the highest income neighborhoods being closest to the nearest markets. Impoverished African-American neighborhoods are, somewhat surprisingly, not further away from farmers' markets than would be predicted by their density, while impoverished Hispanic neighborhoods are.

Table 6: Chicago metro neighborhood types, standardized residuals after linear regression of log of mean distance with log of pop per sq mile

Neigh. Type ¹	Chain Drug Stores, 2006	Chain Fast-Food Outlets, 2003	Food Pantries, 2003	Farmers' Markets, 2005
1	0.40	0.43	-0.70	0.08
2	0.10	0.56	-0.47	0.39
3	0.04	0.07	0.49	0.26
4	-0.42	-0.60	0.10	-1.10
5	0.24	0.68	0.09	0.58
6	0.04	-0.32	0.03	0.07
7	-0.79	-0.80	0.08	-1.22
8	0.11	0.09	0.30	0.27
9	0.16	-0.16	0.62	-0.11
10	0.12	-0.18	0.57	-0.49

Sources: University of Chicago, CSU Neighborhood Assistance Center, Company Web Sites, Greater Chicago Food Depository, Chicago Anti-Hunger Federation, Northern Illinois Food Bank, InfoUSA

.5 S.D. or more closer than predicted

.5 S.D. or more further than predicted

1. Very urban, impoverished, English-speaking. Mainly African-American; 2. Somewhat impoverished, mostly English-speaking. Mostly African-American; 3. Somewhat urban and somewhat linguistically-isolated. Mostly blue-collar; 4. Very well-off neighborhoods with many non-family households; 5. Urban, impoverished, and very linguistically-isolated/Hispanic; 6. Very urban and very linguistically-isolated/Hispanic, with non-family households. Often racially mixed.; 7. Urban, very well-off, with a great many non-family households; 8. Suburban. Not especially wealthy; 9. Suburban, well-off. More prosperous suburbia; 10. Very suburban, very wealthy, mostly English-speaking. Highly prosperous suburbia.

Link Allocation and Redemption Data

Access to stores is only one way of measuring food access. How consumers use, or do not use, the stores they have is just as important. We studied these patterns utilizing a number of methods, including the qualitative and quantitative reports discussed later. Using mapping software, a study was done of Link food stamp allocation and redemption data by ZIP code for February, July, and October, 2005. These data were generously provided by the Illinois Department of Human Services and the U.S. Department of Agriculture. The findings are quite interesting. In general, we mapped and analyzed the difference between the Link money allocated to households in a ZIP code and the Link money redeemed at stores within a ZIP code. This was done to see what areas have Link money "flowing in" and what areas have money "flowing out." This was compared to demographic variables, and the number of chain stores in each ZIP code. The goal here is to try to estimate movements of Link money between ZIP codes, to see where Link recipients are leaving their ZIP codes to shop and what ZIP codes they are shopping in.

Summarizing these data sets:

- Chain drug store and fast-food outlets are close to most Chicago area residents, although wealthier areas are somewhat closer to them than other communities.
- Impoverished African-American neighborhoods are particularly close to the nearest food pantry. Impoverished Hispanic communities, somewhat surprisingly, are not.
- Farmers' markets were generally closer to the upper income areas of the region in 2005.

Data for the three months were averaged and analyzed. Analysis described is for the entire Chicago metropolitan area. This is important since many ZIP codes just outside the city limits have high levels of “influx” of Link dollars. When just demographic variables were studied, four appeared to be significant in predicting what areas had **higher amounts of money “flowing out” (much higher amounts of Link money allocated to area households than redeemed at area stores)**. These included:

1. **Higher** percentages of African-Americans
2. **Higher** percentages of Hispanics
3. **Higher** average LINK food stamp allocations per household
4. **Lower** total numbers of chain supermarkets

High levels of Link “influx” (much more LINK money redeemed at stores in the community than allocated to households there) were predicted by:

1. **Higher** total number of chain supermarkets;
2. **Shorter** distance to areas of particular high “outflow”
3. **Higher** percentages of Hispanics

The most interesting pattern appears when the data is mapped. On Map 10, there are obvious concentrations of high “outflow” of Link card money on the South and West sides of Chicago as well as in poorer, mainly African-American suburbs including the Maywood area, North Chicago, and portions of Aurora and Joliet and surprisingly, the West Ridge community of Chicago. Surrounding or near these areas, there are areas of high “influx” of Link dollars. Given this pattern, distance analysis was completed calculating the distance from areas with particularly high “outflows” (highly negative redemptions minus allocations) to all other ZIP codes. This was added as a variable in predicting what areas had particularly high levels of “influx.” In other words, it appears as if people allocated Link money in grocery-poor communities are traveling to surrounding communities to purchase food. This may not seem surprising, but it is unusual to see such strong visual and statistical evidence of it.

Purchasing using Link cards obviously happens at stores. When the number of chain supermarkets is compared to redemptions minus allocations, redemptions are much higher in areas with more chain stores, although there seems to be little difference if a ZIP code has more than four stores. The presence of a full-service chain (such as Jewel), warehouse (such as Sam’s Club), or discount store (such as Save-A-Lot) also tends to lead to higher “influxes” of Link dollars. No such relationship was found

with Supercenters (such as Meijer's) probably because all are found in suburban locations with relatively low Link allocations in the surrounding area. The presence of a specialty store (such as Whole Foods) also did not make a difference.

High Hispanic concentrations are strangely associated with both high levels of influx and outflow. This is probably because while there are many Hispanic neighborhoods that have generally high levels of Link money spent elsewhere, including Little Village, many others, in particular Cicero, have very high levels of money spent at stores within them. This remains to be studied further.

Limitations of Mapping Study

The limitations of the mapping portion of the study revolve around two issues. First, while the six county Chicago area is large, it does not include the entire region and there are some stores just outside the area, particularly just across the Indiana line and in northeastern Kendall County just south of Aurora, that serve the study area but are not included. Unfortunately, we did not have full data in these areas, so were not able to include them. This means that that areas of poor access in these regions may be somewhat exaggerated. Second, it was occasionally difficult to classify a store. A particular case was Ultra Foods. The industry standard boundary between a large and small chain is ten stores. Ultra Foods is a locally owned small chain which is quickly increasing in numbers and now has thirteen stores but had less than ten at the beginning of the study. It was classified as a large independent or local chain store here but may be a national chain in our next study. Other difficulties arose with some ethnic chains with just one or two locations locally but others across the country. Because most of these still had low numbers nationally, they were also classified as small chains.

Conclusions of the Food Access Mapping Research

It is hard to summarize so many maps in a few sentences, and readers are encouraged to study the maps and combine this data with their own knowledge of their communities. Grocery stores are constantly opening and closing, so the patterns constantly change. In addition, since consumers utilize many different kinds of stores and since stores within a particular store type differ greatly, maps showing access to one particular type of store may overlook a concentration of other store types. This is why, in general, this report does not use the phrase "food desert." However, the following generalizations can be made:

- Lower-income African-American neighborhoods, both in the city and in the suburbs, have relatively low access to supermarkets, whether chain or independent. In general, they do have

good access to discount chain stores such as Aldi, but low access to other stores except corner stores.

- Hispanic neighborhoods have similarly low access to chain full-service supermarkets, but have many independent and small chain supermarkets, as well as discount and corner stores.
- Particular areas of poor food access (defined by access to supermarkets) found include: portions of Chicago's South, Southeast, and West Sides; an area of the southern suburbs running from Lynwood, through Lansing and Calumet City to Burnham; central Aurora; Maywood; North Chicago and southern Waukegan, and the Round Lake area.
- More full-service chain stores, such as Jewel and Dominicks' closed than opened during the period 2005 to 2007. Distance to the nearest full-service store thus increased over much of the area, particularly in the northwest side of Chicago and the southern suburbs from Riverdale through Burnham, Calumet City, Lansing, and Lynwood.
- Other chains, including discount chains such as Aldi, specialty chains such as Whole Foods, and supercenters such as Meijer, have opened many new locations. However, except discount chains, few stores are opening in predominantly African-American neighborhoods.

A general conclusion is: ***food access is particularly bad in African-American neighborhoods because a lack of full-service supermarkets, whether independent or chain. Food access in Hispanic communities is generally better than in African-American neighborhoods due to the presence of independent and small chain supermarkets, but full-service chains are missing. Changes between 2005 and 2007, in general, have brought more discount stores, but few others, to African-American communities.***

III. Community Case Studies

A. Market Basket Study

Maps are wonderful tools at depicting relationships between places and people over space, but mapping only lays out the physical nature of the food access landscape. Plus, it involves a great deal of generalization. For instance, here all Jewel stores are treated equally, as full-service supermarkets, while some are actually much larger than others. To study these patterns in greater depth involves more detailed work than can be done on a six-county wide level. To allow a richer view of Chicago's food system, research was completed at three complementary levels in case study communities in Chicago. The first step is a market basket study. Market basket surveys refer to a technique that is used to assess the availability and price of food items in retail food stores. This allows comparison across different store types and locations since the same select items are surveyed each time. We used the standard food list for the Thrifty Food Plan from the US Department of Agriculture (USDA) which has 88 items. This is a 'shopping list' that was prepared to match lower cost menus developed for a family of four which

also met the Dietary Guidelines. We conducted market basket surveys in each of the community areas, but to better reflect the different community ethnicities, we developed additional ethnic modules (African American, Mexican, Asian) that had foods specific to those cultures. These were used in addition to the Thrifty Food Plan list.

Methodology

Using the methodology suggested by USDA, we used their shopping list as the basis for the survey. We programmed the survey into pocket PCs for data collection, including similarly formatted lists for the ethnic modules. Prior to visiting a store, letters of introduction describing the survey and our visit were mailed to each store. Surveys were usually conducted by two research staff members, one person located the items in the store, and the second person recorded the information. The data were checked for completeness at the end of the visit. After the data were collected, they were downloaded and after checking again for completeness and for errors, analyzed using the SPSS program using calculation algorithms provided by USDA.

For each of the communities, we obtained a purchased listing of the retail food stores used for mapping in the GIS portion of this study. These included chain supermarkets, discount grocery stores, convenience stores, independent groceries (corner stores), independent supermarkets, liquor stores that sell food, gas stations that sell food and specialty stores. The accuracy of the store list was verified by driving by each store to find out if it was still there, and whether there were any new stores, revising the list to reflect any changes. Stores visited were selected randomly from the revised master list for that community in proportion to the number of stores of that type in each community.

Results

Following brief summaries of the results for the individual communities are tables showing the availability of the items by food group category as well as other tables showing the prices by food group category. The prices are summed to allow comparison across different store types. Thrifty Food Plan tables are followed by those for the ethnic modules. There are also tables comparing specific store types across the different communities for both item availability and for price.

Hegewisch

Thrifty Food Plan & Mexican Modules used

1. No chain supermarket; only 7 stores total

2. Independent groceries carried an average of 54 of the 88 Thrifty Food Plan items, and generally fewer items in each food group. Independent supermarket had 85 of the 88 Thrifty Food Plan items, but convenience stores had only 1/3 of items
3. Fewer Mexican module items were carried across the stores, with both independent groceries and supermarket carrying about half the items

Englewood

Thrifty Food Plan and African-American Modules used

1. The Discount Supermarket carried more of the Thrifty Food Plan items, followed by Independent Groceries; other store types carried about 25% of the items
2. For the African American Module, none of the store types carried more than one-third of the items, with some just a few items. There were no frozen fruits & vegetables and very low dairy coverage
3. The Discount Supermarket weekly market basket cost was less than at the other Englewood store types
4. Prices were higher in every food category for the other store types compared to the Discount Supermarket
5. There was very poor organic food availability in the stores surveyed

Pilsen

Thrifty Food Plan and Mexican Modules used

1. The Discount Supermarket carried more of the Thrifty Food Plan items, and the weekly market basket cost was less than at the other Pilsen store types
2. Independent Groceries carried more of the Mexican Module items and in more food categories than other Pilsen stores
3. Prices were higher in every food category for the Independent Groceries compared with the Discount Supermarket

Riverdale

Thrifty Food Plan and African-American Module used

1. There were only three stores.
2. The Independent Supermarket carried more of the Thrifty Food Plan items, but had only 76 of 88 items.

3. For the African American Module, the Independent Supermarket carried nearly all of the items.
4. Prices were higher in every food category except canned fruits & vegetables for the Independent Groceries compared to the Independent Supermarket.
5. There was no organic food availability in the surveyed stores.

Portage Park

Thrifty Food Plan and Mexican Modules used

1. Portage Park has a large variety of store types
2. Chain supermarkets tended to carry more of the Thrifty Food Plan market basket items – other store types only had about 1/3 of the items
3. Both chain supermarkets and independent groceries carried about 80% of the Mexican Module items
4. Weekly Thrifty Food Plan Market Basket costs were similar between chain supermarkets and independent groceries

Uptown

Thrifty Food Plan, Mexican, African-American, and Asian Modules used

1. The chain supermarket carried more Thrifty Food Plan market basket items, with the discount market carrying about 75% of the items. Other store types carried far fewer items.
2. Only two store types, chain supermarkets and independent groceries, carried any African-American module items, although neither store type carried all of the items.
3. Only 3 independent groceries carried Asian module items, although most were present across the stores.
4. All of the surveyed stores except chain convenience stores and gas stations carried items from the Mexican module, although none carried them all.
5. The discount store had the lowest prices for the Thrifty Food Plan market basket, followed by the chain supermarket; other store types were nearly \$20 higher than the chain supermarket for the Thrifty Food Plan market basket.

Cross-Community Conclusions

The following conclusions come from comparing the results between communities. Note that in many cases the number of stores surveyed within a particular category was quite small:

1. Overall, supermarkets, whether chain or independent carried a far greater percentage of the surveyed items than independent groceries (corner stores) or other store types.
2. Discount supermarkets carried a somewhat smaller percentage of the items than independent and chain supermarkets, but still a far larger percentage of the items than the corner stores and other categories. In general, they carried lower percentages of the meat items than other item classes.
3. Independent groceries (corner stores) and independent supermarkets, in general, tended to carry a greater percentage of the ethnic module items than discount or chain full-service supermarkets.
4. Prices at the surveyed discount supermarkets were much lower than all other store classes.
5. Prices at independent and chain supermarkets averaged about \$40 higher for the entire market basket than at the discount supermarket. However, this was still lower than most other store classes.

Table 7. Independent Groceries – Thrifty Food Plan Food Item Availability by Food Category

Food Categories	Total Number of Items	Englewood	Hegewisch	Pilsen	Portage Park	Riverdale	Uptown
Fresh Fruits & Vegetables	12	2.6	12	7.1	4.9	11	5.1
Canned Fruits & Vegetables	5	3.5	5	3.5	2.8	4	3.3
Frozen Fruits & Vegetables	5	1.5	5	0.5	0.6	4	1.5
Breads, Cereals, &	15	8.2	14	8.8	5.3	12	7.6
Dairy Products	6	3.1	6	2.8	2.8	6	3.1
Meats & Alternatives	11	3.4	12	6.1	3.5	11	5.1
Fats & Oils	4	3.4	4	3.1	1.4	4	2.6
Spices & Condiments	9	9.8	9	12.6	6.8	7	9.7
Sugars & Sweets	18	4.7	18	4.3	3.4	17	4.3
Total Items Surveyed	88	40.2	85	45.8	31.5	76	42.3

Table 8. Independent Groceries – Thrifty Food Plan Food Prices in Dollars by Food Category

Food Categories	Englewood	Hegewisch	Pilsen	Portage Park	Riverdale	Uptown
Fresh Fruits & Vegetables	\$18.40	\$21.00	\$20.96	\$23.62	\$18.5	\$25.00
Canned Fruits & Vegetables	\$8.32	\$7.51	\$8.31	\$6.57	\$7.05	\$7.83
Frozen Fruits & Vegetables	\$16.12	\$17.02	\$14.65	\$13.92	\$14.28	\$21.74
Breads, Cereals, & Grains	\$17.57	\$19.02	\$22.47	\$18.20	\$22.01	\$20.22
Dairy Products	\$11.64	\$12.78	\$11.69	\$11.65	\$15.65	\$11.85
Meats & Alternatives	\$32.44	\$30.94	\$31.00	\$33.93	\$28.32	\$38.52
Fats & Oils	\$3.04	\$3.06	\$3.04	\$3.04	\$2.47	\$3.19
Spices & Condiments	\$3.54	\$6.42	\$7.00	\$7.54	\$6.75	\$5.26
Sugars & Sweets	\$4.28	\$6.38	\$4.96	\$5.19	\$5.73	\$5.20
Total Items Surveyed	\$115.36	\$124.13	\$124.08	\$123.52	\$120.78	\$138.82

Table 9. Chain Supermarkets – Thrifty Food Plan Food Item Availability by Food Category

*Shaded columns indicate no stores of this type in community.

Food Categories	Total Number of Items	Englewood	Hegewisch	Pilsen	Portage Park	Riverdale	Uptown
Fresh Fruits & Vegetables	12	*	*	*	12.0	*	12.0
Canned Fruits & Vegetables	5				5.0		5.0
Frozen Fruits & Vegetables	5				5.0		5.0
Breads, Grains & Cereals	15				13.8		15.0
Dairy Products	6				6.0		6.0
Meats & Alternatives	11				13.8		13.0
Fats & Oils	4				4.0		4.0
Spices & Condiments	9				19.0		19.0
Sugars & Sweets	18				9.0		9.0
Total Items Surveyed	88				87.6		88

Table 10. Chain Supermarkets – Thrifty Food Plan Food Prices in Dollars by Food Category

* shaded columns indicate no stores of this type in community

Food Categories	Englewood	Hegewisch	Pilsen	Portage Park	Riverdale	Uptown
Fresh Fruits & Vegetables	*	*	*	\$30.12	*	\$21.52
Canned Fruits & Vegetables				\$5.11		\$4.81
Frozen Fruits & Vegetables				\$12.70		\$14.81
Breads, Grains, & Cereals				\$14.24		\$15.29
Dairy Products				\$11.58		\$11.17
Meats & Alternatives				\$35.84		\$41.49
Fats & Oils				\$1.83		\$2.09
Spices & Condiments				\$7.81		\$7.12
Sugars & Sweets				\$3.65		\$3.38
Total Price				\$122.87		\$122.68

B. Qualitative Group Interview Results – Community Level

Introduction

While the mapping shows us the food access landscape, and the market basket tells us more about the individual stores in that landscape, qualitative group interviews help us understand how the food system affects those who live and work in communities of varying food access levels. One component of the Northeastern Illinois Community Food Security Assessment was conducting qualitative group interviews across fourteen sectors of the local food system. As opposed to a paper survey qualitative interviews with different groups provide a narrative picture of the food issues as perceived by individuals from the different food system sectors (ex. Community Members, Emergency Food agencies, Retail Food Store owners/managers) as well as potential solutions to improve community food security. Interviews were conducted at the community and regional levels. This report presents summaries of the reports for each of the communities, reflecting 30 group interviews. A short summary of their similarities and differences then follows. Regional interview results will be presented at a later time. Full reports for each community studied are available on-line at www.csu.edu/nac/.

Methodology

Qualitative group interviews were conducted in 5 of the communities, working in each case with local organizations to arrange and conduct the interviews within the communities. To focus the interviews,

interview guides and code books were developed for each food sectors, including Community Members, Community Gardeners, Emergency Food Programs, Restaurants, Retail Food Outlets, Restaurant Owners/Managers and Community Based Organizations. Human Subjects approval was received from the UIC Institutional Review Board. Local organization staff members were trained to facilitate the groups, assisted by project research staff. Interviews were audio-recorded and transcribed verbatim then coded by research staff into Atlas-ti, software used to analyze qualitative data. Data were analyzed across all of the interviews within a specific community by interview guide questions to identify themes across them and to note differences. A short summary of the interview and analysis for each community area are presented below.

Results

Hegewisch

Five qualitative interviews were held in Hegewisch across four food system sectors, retail food stores, community members, community gardeners and the emergency food system. Perspectives were sought from a range of food sector stakeholders ranging from community members to retail food store owners and food pantry staff. The complete results are presented in the Hegewisch Community Report with the Key Findings described here.

Barriers to Food Assistance Programs (Food Stamps, WIC, food pantries): Five issues were raised with respect to barriers to food assistance/emergency food programs. Transportation barriers were cited due to the fact that the food assistance programs are inconveniently located outside the neighborhood. Another barrier is the high demand for food assistance/emergency food programs. These high demands were thought to result from misuse by those who are not in need. This results in longer lines compromising ease of access. A real barrier to the use of food assistance/emergency food programs is embarrassment. The last barrier involved the lack of desirable food available from the Food Depository, which does not always provide the food that the food pantry wants to give people. The emergency food program attempts to match preferences but they are limited by financial constraints.

Community Area Food Retail Outlets Ability to Offer Healthy Food: There was some disagreement among the community members on the quality and variety of food at Hegewisch retail outlets. Some community members suggested that their neighborhood needed access to better quality, less expensive food and good quality meat. Retail Food Outlet Owners expressed efforts to provide, healthy culturally-appropriate foods to Hegewisch's Latino community members by hiring Latino employees and offering Hispanic food options. Some of the retail food owner representatives expressed concern with the

viability of small stores. They were proud of the role they play and confident that despite the market pressure they provided a valuable service to the community including competitive pricing and despite limitations due to size of store, a variety of food items. The Store Owners articulated some barriers to offer healthy foods, including cost, competition, and store space limitations.

Strategies to Access Food by Needy Community Residents Friends and families were cited as food sources by people experiencing food insecurity. Interview participants also reported seeing evidence of dumpster diving, prostitution, and stealing in order to access food. The retail store owners were not able to identify evidence of community food insecurity in their daily work. In fact the assumption was that *if they're [residents] not getting it, it's because they don't want it [food]* (Retail Food Outlet, 4/01/05). However, overall the stores do participate in government programs such as Link or WIC.

Potential Solutions Interview participants offered solutions to the transportation challenges. These include a *transportation system for seniors and people with disabilities* (Community Member Interview, 3/3/05), an employment program for the physically disabled to work at home and a free bus system. Some interview participants suggested using controls similar to those in place for the Christmas Wish Tree program in which gifts are delivered to the families' residences. Cost was the major barrier to accessing healthy food. Interview participants, particularly community members, suggested that reducing healthy food prices could facilitate access. The most vulnerable people food insecurity include low income, homeless, and those residents generally struggling financially. Some examples of people representative of these populations are single moms, divorced individuals, one parent income families, seniors and undocumented individuals. Interviewees identified the need for a senior meal program and soup kitchen to serve vulnerable seniors in Hegewisch.

Riverdale

Six qualitative interviews were conducted with the Riverdale community across five sectors of the food system, retail food outlets (2), community members, restaurant owner/manager, emergency food program, and a community based organization that provided additional information on farmers' markets, community gardeners, and food security advocates. Key findings are presented below.

Transportation: The major food security issue in Riverdale is transportation. The community is geographically isolated by the highway and manufacturing industry; there are limited Chicago Transit Authority (CTA) routes in the community, increasing travel time to food stores. Relying on public transportation limits the amount of food you can purchase, and is more complicated if traveling with children. It is hard to shop economically and buy in bulk. Residents have various strategies to overcome

the transportation barriers. Some community members charge \$15 to drive people to food stores, a service is facetiously called Project Cabs. Lack of adequate access to retail food stores causes people to rely on food items that don't spoil; these foods may be less healthy than perishable foods.

Healthy Food Availability: Unlike other communities studied here, there is a discrepancy between retail food outlet owners and community members in terms of the perception of healthy food access in Riverdale. The Retail Food Outlet Owners feel that they offer fresh food that people want at reasonable prices. Community members say food stores in the community have limited variety, availability and poor quality foods.

Lack of Investment in Riverdale: There was a general impression that Riverdale is not taken seriously by the City of Chicago. Investment in terms of improving food security is needed.

Neighbors Help Each Other: Highly Social Community: There was consensus that everyone should have access to quality food. The interview participants suggested that in Riverdale people are raised to know that you share when you have food, and can get food from neighbors when you need it. As such, the stigma of asking for food is not as prominent in Riverdale. It was suggested that if you need food you go next door. When people have used up all their own food supplies for the month the community-based organization representatives refers them to the food pantry and the truck that is sent from Greater Chicago Food Depository first Tuesday of month with food to distribute to residents.

Barriers to Sustainable Food Security: The community based organization suggested that food quality was not good, but is affordable. There is a general lack of education about healthy foods and budgeting toward eating healthy. Thus while the availability of healthy foods is not ideal, there is not enough demand for healthier foods driving their availability. At the time of data collection the community was undergoing a great deal of change. There was some uncertainty as to a public housing plan to improve quality of public housing in the city by creating more mixed income housing. The thought was that the uncertainty created a general sense of insecurity and thus things were stagnant in the community. Residents didn't want to spend time on community issues if they wouldn't be around in a year.

Food Assistance and Emergency Food Programs: Emergency food programs were not well known, and there was a lack of knowledge of food assistance programs. Most people perceived that there was no senior meal program and were largely unaware of other food assistance services. It was suggested that the programs, if they exist are not well advertised. Some community members suggested that they experience problems when using or trying to use the emergency food programs. These include program

volunteers take food before residents get it, and both the staff and the recipients taking more food than they are allowed.

Getting Involved: There was some interest in a community wide food security effort, although there was concern by some with the local politics. The retail food outlet insisted there needs to be an organized approach to improving food security with all businesses in community involved, as one business can't afford to do this alone. He articulated a possible solution that includes all businesses going to Sam's Club, loading up buses/trucks and handing food out in community. The benefits to making change in the community would include less stealing and fewer people hanging around for nothing.

Improving Access to Healthy Foods in Riverdale: Several ideas were generated in the community member interview to improve healthy food access. These include increasing choices within available stores, enforcing cleanliness standards in stores, and providing public transportation to large supermarkets out of the area. Other ideas mentioned were starting a food co-op, farmers' market and community garden. Finally, increasing food stamp and WIC participation and benefits and improving foods available from the emergency food system.

Englewood

Four interviews were held in Englewood, two with community members, one with a community gardener, and one with an emergency food organization. Key Findings are presented here. When a quotation from the interviews is provided, the quote is in *italics* followed by the name of the food sector and date of data collection.

Access to Healthy Food for Low-Income Community Area Residents: Several criticisms emerged from the community member interviews about smaller, *Ma and Pa* food retail stores. It was agreed that there is a poor selection of quality goods. The meat is often frozen, not fresh, the chicken is yellow, expired meat will be displayed for sale, the stores are generally unclean, and the produce untidy. There was discussion about perceived geographic discrimination of public aid recipients. There were few Englewood stores compared to other city areas, and it was perceived that Englewood-area Link participants do not deserve access to healthy food. Interview participants discussed the difficulty in applying for public aid, including the interactions with public aid office staff that *bring your spirit down*.

Accessing grocery stores is a challenge for those dependent on public transportation, and these difficulties increase as community members age and become less mobile. Another food security barrier

reported was disrespect. This was on the part of the non-black owned neighborhood food stores, the black-owned food stores and the customers. In particular, store owners were disrespectful to Link users. Having to choose between prescription medication and food was expressed as a barrier, along with many people not having food budgeting skills.

Blacks are dealt a bad hand: Discrimination in Access to Community Resources in General:

There was a great deal of discussion, un-prompted by the research interviewers, involving speculation that Englewood as a community has been discriminated against on a variety of levels over the years. First, there been a lack of investment in Englewood in core community resources such as theaters, family-friendly restaurants, and black-owned lotteries.

Eating Out: It's The Black Thing: There was considerable reminiscing of eating behavior in the “old” days in which one would pack a sandwich for the road... *when we left home, even if it was just peanut butter and jelly, we left with a sandwich, so we did not buy food in the street (Community Gardener, 11/15/05).* This consensus was expressed as *eating out can be very expensive and fast food ain't so good anymore (Community Member 2/26/06).* This was seen to be a particular problem among young people who were seen as eating fast food too often and without respect to the health consequences.

The Lost Art of Making Food and Buying Food: A great deal of criticism emerged across the interviews of young mothers who were referred to as *Microwave Parents*. These are parents that buy prepackaged, easy to prepare foods that are expensive, and less healthy for children (*Community Member Interview, 2/27/06*). The shopping and cooking habits of the younger generation were considered to be poor. For instance, young mothers not knowing a good price for food, how to shop cost-effectively, a reliance on frozen and pre-prepared foods (hot wings, pizza puffs), and a lack of cooking skills.

Changes in Community Area Food Store Landscape Over Time: There was significant reminiscing among the community member interview participants about times in the past in which stores were more plentiful, the goods of higher quality and more stores were owned and operated by black community residents. There was also considerable discussion of driving great distances to purchase high quality, low priced foods. Community members discussed the departure of Jewel in the late 1960s. While they agreed that the Jewel had *bad inventory* and was not kept up well, there was confusion and disagreement as to why the chain left. There was also a perception that black-owned neighborhood stores were taken over by outsiders.

Perceptions of Emergency Food Programs: Both the quality of the food and the attitudes and intentions of pantry staff at Englewood food pantries were discussed. The food was considered to be left-over and of poor quality, and there was skepticism of the intent of workers in that it was perceived that they wanted to take the *good stuff* for themselves. Another concern is that the quality of food at the community food pantries operated by churches is poor because they have no standards.

Potential Solutions, Advantages and Challenges: There are various benefits to community gardening as part of a solution to food insecurity. The community gardener representative described that in addition to growing food, community gardening is an approach to clean up the vacant lots, specifically in fact *taking land away from a drug territory*, as a community building effort, and individual skill building exercise. She insisted that while we used to be an *agricultural people* we've lost the basic skills (*Community Gardener Representative, 11/15/05*). The major barrier to using community gardening to improve community food security is poor soil quality. While the Farmers' Market goods are considered fresher than those in an area food store, the high prices of the fresh fruit and vegetables at Farmers' Markets along with the inability to use Link reduce Farmers' Market use to access healthy food.

There is a perception that a great deal of fraud occurs among those who receive food assistance programs such as Link, with three different types of fraud described. Investing in the family was seen as a key solution to reduce food security, there was also skepticism shared across the food sector representatives. The community gardener expressed concern that there is a values 'disconnect' among young people today. More resources were identified including easier access to programs like WIC and Link, more black-owned grocery stores, assistance with transportation to food stores, assistance in improving healthy food availability and encouraging quality stores to return to the neighborhood.

Pilsen

Eight qualitative interviews were conducted across seven different food system sectors in the Pilsen Community. Perspectives were sought from a broad range of food sector stakeholders ranging from community members to established restaurateurs to WIC and soup kitchen staff. Key findings are described as follows.

Barriers to Healthy Foods at the Community-Level: Barriers include the problems associated with forced over-reliance on smaller local retail outlets for food on a routine basis. Specifically, food items are more expensive and of perceived poor quality in local food outlets than at larger food grocery chains. Interview participants charge local retail stores with perceived price discrimination including price

inflation of preferred ethnic food items and during peak shopping hours. A general sense of deception on the part of food retailers was expressed by interview participants suggesting that expiration dates are changed and meat doctored to look more appealing in order to make a profit. Lastly, genuine frustration was expressed with respect to the state of cleanliness of stores. This as well as the rudeness of cashiers was defined as an act of disrespect to consumers.

Another influence to community-level food security may be general threatened “sense of community” due to a high rate of gentrification, and thus community change and instability compromising ability of the community to join together.

Barriers to Food Security at the Individual-Level: A great deal of discussion across the food sector groups suggested that Pilsen community residents may largely have access to healthy foods but lack the resources to buy and prepare the healthiest foods. These issues include limited income of community residents in light of inflated area food prices. The cheapest foods, simply, are generally not the healthiest. If a person has limited income, it was argued they were going to buy the cheapest foods available, chips, processed and canned foods. Interview participants largely agreed that knowledge of healthy foods was poor among community residents making them vulnerable to pop culture advertising of low quality and often expensive fast foods. The food shopping, preparation and cooking skills needed in preparing healthy meals of, particularly younger residents, emerged as an important barrier to family food security as younger parents were less prepared to play the important role of securing healthy food for their families. A direct result of these inferior skills is the reliance on fast foods resulting in what one interview participant called the “*McDonald’s mentality*” in which kids become so accustomed to junk foods that they won’t eat healthy food. Lastly, limited time given busy schedules was cited as an individual-level barrier to food security.

Vulnerable Populations: Three populations emerged as perceived vulnerable groups to food security. These include seniors who are often at the whim of family members to access food; immigrants, who have language barriers and may be isolated from services; and, men, who were perceived to be at risk because they are reluctant to seek food assistance programs due to a potential stigma associated. Men were also discussed as potentially disproportionately needy since programs like WIC exist solely for women and children.

Role of Existing Community Food Programs in Community Food Security: An interesting theme emerged with regard to barriers to community gardens as a means of addressing food insecurity. Barriers included poor soil quality and industrial contamination in Pilsen, lack of space, risk of theft, and

that alternative community gardening spaces such as rooftops have become reserved for children to keep them off the streets and safe from neighborhood violence.

Strategies Used to Access Food in Pilsen: A number of examples were given by interview participants to describe means of accessing food when someone experiences food insecurity. These include: shoplifting, especially by children taking chips and candy bars; acquiring food by begging for a handout at restaurants and even private homes; and selling miscellaneous items on the street for food money. Interview participants also affirmed the evidence of 'dumpster diving', prostitution or exchanging sex for food or other services, going on dates to get food, as queried by the interviewer.

Community-based Organizations Approaches to Food Insecurity: According to the interview participants, some innovative strategies are in place to improve access to healthy foods. The community-based organization (whose agency runs a Kid's Café program) representative interviewed reports a relationship with local retail food owners in which plates of food are given to retail owners and cashiers in exchange for not selling chips to kids in between 4:30 and 5:30 p.m. when dinner is being served at the CBO. This is done to increase the chances of the child participants in the CBO's food program eating the healthy meal provided to them.

Potential Strategies to Improve Food Security: It was suggested that the food security situation is getting better. People are generally more informed. However, recommendations include that information should be delivered via Spanish-language radio programs and through children. Word of mouth was suggested as a more effective route than radio or print advertising. Children are most effective in informing parents about services or other issues especially in immigrant families, and when English is a second language. Also, providing food preparation and cooking education directed at younger families was reiterated as a necessary strategy.

Needs and Interests of Food Sector Groups in Overall Community Food Insecurity: Pilsen food sector interviewees expressed a need for more grant money, space both organizational and food storage, and volunteers. There is an interest in collaboration on a community wide effort to improve food security. However, nearly all interviewees reported that they would have very little if any time they could invest in such an effort.

Some of the food sector stakeholders seemed to have a hard time seeing how their actions contribute to larger community food insecurity. This was especially evident in the restaurant and retail store interviews. One of the restaurant representatives expressed a disinterest in donating old or excess food to

food pantry but instead takes it home or throws it away. Another food retail outlet representative refuses to participate in Link because of a perception of an administrative burden.

However, the community members felt that Pilsen is at an optimal place to start a community effort and cited many community-based organization and initiatives representative of the spirit of the community in advocating for itself.

Portage Park

Seven qualitative interviews were completed in Portage Park, across four food system sectors, retail food stores, community members, restaurant and emergency food pantry. Perspectives were sought from a range of food sector stakeholders ranging from community members to retail food store owners and food pantry staff. The Emergent Themes fall into seven major categories, with the issues briefly summarized below.

Availability and Accessibility to Healthy Foods: In general, stores were considered largely available and accessible via public or private transportation (e.g., cars) for most people, with the exception of seniors, the disabled, the homeless and large families for whom shopping using public transportation is difficult.

Strategies for Accessing Food among Food Insecure Residents: In addition to buying in bulk and stretching out food, some unique strategies to access food were detailed by interview participants including routinely accessing patronizing bank openings and public events that offer free food.

Role of Economic Diversity in Portage Park on Community Food Insecurity: In some cases, interview participants had a hard time discussing community food insecurity, and cited that Portage Park is diverse. However, most could speak to vulnerable populations such as seniors, persons with health problems, the working poor, and the homeless.

Food Insecurity Issues among Community Residents: Food insecurity was discussed as affecting the working poor such as not having enough money, experiencing bouts of unemployment and having family problems such as alcoholic family members and those with gambling problems. Barriers to use food supplemental programs include lack of knowledge of available programs and the stigma associated with program participation.

Problems Experienced by Local Food Sector Representatives: The Food Pantry representative cited lack of storage, limited funding and an increasing demand for services as major problems. Also lack of awareness of the Chicago Food Depository emerged as a major problem to community food retailers and restaurant participants.

Unique Role of Restaurants: Restaurants as partners on community food insecurity issues often are limited by corporate policies including those that contribute to a great deal of food waste.

Proposed Solutions: Solutions proposed by interview participants include developing a food co-operative, providing budgeting classes for low income residents and improving inspection of existing food pantries to improve food quality and selection.

Summary of Findings Across the Community Areas and Food Sectors

While each community was unique, there were generally far more similarities than differences across the different communities and food sectors.

Commonalities:

1. Inadequate transportation is a barrier to getting to food; many travel by bus, often with transfers, but this limits what can be purchased.
2. Needing to travel far for healthy foods leads to purchase of foods that don't spoil, but these foods are often less healthy; cheap foods are not usually the healthiest.
3. There is generally a high demand for food from pantries and other emergency food sources.
4. People are often embarrassed to get food from pantry, but staff try to make more the participants comfortable and treat them with dignity.
5. Both pantry staff and recipients are often unhappy with food quality/type from the Greater Chicago Food Depository.
6. People often have to travel outside of their neighborhood to get healthy food.
7. Many retail food owners feel they offer healthy foods, but also cited some barriers to doing so; community members usually disagreed with this view.

8. Participants were familiar with and had observed food insecure and hungry people ‘dumpster diving’, stealing, offering to do odd jobs for food, shoplifting, and going on dates to get food.
9. Knowing how to budget one’s money, and how to shop for and prepare foods were seen as common problems across the communities; this was considered a problem particularly among young people.
10. Interactions with federal and state assistance programs were generally negative, with concerns about poor treatment, having to wait, and needing to make multiple trips.
11. Small stores were often seen as being dirty and unkempt, sometimes with rude and disrespectful staff.
12. In several communities, food insecurity was made worse by the increasing gentrification; this tended to reduce the sense of community seen as important by the residents.
13. Vulnerable groups across the interviews were older adults, the unemployed, disabled and homeless.
14. Home and community gardens were seen as a possible solution to improve healthy food access, although there were concerns with soil quality/contamination.

Differences:

1. A sense of exclusion and discrimination were reported in some communities, but not others.
2. Some groups reported food pantry staff taking food for themselves before giving participants access.
3. Men were identified as a vulnerable group for food insecurity in only one community.
4. Instances of fraud among participants of food assistance programs were reported by a few participants.

C. The Quantitative Survey

The Quantitative Survey that is part of the Northeast Illinois Food Security Assessment carried out surveys in three communities: Hegewisch, Riverdale and Englewood/West Englewood. The instrument we developed included the USDA Food Security Module (2000) and questions developed based on the input of the Advisory Council. The questions were designed to form the independent variables so as to offer insight into individual household and community characteristics that influence household food security and from that, community food security.

The characteristics that were thought to possibly influence food security included:

1. The length of time the household has lived in the community
2. The race and ethnicity of the household
3. The employment status of adults within the household
4. The education of household members
5. Household income
6. Access to food through proximity and availability of shopping choices, food pantries, and other sources of food
7. Means and convenience of transportation to access grocery shopping
8. Perceived treatment by household members at Illinois Department of Human Services Offices (IDHS)
9. Gardening practices such as individual gardens and the availability of community gardens
10. Meals that were eaten away from home at restaurants, either carry-out or dine-in
11. Shared household meal practices, namely meals eaten at home
12. Availability and use of a range of food programs such as WIC, Food Stamps, food pantries, School and Summer Meal Programs for children
13. Cigarette smoking

The dependent variable is Food Security as measured by the USDA Food Security Module using the 2000 Guide for Measuring Household Food Security, Exhibit 3-3 “Households with Complete Responses: Food Security Scale Values and Status Levels Corresponding to Number of Affirmative Responses.”

Methods

The surveys were carried out by faculty, graduate students, and undergraduates from Chicago State University. The surveyors generally worked in pairs. In some cases, they worked independently, but

maintained phone contact with one another to insure safety.

In Hegewisch we worked with community partners through Hegewisch Community Committee. In Riverdale and Englewood/West Englewood we made contact with leaders in the community but did not form partnerships as in Hegewisch.

Surveys were conducted by going to homes randomly preselected through the Cook County Assessor’s Office Web Site listing of residential sites. Letters were sent out to inform the residents of the upcoming visit. A phone number was included so that potential respondents could set an appointment or opt out of the survey. In all, only one respondent opted out by phone and one set an appointment. Incentives were offered in all neighborhoods. In Hegewisch respondents were entered into a drawing for two one hundred dollar shopping certificates at a local market. In Hegewisch and Englewood, respondents were offered five dollars for their time.

In addition, surveys were completed at food pantries. In Hegewisch this occurred at St. Florian’s. We set up tables behind a stage curtain to provide privacy for the respondents. This was possible since the food pantry took place in the church hall. In Riverdale the interviews took place outdoors near the truck that delivered food each month. We set up card tables and chairs where we conducted the interviews in the open. We did provide enough space so that the respondents at least had the privacy of enough distance to keep their voices from being overheard or their responses being viewed by others. In both the door-to-door and the food pantry interviews, if it appeared that a household was lacking food resources, a referral was made to the Illinois Hunger Coalition’s Hunger Hotline. The Hotline staff confirmed that calls increased from the three neighborhoods we surveying during the time the surveys were being carried out.

Table 11: Numbers of Food Pantry and Door-to-door Surveys per Community

Surveys by Source	Food Pantry	Door-to-door	Total
Hegewisch	25	37	62
Riverdale	30	117	147
Englewood	0	27	27
Total	55	181	226

Findings

Using the Food Security Scale developed by the USDA, food security is measured as: Food Secure = 0; Food Insecure Without Hunger = 1; Food Insecure With Hunger, Moderate = 2; and Food Insecure With Hunger, Severe = 3. In each neighborhood were found households at every level of Food Security. While in theory it is possible to realize that there are hungry people in our community, it is a very different experience to sit down across from a mother and have her answer questions making it clear she does not have enough food to feed her children adequate and nutritious meals.

While the survey is a formal instrument for assessing food security, given the sensitivity of the topic and format of interviewing subjects in their homes, it was necessary to establish a high level of rapport. This often meant engaging the interviewee in conversation to build a level of trust to ease the process of collecting sensitive data. In this process, the survey became more than just a tool for collecting quantitative data, it also involved the respondent in conversations which added depth to the check list of responses and offered insight into the relationship between food security and our independent variables. At times that insight suggested directions for analyzing the data. For example, in Hegewisch several respondents complained about the quality of the food stores in neighborhood. These were universally residents who did not possess automobiles to take them to the store of their choice. As a result, checking the relationship between food security and the mode of transportation used for food shopping appeared to be a worthwhile effort. Actually, there is in fact a fairly high (.28), and statistically significant ($P = .000$) correlation between driving to the store and food security. While this finding may be confounded to some extent with income, (e.g. those with higher income can afford both a car and food), car ownership is not exclusively a factor of income.

Respondents often utilized more than one means of transportation for grocery shopping. Those who drove at other times might walk or get a ride. However, no other form of transportation provided a significant correlation between transportation and food security.¹ The correlation between those who received a ride and food security was very low, not significant and in the opposite direction, meaning more food insecure, than of those who drove. This finding held across all neighborhoods.

While the most obvious correlation is the relationship between income and food security, it is not as

¹The actual numbers show a negative relationship since as positive values increase, food security decreases. It is probably more accurate to note food insecurity decreases correlate with use of an automobile for grocery shopping.

high as might be expected, only .32, hardly higher than driving for grocery shopping. It is also significant ($P = .000$). The relatively low correlation may relate to the fact that cash income alone does not make up the entire resource set for the procurement of food. This is, in part, where individual neighborhood factors come into play.

For example, Riverdale, where the Altgeld-Murray Homes (Altgeld Gardens) are located, has a lower percentage of household participation in school breakfast and lunch programs than does nearby Hegewisch, but Riverdale has a much higher rate of participation in summer feeding programs than does Hegewisch simply because Hegewisch has no summer feeding programs. This demonstrates a major gap in the food security safety net for the Hegewisch Community. The total lack of a summer feeding program in Hegewisch is a serious detriment to the Food Security of the children in that community. Hegewisch, with a .91 average level of food insecurity (in a 0 to 3 range) also has a higher average level of food insecurity than does Riverdale with .65. (This may in part reflect the difficulty in getting cooperation from Hegewisch residents in the random neighborhood portion of the survey.)

Correlation is not causation. Therefore, correlations require interpretation. Does a negative correlation between food security and a given variable mean that the variable lowers food insecurity or that those who receive it have a high level of food security independent of the influence of the variable? This is where interpretation occurs. For example, there is a high positive correlation between receiving food stamps and food insecurity. Those who receive Food Stamps are more likely to be food insecure than those who do not. While this may not indicate what we would hope, that food stamps create food security, it may also indicate that food stamps are reaching those who have most need of them. Likewise with food pantry usage, the correlation between food insecurity and food pantry use is .38, indicating that those who use the food pantry have high levels of food insecurity. Anecdotal accounts of recipients abusing food pantries appear from our findings to be grossly inaccurate. Overall, the correlation between food insecurity and a composite of means-tested food programs, both public and private², is .35 ($P = .000$), suggesting that those who utilize these programs have need of them. It also suggests that the resources provided by these programs are inadequate to meet the food security needs of those they serve. Given the current economic downturn, this situation is likely to become worse.

One incidental finding is the correlation between income and gardening. It appears that there is a

²Means-tested programs include Food Stamps, WIC, School Breakfast and Lunch Programs, Summer Feeding Programs, Meals-on-Wheels, Government Food Commodities, Food Pantries and Soup Kitchens.

relatively high correlation between income and gardening (.40). This suggests that those with more resources are more likely to have gardens. Overall, gardening is a fairly rare activity, in all three neighborhoods only 26 of the 267 households surveyed had gardens. Only six people knew of a community garden in their neighborhood and of those, only three had actually done any gardening in the community garden. Given the potential gardens, both community gardens and personal gardens, have for lowering food insecurity, it would seem that gardening is possibly a resource that is underutilized. There may well be reasons that those with higher incomes are more likely to garden. Their housing may provide the opportunity through higher home ownership and the space for a garden, they may have the resources to buy tools for gardening and they may have the knowledge, experience and leisure time for gardening. Nonetheless, gardening in common settings or gardening across socio-economic lines may improve food security for those who lack not only food, but the knowledge to create fresh produce through small scale gardening.

IV. Final Thoughts and Recommendations

Food access has been in the news much over the last few years. The fact that people in certain communities have a great deal of difficulty accessing quality, culturally acceptable food at competitive prices combined with discussions and studies of health disparities between rich and poor and ongoing attention to obesity has led to a focus on low food access (or ‘food deserts’) as a possible cause of these disparities. This study is about patterns of food access, not health disparities, but from other studies and even our own preliminary data collection, it is clear that low food access often correlates with much higher than average rates of many diet related diseases, in particular diabetes.

A key question, of course, is why this is. While this study does not fully answer this question, by using multiple methodologies and collaborating with communities, it is clear that lacking adequate food access does lead to hardships for community residents. However, these hardships are part of a long list of inadequacies in many communities, which most likely work together to make living a healthy lifestyle more difficult. Solving food access issues is but a part of solving general issues of inequality in our society and in our city. Maps of the food access landscape can be seen as maps of retail investment in a community. Areas with low numbers of supermarkets are difficult to live in not only because they lack quality food, but also because they lack the jobs that come from retail as well as the communal effect well-run stores with good connections to the community may have. Community residents in many of

the case study areas, in particular Englewood, focused particularly on whether store owners were from the community and whether particular stores hired community residents, as well as the lack of respect they felt they received from store owners. Such feelings do not make for pleasant shopping experiences or random meetings with other community residents at a neighborhood store.

Given these thoughts, we offer the following recommendations:

- 1. Plans for new stores and programs should be developed as part of a general community health and retail access plan and should be community led or involve a large amount of community input.**
- 2. When desired locations are set, incentives should be made to chain and independent supermarkets to open in areas of low food access.**
- 3. African-American oriented independent supermarkets should be encouraged to develop. Compared to other minority and ethnic neighborhoods, African-American communities are greatly lacking in such stores.**
- 4. Existing stores in underserved communities could be a resource through which increased healthy food access could occur. However, in many communities relationships between these stores and the community must be improved for this to work.**
- 5. In the most isolated communities such as Riverdale, transportation is a great barrier. Developing bus lines that serve groceries directly or sponsoring alternative transportation to local stores would help these communities even if new stores are difficult to develop. Such options are also needed for the elderly and other vulnerable groups.**
- 6. More attention should be paid to suburban areas of low food access, in particular in the southern suburbs, North Chicago, and central Aurora.**
- 7. Alternative food access strategies such as community gardens, food co-ops, urban agriculture, and farmers' markets, should be actively pursued. These both improve access and build stronger communities.**
- 8. Work with pantries to improve food quality and quantity from the Food Depository.**
- 9. Residents pointed out budgeting, cooking, and food buying as skills that younger residents often lacked. Innovative techniques need to be developed to help teach these skills.**

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