

# Cook County Nutrition Program Mapping Project

## Final Report

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## CLOCCWork

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### **Project Client:**

Consortium to Lower Obesity in Chicago Children (CLOCC)  
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## **1- Introduction**

CLOCCWork consists of John Brady, Allison Fitzpatrick, and Phillip Jones. The group worked with Ms. Lara Jones Jaskiewicz who is the Project Manager of the Chicago Consortium to Lower Obesity in Chicago Children (CLOCC). The overall goal of the project was to create documentation on nutrition programs in Cook County. Ms. Jones Jaskiewicz intent for the project was to ‘outline and map Federal, State, and local nutrition programs in Chicago and Illinois.’ Ms. Jones envisioned maps that would ‘cover the flow of funding between agencies and organizations, individual program structure and eligibility requirements, what organizations provide the program for Chicago/Illinois residents, and how residents can access the program. Ms. Jones Jaskiewicz sought our assistance this project because of the strong need for the integration and compilation of data on the funding and servicing of nutrition and feeding programs. Ultimately, CLOCCWork came to understand the necessity of research beyond what could be accomplished by three people in two months. The scope of the group’s project had to limited more than was initially envisioned. With the data that was acquired, the group was able to focus on two programs, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), as well as the Commodity Supplemental Food Program (CSFP), and was able to also show access to these programs via localized public transportation (the El Train), and income demographics around the program facilities.

## **2- Needs Assessment**

### **2.1 Background**

The Consortium to Lower Obesity in Chicago Children (CLOCC) “is a nationally recognized childhood obesity prevention program housed within the Center for Obesity Management and Prevention (COMP) at the Children’s Memorial Research Center of Children’s Memorial Hospital. CLOCC is a data-driven effort that brings together hundreds of organizations and individuals in Chicago, with a common goal of protecting Children from the effects of the obesity epidemic.” The primary contact for this project is Project Director, Lara Jones Jaskiewicz.

The expected purpose of the project was to outline and map Federal, State and local nutrition programs in Chicago and Illinois. Contact information was provided by CLOCC’s project director to representatives of the Interagency Nutrition Council (INC) and Chicago Food System Collaborative (CFSC). These contacts were to assist in obtaining information needed from agencies and programs concerned with this project; Special Supplemental Nutrition Program for Women, Infants & Children (WIC), Commodity Supplemental Food Program (CSFP), Child and Adult Food Care Program (CACFP), The Emergency Food Assistance Program (TEFAP), Food Stamp Program (FSP), Summer Nutrition Participation (SNP).

### **2.2 Literature Review**

In conducting its literature review, CLOCCWork found that nearly every resource the group obtained called for reforms that directly coincided with the goal or the project;

‘map federal, state, and local nutrition programs in Chicago...The map will cover the flow of funding between agencies and organizations, individual program structure and eligibility requirements...and how residents can access the programs.’

Due to time constraints, CLOCCWork opted to focus its attention on Cook County. However, in the literature review the group came across several authors and institutions who argue the necessity of these goals nationwide. One of these institutions is The Urban Institute, a nonpartisan organization that publishes studies, reports and books on current topics of public concern argue for ten potential data initiatives in order to further data development for research on food assistance and nutrition programs (Urban Institute).

These initiatives fall into four categories, all of which correspond with the tasks undertaken by CLOCCWork. The first category is ‘addressing inadequacies of current data resources.’ Second, several initiatives lie under the heading, ‘using new data technologies to improve the quality or lower the cost of data resources.’ Underlying this category is a specific initiative to employ GIS for project management and data collection (Urban Institute). The third category holds that ‘expansion of one-time projects to provide ongoing or national data resources’ is required to link administrative data (Urban Institute). Lastly, the fourth notes the benefit of ‘creating new data sources, by linking existing data.’ The initiatives argued for by the Urban Institute echo CLOCCWork’s project by expressing concern over the lack of communication between various food programs, and the subsequent lack of service provided to the community at large.

In agreement with the Urban Institute, Anne C. Bellows of the Food Policy Institute of the State University of New Jersey recommends ‘building bridges’ between

food programs, related organizations, and food pantries and soup kitchens (Bellows). Furthermore, she argues that with the rise of food system analysis over the last 15 years, the task of ‘analyzing the social economic, and environmental relations along the food commodity chain,’ has created a system that can facilitate cooperation between such agencies and organizations. Bellows makes specific note of the recent study, ‘Improving Food Security for New Jersey Families: Identifying Food Source, Need, and Tools for Connecting,’ in which GIS was employed in a gap analysis of emergency food services within the state of New Jersey (Bellows).

As was previously stated, nearly every resource looked at called for reforms in a similar manner to the goals of the CLOCCWork project. In addition to the Urban Institute think tank, and Bellows, a county and city based document that argued for similar reforms was found. In ‘Food Policy Recommendations,’ published by the Portland-Multnomah Food Policy Council in October of 2003, the council provided plans concerning the better management of food programs in their region. The council mentioned a project in coordination with their local transit system in which GIS is utilized to denote areas with inadequate food access (FPC) through the recognition of food access barriers (FPC). The ultimate goal of the Food Policy Council is to provide those in need of food, with healthy food. In order to do this, the council suggests numerous ways in which relationships and cooperation can be built between organizations, private enterprises, and food suppliers. Several means of accomplishing this include encouraging the distribution of food stamp applications by different city departments, creating incentives for children to be in association with the Portland Parks Dept. through which the Summer Feeding Program is made available, and providing

incentives for grocery stores to root themselves in areas with decreased accessibility to food (FPC). Through statistics, the FPC makes clear the necessity of such developments.

### **2.3 Project Goal**

It became apparent to Ms. Jones Jaskiewicz during conversations with public employees and non-profit organizations that the way “nutrition programs are delivered is very fragmented and confusing.” Ms. Jones Jaskiewicz provided CLOCCWork with what a general statement of intent for the project. Her document requested that CLOCCWork “outline and map Federal, State and local nutrition programs in Chicago and Illinois.” The document continued, “[g]oals of the project are to outline and map federal...and local nutrition programs. Having all of this information in one place will make it much easier for service providers to know how to interact with programs and how they can support program participants.” As declared in the literature review section of this document, CLOCCWork decided that due to time constraints it was best to focus specifically on Cook County, and not the entire state.

### **2.4 Objectives**

CLOCCWork made every attempt at completing the project and worked to provide Ms. Jones Jaskiewicz and CLOCC the tables and maps that were sought. The time-constraints of the project necessitated that the contacts at the INC and CFSC assist in accessing the information needed from the relevant agencies as early into the project as possible. A deadline of February 13<sup>th</sup> had to be set to obtain all the necessary data for the project.

The spatial data obtained by the deadline was to be geocoded and used along with other informational data (tract, census, organizational requirements) to complete the requested tables and maps. In order to fully realize the project, data showing the funding for each group, information regarding the number of people served by each program, and information regarding participation were needed in addition to the spatial data collected.

## **2.5 Information Products**

### **A. Information Category-**

Additional information needed to construct the final output of the project is income by neighborhood/zip code, funding allotted to CC outreach and WIC and specifically how this funding is dispersed.

### **B. Information Structure-**

The following is a summary description of what CLOCC was seeking in the final output of the project;

#### **A. Tables and maps for each program showing,**

1. Purpose, funding level, and numbers served.
2. The flow of funding between agencies and local organizations.
3. Delivery and what services each organization can provide.
4. What agencies provide services in the city of Chicago.
5. Eligibility criteria for participants to access the program.
6. Estimates of how much of the eligible population is participating.



In order to meet the needs of the client, construction of the following maps were considered by CLOCCWork;

1. Income by Cook County Zip
2. Location of facilities for the various food service programs referenced in the background section of this document.
3. The flow of funding for each of these organizations/projects.
4. Barriers to access

Additionally, tables and documentation giving a description of each agency, its purpose, eligibility information, and numbers served were to accompany the maps.

### **3- System Requirements**

#### **3.1 Introduction**

A deadline was set to collect data from the sources CLOCCWork was to make contact with. Several of the contacts that CLOCCWork was provided with did not respond to attempts at communication. Mary Jane Forney, Pat Stieren, and Penny Roth were three contacts Ms. Jones Jaskiewicz provided in a list to the group. Attempts were made via email to contact each of these three. As of Tuesday January 30<sup>th</sup>, only Pat Stieren had replied to the email message sent to her. Ms. Stieren provided CLOCCWork with contact and location data for the following;

1. CSFP outreach sites
2. CSFP distribution sites

### 3. WIC agency/clinic listing for Cook county

Discussion of the project and a review of the initial stage of the project brought CLOCCWork to conclude that revisions would have to be made. These revisions would primarily limit the scope of the project. Limiting the project had to be done in part because the group was not provided with the necessary data to complete the project in a way that would satisfy all of CLOCC's desires for the output. Moreover, the initial scope of the project was deemed to be far too overreaching a task to be completed in two months time.

At this point, CLOCCWork's "need to know" questions were defined and then redefined. They had to be made to work with the data that the group had been able to cultivate from the sources that contact was successful with. They were also designed to include data that could be mined through outside research. Lastly, they limited the overall spectrum of the project back to a simpler version of the project goal, "...outline and map...local nutrition programs."

### 3.2 Data requirements as a Conceptual Database Design

#### 3.2.1 Matrix of need to know questions cross-referenced with entity classes

	Need to Know Questions			
	What are the locations of the facilities of the programs?	What percent of the population is eligible for the programs in each community?	What are the demographic characteristics of areas where facilities of these programs are concentrated?	What is the level of access to the programs in low income neighborhoods?
Object Classes				
Cook County Census Tract .shp	X	X	X	X
Program facility location	X	X	X	X
Cook County Census Data		X	X	X
Elevated train .shp				X

#### 3.2.2 Entity Relationship Modeling

Name of Entity (Object) Class: Cook County census tract shapefile

Entity Definition: Depicts boundaries of Cook County by census tract

Spatial Type: Polygon

Temporal Character: 2005, 2004, 2000

Attribute Name: ChiTract.shp

Attribute Description: U.S. Census Tracts represents the U.S. Census tracts of the United States in the 50 states and the District of Columbia.

Relationship: U.S. Census Tracts provides boundaries and demographic information for U.S. Census tracts. The boundaries are consistent with the county, state, and block group data sets.

Name of Entity (Object) Class: WIC locations

Entity Definition: Depicts location of WIC centers

Spatial Type: Point

Temporal Character: 2006, 2000

Attribute Name: WICAgencySitesgcode.shp  
Attribute Description: Geocoded reference of WIC Agency sites for 2006 mapped with 2000 TIGER/Line Cook County road reference data.  
Relationship: WIC Agency data shows location of the Agency sites for reference.

Name of Entity (Object) Class: CC Outreach Centers  
Entity Definition: Depicts location of CC Outreach locations  
Spatial Type: Point  
Temporal Character: 2006, 2000  
Attribute Name: CCOutreachgcode.shp  
Attribute Description: Geocoded reference of CC Outreach Center sites for 2006 mapped with 2000 TIGER/Line Cook County road reference data.  
Relationship: CC Outreach Centers data shows location of the Agency sites for reference.

Name of Entity (Object) Class: CC Distribution sites  
Entity Definition: Depicts locations of CC Distribution sites  
Spatial Type: Point  
Temporal Character: 2006, 2000  
Attribute Name: CCDistributionsitesgcode.shp  
Attribute Description: Geocoded reference of CC Distribution sites for 2000 mapped with 2000 TIGER/Line Cook County road reference data  
Relationship: CC Distribution sites shows location of the Agency sites for reference.

Name of Entity (Object) Class: El Train station shapefile  
Entity Definition: Depicts locations of Chicago Transit Authority Elevated stations.  
Spatial Type: Layer  
Temporal Character: 2006  
Attribute Name: DATA\_ADMIN\_CTASTATION.shp  
Attribute Description: Not defined in Metadata, see Entity Definition.  
Relationship: Provides location of transportation for reference to point data.

Name of Entity (Object) Class: El Train line shapefile  
Entity Definition: Depicts locations of Chicago Transit Authority Elevated train lines.  
Spatial Type: Layer  
Temporal Character: 2004  
Attribute Name: CTA\_Line.shp  
Attribute Description: Not defined in Metadata, see Entity Definition.  
Relationship: Provides locations of transportation for reference to point data.

Name of Entity (Object) Class: Cook County census data  
Entity Definition: Provides census data for Cook County  
Spatial Type: database file (dbf)  
Temporal Character: 1999

Attribute Name: censusdata.dbf

Attribute Description: No metadata. This database was created from data obtained from the U.S. Census bureau Fact Finder website.

Relationship: provides spatial reference of income data

Name of Entity (Object) Class: Incomeunder20000

Entity Definition: Provides selected query of census data for Cook County referencing income under \$20,000 by census tract

Spatial Type: database file (dbf)

Temporal Character: 1999

Attribute Name: incomeunder20000.dbf

Attribute Description: No metadata. This database is limited scale data of information obtained from the U.S. Census bureau Fact Finder website. It was selected to identify households falling within the eligible range to participate in referenced programs.

Relationship: Provides method to identify households with members eligible to participate in the programs concerned in this project.

Name of Entity (Object Class): Cook County Roads TIGER/Line

Entity Definition: Depicts road in Cook County

Spatial Type: Polygon

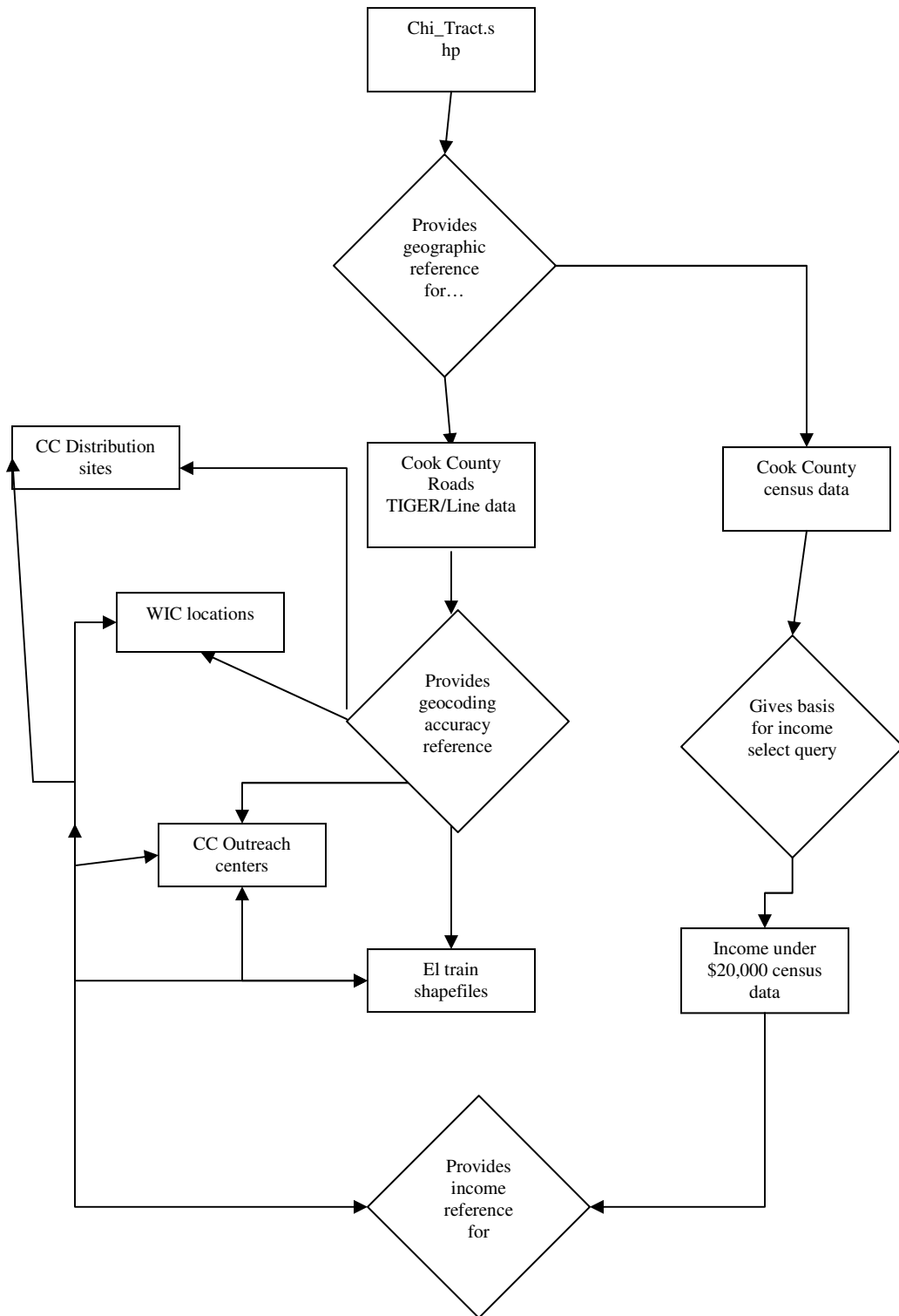
Temporal Character:

Attribute Name: Cookroads2000.shp

Attribute Description:

Relationship: Provides Cook County road data for use in georeferencing points of CC and WIC sites.

### 3.2.3 Entity Relationship Diagram



### 3.3 Software Requirements

#### 3.3.1 Matrix of need to know questions cross-referenced with software functions

	Need to Know Questions			
	What are the locations of the facilities of the programs?	What percent of the population is eligible for the programs in each community?	What are the demographic characteristics of areas where facilities of these programs are concentrated?	What is the level of access to the programs in low income neighborhoods?
Function Capabilities				
Select by Attribute	X	X	X	X
Table and Shapefile Joins	X	X	X	X
Georeferencing	X		X	X
Spatial Overlay			X	X
Display	X	X	X	X
Symbology	X	X	X	X
Analysis Tools				X

### 3.4 Personnel Requirements

Allison Fitzpatrick

1. Initial meeting with client Ms. Jones Jaskiewicz
2. Data collection and normalization.
3. Timing and institutional requirements.
4. Database geocoding

5. Map creation, including analysis and overlay
6. Final Report

John Brady

1. Text editing
2. Census data collection
3. Shapefile research and collection
4. Matrices creation
5. Diagram modeling
6. Final Report

Phillip Jones

1. Initial meeting with client Ms. Jones Jaskiewicz
2. Literature review.
3. Contact representative for CLOCCWork (via email)
4. Database geocoding
5. Map Creation (including analysis and overlay)
6. Final report

### **3.5 Timing**

CLOCCWork's deadline for information was set for February 13<sup>th</sup>, exactly one month before the final product was needed. This deadline was set in order to have time for map planning; CLOCCWork's primary goal was to target specific subject matter for



individual maps. The information needed by this deadline included additional information on Food Services (such as WIC) and participation requirements.

With the deadline nearing and little feedback from our primary contacts (mainly at the Illinois Department of Human Services), CLOCCWork re-structured priorities and plans set about using the information that could be obtained. At the deadline, CLOCCWork had three spreadsheets, each showing the location of different WIC and CCO outreach centers in the area. Our emphasis was then placed on using this information and combining the institutional requirements to produce maps that answer specific questions listed below.

### **3.6 Institutional requirements**

CLOCCWork attempted contact with a number of organizations, including WIC. Unfortunately, the group experienced difficulty in obtaining relevant information. Contacts were established through e-mail, including Ms. Penny Roth, who works on behalf of Illinois Department of Human Services, and Amina Everett, who is Manager of the Emergency Food Program (Illinois Department of Human Services). Our contacts were able to provide us with links to Food Services (Greater Chicago Food Depository) that provided some useful information, however they were not entirely within CLOCCWork's focus. Based upon the information we were able to obtain through e-mail, CLOCCWork concluded that rather than focus on food institutions (as this information was lacking), a greater emphasis needed to be placed on obtaining census data pertaining to annual income in neighborhoods. The next step for CLOCCWork was to obtain/request this relevant Census Bureau information. The group decided to use the

census information in conjunction with the limited spatial data (WIC sites, CCO outreach locations) to answer:

-Are low-income neighborhoods in general areas of centers? In other words, are the organizations placing too many/too little centers in certain areas?

To help back the aforementioned question:

-Are low-income neighborhoods in vicinity of proper transportation to outreach centers?

-Are low-income neighborhood populations in vicinity of centers from the available transportation?

Ultimately, CLOCCWork's institutional requirements are centered upon CTA (EL & bus service) and Census Bureau information. With these two as a center of focus, CLOCCWork was able to take the spatial information received and focus on using it as efficiently as possible.

## **4- Data Acquisition**

### **4.1 Introduction**

At the deadline set for contacts to get back to us (2/13/07), CLOCCWork was left with very little input from those that we contacted. Data regarding the location of the facilities of a couple of the programs was obtained, and it was decided that this would be used to complete the project. Additionally, outside sources of information and data would be used to construct maps for the project. The combination of data acquired regarding locations and that which was collected through outside research through

various agencies would hopefully allow us to answer and to construct maps based on our “need-to-know” questions.

## **4.2 Data Dictionary**

### **1. Census 2000 results for general poverty statistics in Chicago**

Provided by the Northeastern Illinois Planning Commission website ([http://www.nipc.org/census\\_2000\\_gate.htm](http://www.nipc.org/census_2000_gate.htm)). It is a 60 page PDF containing all census data statistics on the Chicago area. Tabulated by Census tracts, blocks, and block groups.

### **2. Excel Database File “Summary of General Demographic Characteristics for the City of Chicago and its 77 Community Areas: 2000”.**

Contains generalized census data for Chicago’s seventy-seven community areas.

### **3. <http://factfinder.census.gov/>, detailed table of 1999 Chicago income data by census tract (Summary File 3- SF3)**

Broken into down into sixteen income brackets and saved as an Excel file. This file will be converted into a database file and normalized for overlay with the Chicago Census Tract Shapefile (number seven in this list).

### **4. CCDistributionsites.exe**

Contains a small database of sites manned by the CSFP (Commodity Supplemental Food Program) service. These are specifically locations where commodities are provided to women, children and seniors on-site.

## **5. CCOutreachsites.exe**

Contains a larger database of sites manned by the CSFP (Commodity Supplemental Food Program) service. These are specifically locations where commodities are pre-packaged and delivered to seniors.

## **6. WICAgencysites.exe**

Contains a database of Cook County WIC sites. The locations are combined, some being on-site food distribution centers, some serving as general outreach and application centers. The spreadsheet contains a column designating whether or not each location contains an on-site food distribution center.

*The data for numbers four through six were provided to CLOCCWork by Pat Stieren, Coordinator of the Illinois WIC Program. The data was normalized, in Excel spreadsheet format when sent, however our team modified the data, organizing sites by Zip Code for easier referencing.*

## **7. ChiTract.shp**

This shapefile was previously used in Lab 3 of our class, and best fits our project as it portrays Chicago by neighborhood. It comes from the ESRI Data CD (obtained from: “X:\StreetMap05\usa\census”)

### **4.3 Data Source Steps**

CLOCCWork obtained data for the normalized spreadsheets through Ms. Pat Stieren, a contact provided by Lara Jones Jaskiewicz. The ChiTract shapefile was obtained through GIS Lab 3, on the X:\ drive.

Additional research was conducted through online searches (and custom database construction) using information collected from the U.S. Census Office, ESRI, Northeastern Illinois Planning Commission, and the City of Chicago website (shapefile data).

### **4.4 Fitness for Use**

The three Excel spreadsheets suit the main focus for the project, determining the location of WIC/Outreach centers in proximity to low-income neighborhoods. The spreadsheets were organized by Zip Code to make geocoding/georeferencing more efficient in the mapmaking process. The accuracy of the data obtained from our sources was deemed suitable, as it is a minimal amount of information (name of center, address, contact, and most importantly—zip code) and still met the needs of the redefined project. Some data (primarily from the WIC spreadsheet) will be exempt from the final output, as there are suburban WIC centers; CLOCCWork's focus was limited solely to the city of Chicago.

The data collected on household income used in overlay operations is accurate as of 1999. It is important to note that this may limit the scope of the project in terms of

providing an accurate reflection of the income levels and needs of Chicago residents in the year 2007.

#### **4.5 Data Acquisition Constraints**

The goal for data acquisition consisted of two steps; 1. Obtain information on WIC/Outreach locations and organize by zip code, and 2. Obtain Chicago Census data pertaining to average income per neighborhood

One restraint in obtaining this data was finding Census data that was organized by census tracts. CLOCCWork found a useful PDF from the census bureau that did not contain income; the group was able to find census data that contained income data, but was not organized by census tracts. Eventually, this barrier was overcome and CLOCCWork was able to obtain proper data for georeferencing.

Further information regarding the funding of the organizations that CLOCC works with would have allowed us to give a clearer picture in the results of the project, as would have having had more contemporary household income data for the city of Chicago.

## **5- Data Analysis**

### **5.1 Introduction**

At the onset of the quarter two members of CLOCCWork met with the group's client, Ms. Jones Jaskiewicz who provided the group with a rough overview of what she

would like to see as output from the final results of the project. The basic summary/framework that Ms. Jones Jaskiewicz provided for the project was that the group should “outline and map federal and local nutrition programs”. CLOCCWork’s original problem statement was defined by, and revolved around this objective. Ms Jones Jaskiewicz wanted the group to provide an analysis of the locations of the facilities that CLOCC worked with, as well as an analysis of the flow of funding to and from these organizations.

Ms. Jones Jaskiewicz provided us with information for several contacts. Most of these contacts did not reply to queries sent asking for data related to the project. CLOCCWork’s initial “need-to-know” questions were formulated under the assumption that the group would eventually have the information needed to map not only the location of the facilities, but also the flow of funding to and from these programs. As time progressed it became apparent that the necessary information on funding for the project was not going to be obtained by the deadlines set. It also became apparent that the original goals of the project were far too overreaching for a ten week project.

In order to move ahead, CLOCCWork’s need-to-know questions and the general framework of the project were redefined. The group decided to focus primarily upon the analysis of income in the Cook County census tracts, and thereby provide a framework for analysis of the number of households that may have residents eligible for the benefits the programs provide. It was concluded that this could be done because the group had data regarding the locations of some of the programs (WIC and CC CSFP), and were able to collect census data on income by Chicago census tract. By combining this data, income patterns in and around the neighborhoods where the program locations were

located could be analyzed. Additionally, CLOCCWork decided to focus on the level of access via transportation (specifically, Chicago El train) to these facilities.

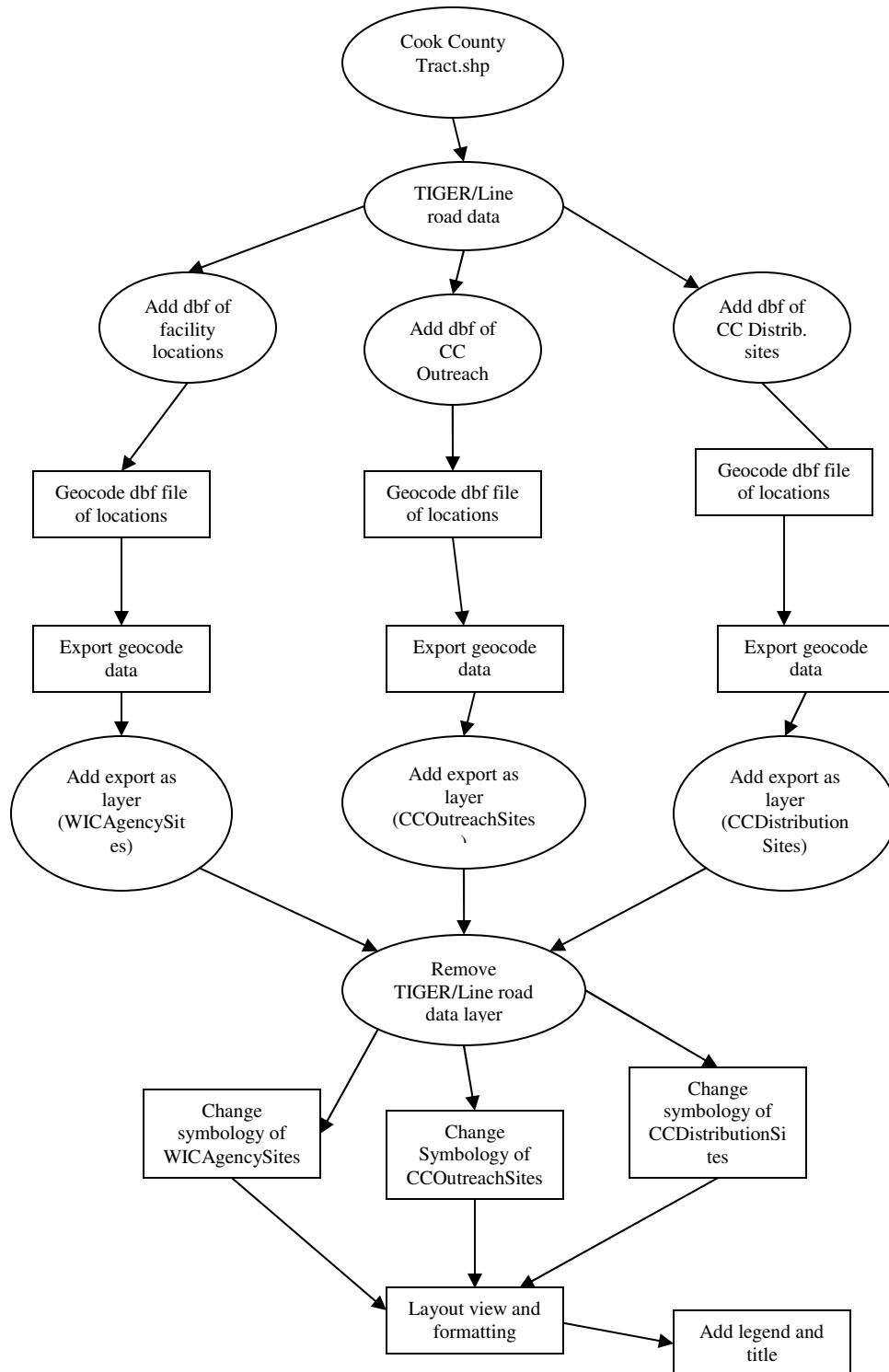
## **5.2 Analysis Plan**

*What are the locations of the facilities of the programs?*

To answer this question, the Cook County tract shapefile was used to define the boundaries of the area of concern. CLOCCWork entered and normalized spatial data for the programs information was obtained for into Excel table spreadsheets and converted them into database files. These files were geocoded, and the resulting export files were added to the map as layers. Additionally, labeling markers and a legend were added to the map to help identify locations. Represented one the next page, are the steps used to create the three maps that were needed to portray the information adequately.



Figure5.1



*What percent of the population is eligible for programs in each community?*

Several steps were required for this question. First, the group needed to find out the eligibility requirements for the programs that had location data had been obtained for, WIC (agency sites) and the Catholic Charities Commodity Supplemental Food Program (CC CFSP) Outreach and Distribution Centers.

*Figure 4.1* and the accompanying requirements for participation were found on the Illinois Department of Human Services website (<http://www.dhs.state.il.us/>) regarding eligibility in the WIC (Woman, Infants and Children) program.

Figure 5.2 Illinois WIC Income Eligibility Guidelines

< Income Poverty Federal on Based 2003 30, June to 2002 1, July Period the During Programs Nutrition Special FCS for>

Family Size	Annual	Monthly	Twice Monthly	Weekly	Bi Weekly
1	\$16,391	\$1,366	\$683	\$316	\$631
2	\$22,089	\$1,841	\$921	\$425	\$850
3	\$27,787	\$2,316	\$1,158	\$535	\$1,069
4	\$33,485	\$2,791	\$1,396	\$644	\$1,288
5	\$39,183	\$3,266	\$1,633	\$754	\$1,508
6	\$44,881	\$3,741	\$1,871	\$864	\$1,727
7	\$50,579	\$4,215	\$2,108	\$973	\$1,946
8	\$56,277	\$4,690	\$2,345	\$1,083	\$2,165
<b>For each additional family member add</b>	<b>+\$5,698</b>	<b>+\$475</b>	<b>+\$238</b>	<b>+\$110</b>	<b>+\$220</b>

1. You must be
  - a pregnant woman
  - breastfeeding (up to one year after giving birth)
  - a new mother (up to six months after giving birth) or
  - a parent, guardian or caretaker who has an infant or child younger than 5 years of age.
2. Income Guidelines
  - Your annual household income must be within WIC Guidelines (*see figure 4.1*).
  - You may have a job and still meet these guidelines.
3. Medical or Health Risk
  - A screening by a WIC Certifying Health Professional must find that you have a medical or nutritional health risk such as low iron, low weight gain during pregnancy or a diet that needs improvement.

Because the definition of who could be eligible is broadly defined and more than can adequately be represented on a map that does not appear jumbled, CLOCCWork decided to focus on households with income less than \$20,000 in each census tract. The census data obtained broke income into \$5,000 increments, and at the \$20,000 level it can be said that one hundred percent of those meeting the other requirements would be eligible for the benefits of the programs. Doing this, paints a general picture of the level of households that could be eligible in Chicago.

The Catholic Charities of the Archdiocese of Chicago program Commodity Supplemental Food Program (CSFP), provides nutrition services for the elderly (sixty years of age and older) with low income. The program is administered by the Illinois Department of Human Services (IDHS) and is operated by Catholic Charities. A monthly

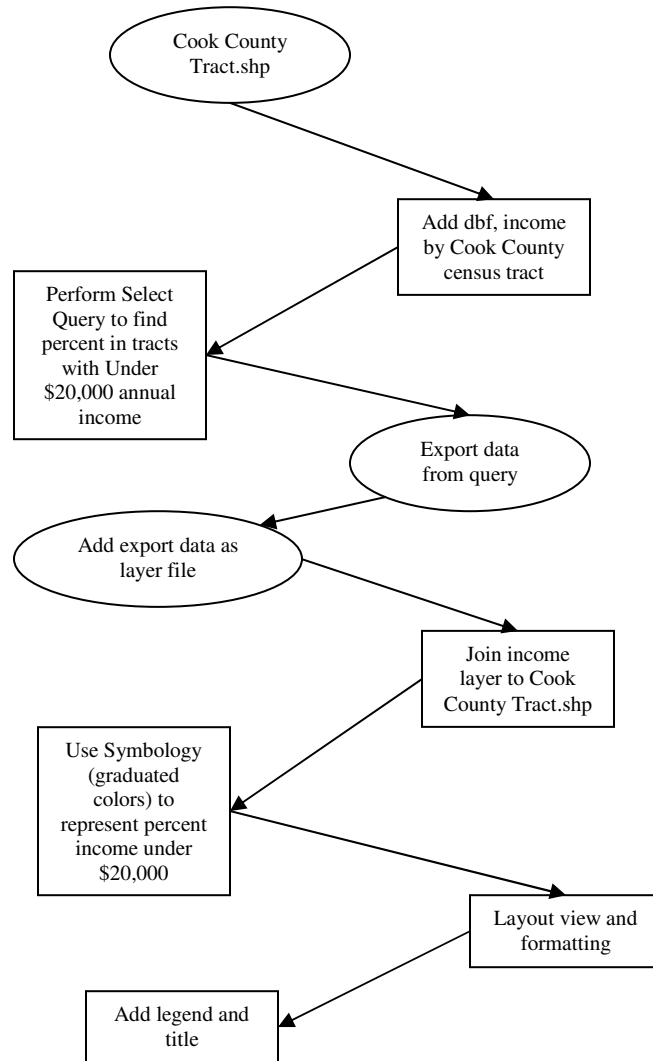
nutrition food package is provided to the participants, along with nutrition education. Income requirements for eligibility within the program are represented in *figure 4.2*.

Figure 5.3- CFSP Income Requirements

	<b>Elderly - 130%</b>		
<b>Household Size</b>	<b>Annual</b>	<b>Monthly</b>	<b>Weekly</b>
<b>1.....</b>	\$12,740	\$1,062	\$245
<b>2.....</b>	17,160	1,430	330
<b>3.....</b>	21,580	1,799	415
<b>4.....</b>	26,000	2,167	500
<b>5.....</b>	30,420	2,535	585
<b>6.....</b>	34,840	2,904	670
<b>7.....</b>	39,260	3,272	755
<b>8.....</b>	43,680	3,640	840
<b>For each add'l member, add...</b>	4,420	369	85

As in the case of WIC participation, CLOCCWork decided to map the locations along with general income information. This would broadly define, along with the other requirements, that all persons who reside in a particular census tract over the age of sixty with income below \$20,000, family size of two or less, and sixty years of age and older would be eligible for the program. Mapping the income below \$20,000 would give a general picture of eligibility.

Figure 5.4



*What are demographic characteristics of areas where facilities of these programs are concentrated? Are they in low-income neighborhoods?*

To answer this question, a display of the Chicago census tracts along with the locations of the facilities and income data by tract was required. Overlaying the geocoded addresses on the census tract shapefile was the first step in this. Next, a display of the income by neighborhood as in the analysis for the second need-to-know question was necessary.

Figure 5.5

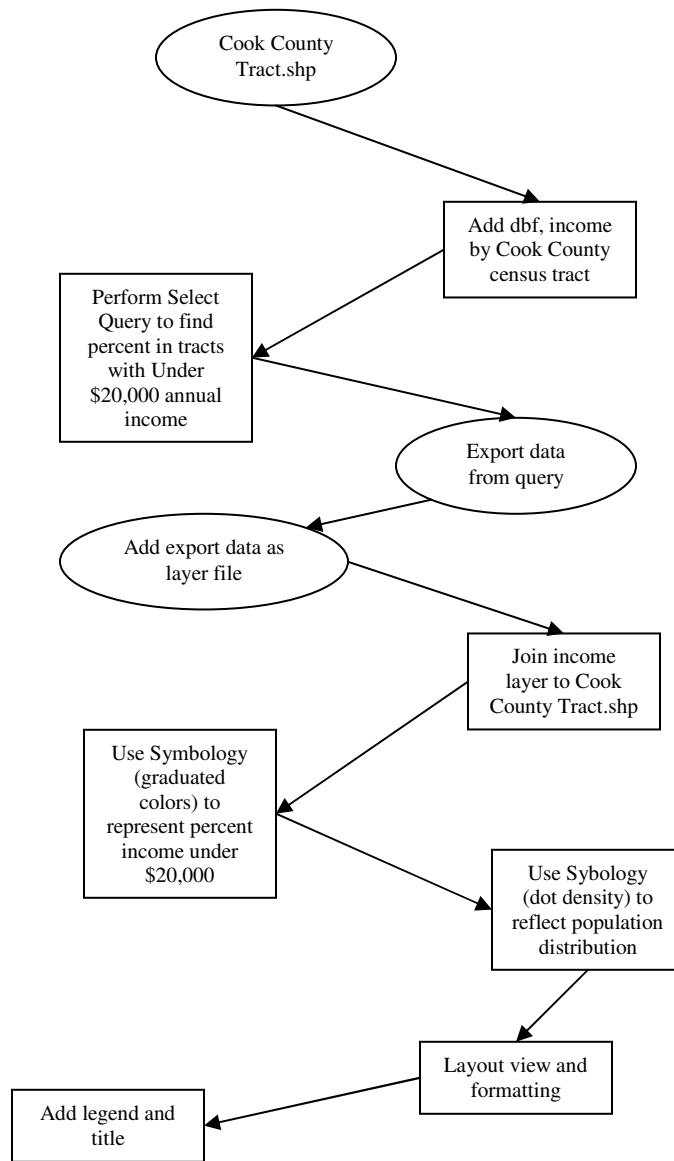
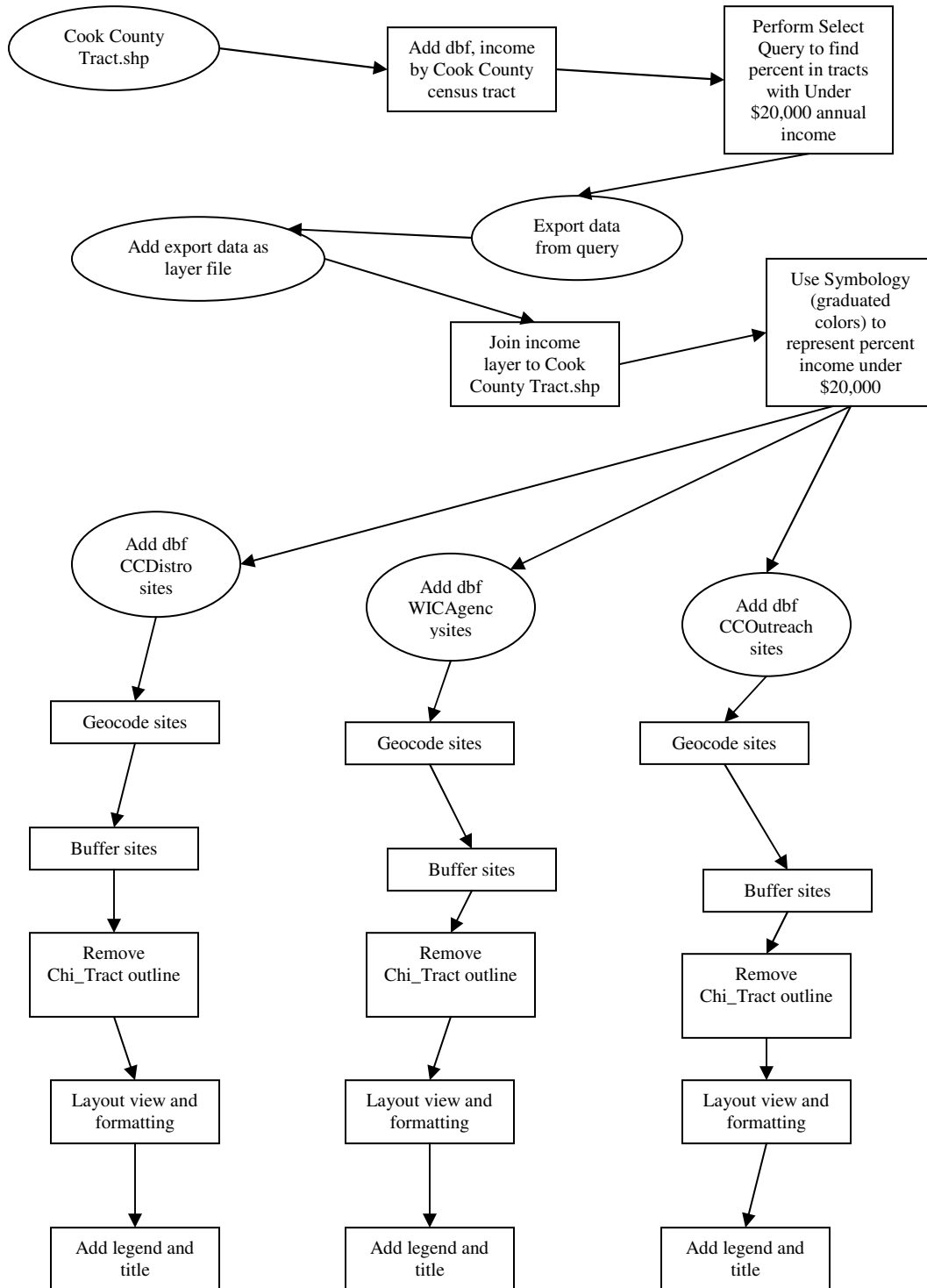


Figure 5.6

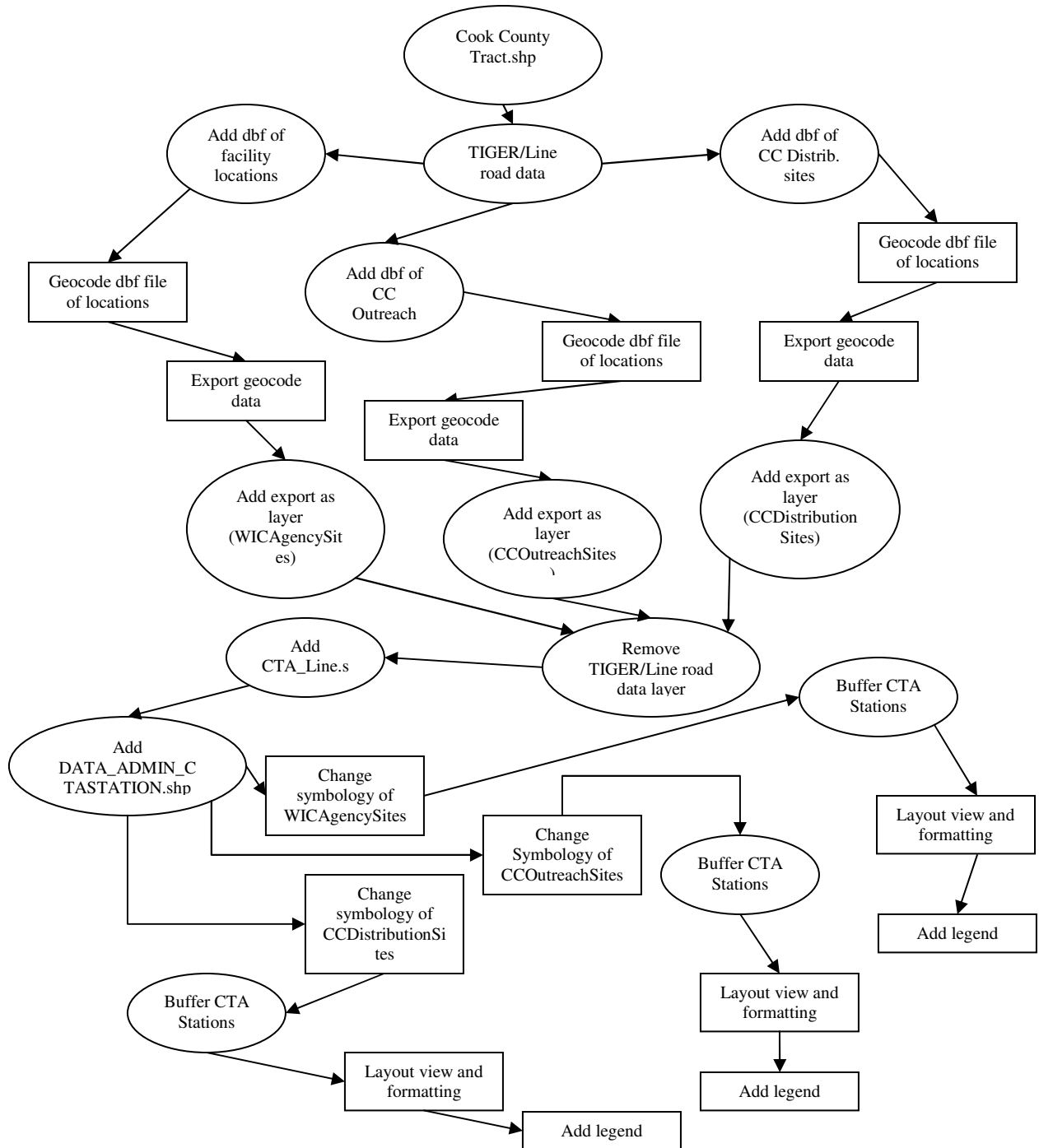




*What is the level of access to the programs in low income neighborhoods?*

To answer this question a shapefile of Chicago's El Train stations/lines was obtained from the City of Chicago website ([www.ci.chi.il.us/](http://www.ci.chi.il.us/)). This file was used along with that of the Chicago tract shapefile, and the database info on facility locations. For a complete picture of the level of access to the facilities, three maps were needed, one for each program. The first map displays access to WIC facilities. The steps of the flow chart (*figure 5.7*) show diverging operations for the three maps.

Figure 5.7



## **6- Results**

### **6.1 Introduction**

CLOCCWork completed ten maps (*figures 6.1 through 6.10*) showing the locations of the facilities of CSFP Distribution and Outreach Centers and WIC centers and their relation to local income by census tract and CTA Elevated transport.

### **6.2 Maps and descriptions**

#### **Map 6.1 (page 39) Chicago CSFP and WIC locations**

This map depicts all of the centers (WIC, CSFP Outreach, CSFP Distribution) throughout Chicago. It gives the onlooker a better understanding of what centers are over/under represented in certain areas, and in general which areas were left out of consideration.

#### **Map 6.2 (page 40) Percent of Households with Income Under \$20,000**

The map uses isoline symbology (darker blue indicating high % of annual income under \$20,000, lighter blue indicating low % of income under \$20,000) to portray Chicago census tract income distribution under \$20,000. This was used as a template for several maps in this project as income is a determining factor for CLOCCWork's end result.

**Map 6.3 (page 41) Percent of Total Households Measured Against Households with Income Under \$20,000**

The map uses isoline symbology (darker blue indicating high % of income under \$20,000, lighter blue indicating low % of income under \$20,000) to portray Chicago census tract income distribution under \$20,000. One dot, depicted in light purple, represents 3,000 people. The dot density spatial overlay helps CLOCCWork understand the relative population of these areas in relation to income. There are more crowded, smaller census tracts that have the same isoline representation as larger South Side tracts. This process is a determining factor in concluding whether or not size of the census tracts plays role.

**Map 6.4 (page 42) CSFP Distribution Centers in Vicinity of Household Income Under \$20,000**

The fourth map uses isoline symbology (darker orange indicating high % of income under \$20,000, lighter orange indicating low % of income under \$20,000) to portray Chicago census tract income distribution under \$20,000. The square symbols depict CSFP Distribution Centers, and the buffer is set for .25 miles to show areas within relative close distance. It in turn helps CLOCCWork to determine which low-income tracts have easy access to these particular centers.

**Map 6.5 (page 43) CSFP Outreach Centers in Vicinity of Household Income Under \$20,000**

Figure 6.5 uses isoline symbology (darker orange indicating high % of income under \$20,000, lighter orange indicating low % of income under \$20,000) to portray Chicago census tract income distribution under \$20,000. The square symbols depict CSFP Outreach Centers, and the buffer is set for .25 miles to show areas within relative close distance. It in turn helps CLOCCWork to determine which low-income tracts have easy access to these particular centers.

**Map 6.6 (page 44) WIC Centers in Vicinity of Household Income Under \$20,000**

The map uses isoline symbology (darker orange indicating high % of income under \$20,000, lighter orange indicating low % of income under \$20,000) to portray Chicago census tract income distribution under \$20,000. The square symbols depict WIC Centers, and the buffer is set for .25 miles to show areas within relative close distance. It in turn helps CLOCCWork to determine which low-income tracts have easy access to these particular centers.

**Map 6.7 (page 45) Tracts in Vicinity of CTA El Stations**

Map 6.7 uses isoline symbology (darker blue indicating high % of income under \$20,000, lighter blue indicating low % of income under \$20,000) to portray Chicago census tract income distribution under \$20,000. The CTA stations and lines were eventually changed from their corresponding color to a consistent black due to a cluttering of attribute visual representation. There is a buffer set for .25 miles to show areas within relative close distance. It in turn helps CLOCCWork to determine which low-income tracts have easy access to transportation to reach CSFP and WIC Centers.

**Map 6.8 (page 46) CSFP Distribution Centers in Vicinity of CTA El Transport**

This map portrays CSFP Distribution Centers within vicinity to CTA EL Transport. There is a buffer around each CTA EL stop to depict relative ease for low-income access to Distribution Centers.

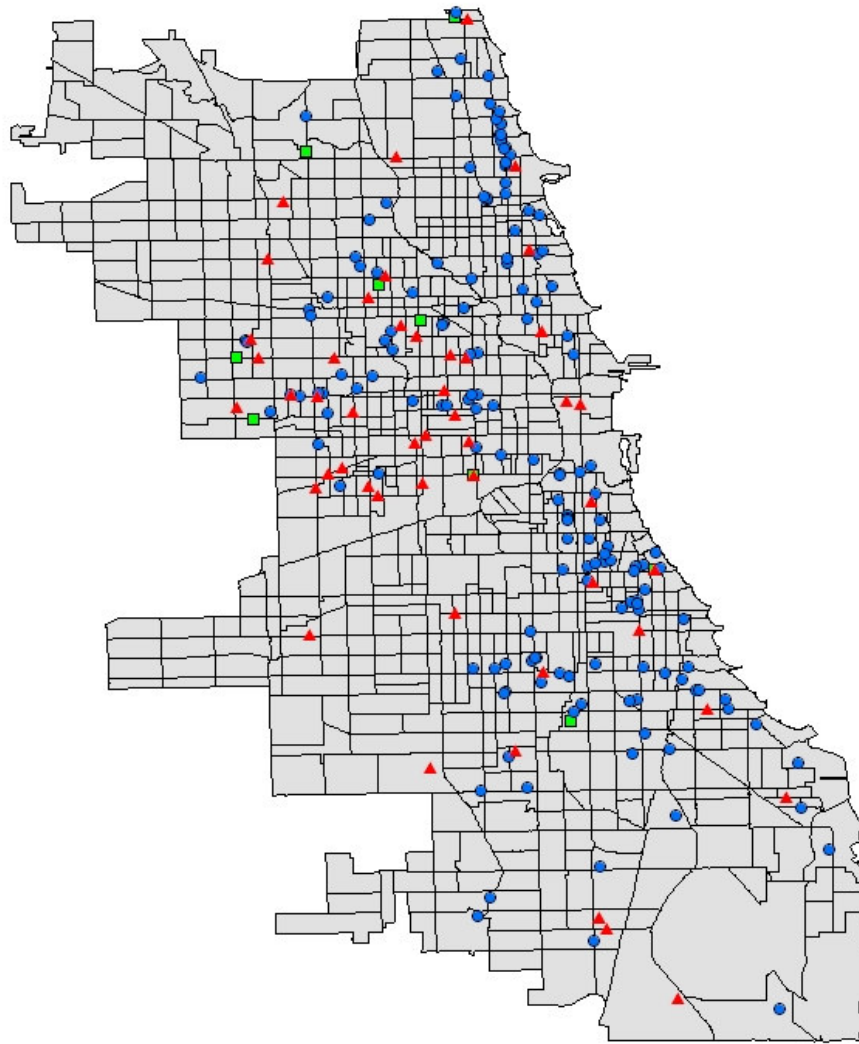
**Map 6.9 (pg. 47) CSFP Outreach Centers in Vicinity of CTA El Transport**

This map portrays CSFP Outreach Centers within vicinity to CTA EL Transport. There is a buffer around each CTA EL stop to depict relative ease for low-income access to Outreach Centers.

**Map 6.10 (page 48) WIC Centers in Vicinity of CTA El Transport**

This map portrays WIC Centers within vicinity to CTA EL Transport. There is a buffer around each CTA EL stop to depict relative ease for low-income access to WIC Centers.

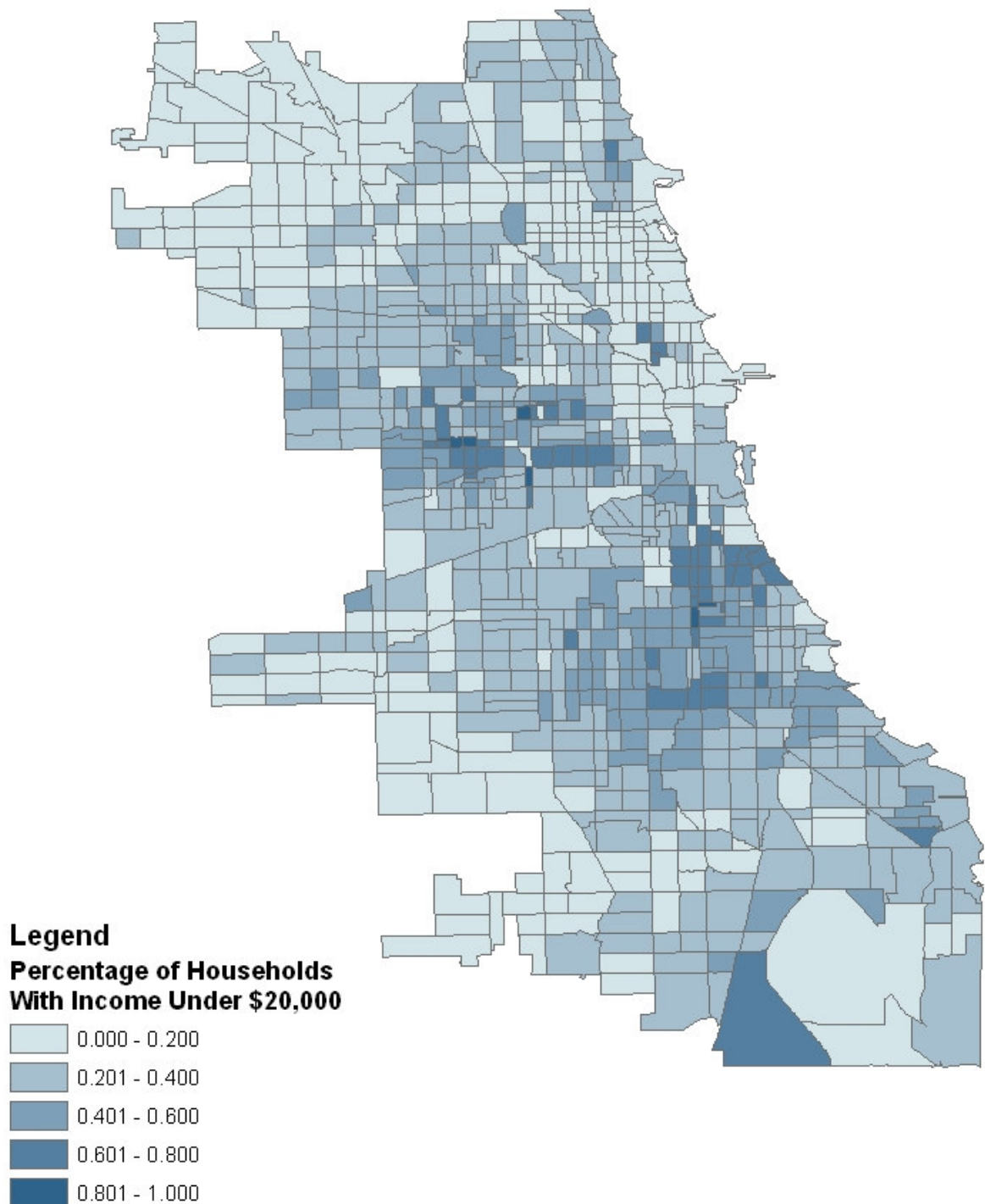
# Chicago CSFP & WIC Locations



## Legend

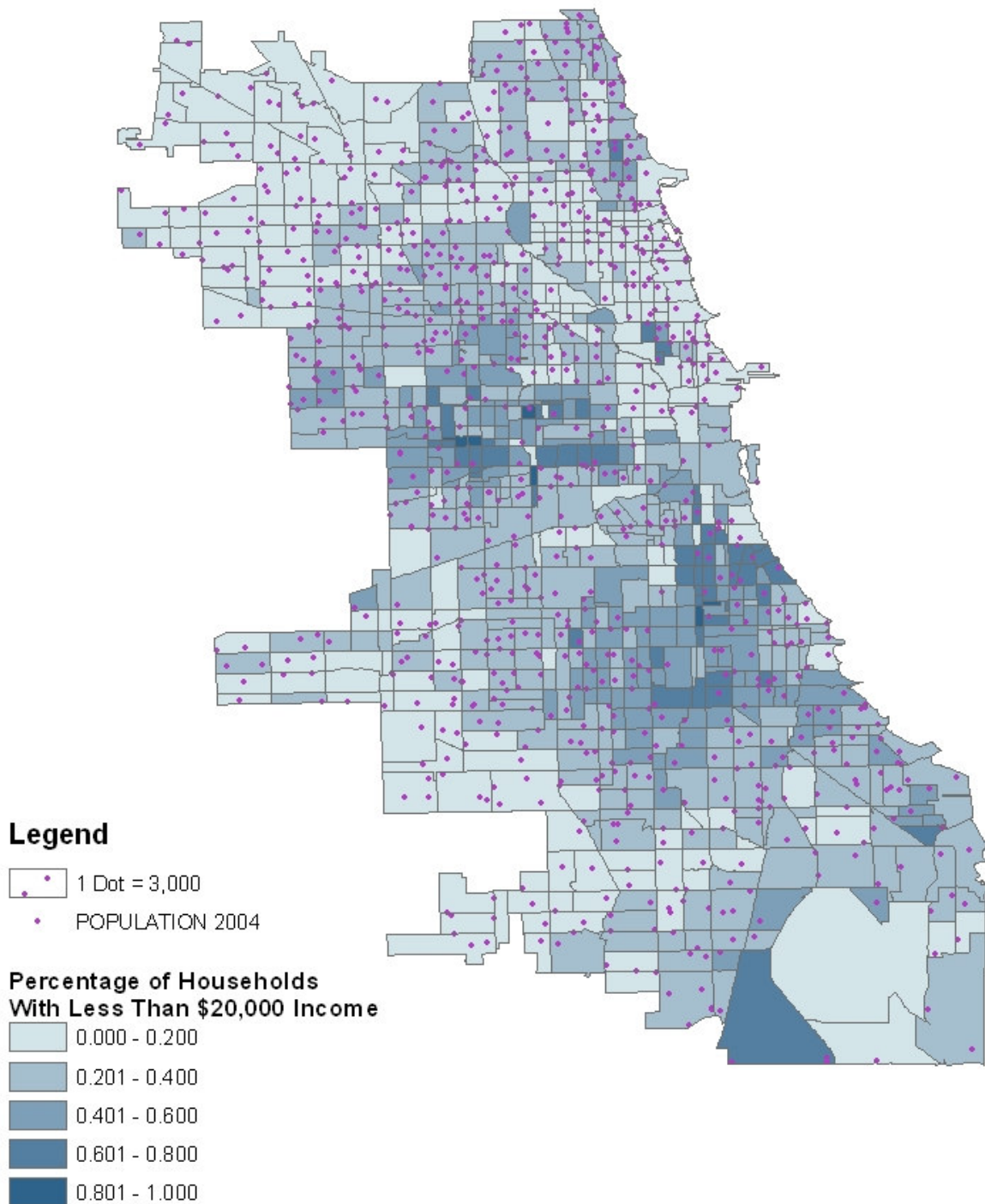
- ▲ WIC Center
- CC Outreach Center
- CC Distribution Center

## Percent of Households With Income Under \$20,000

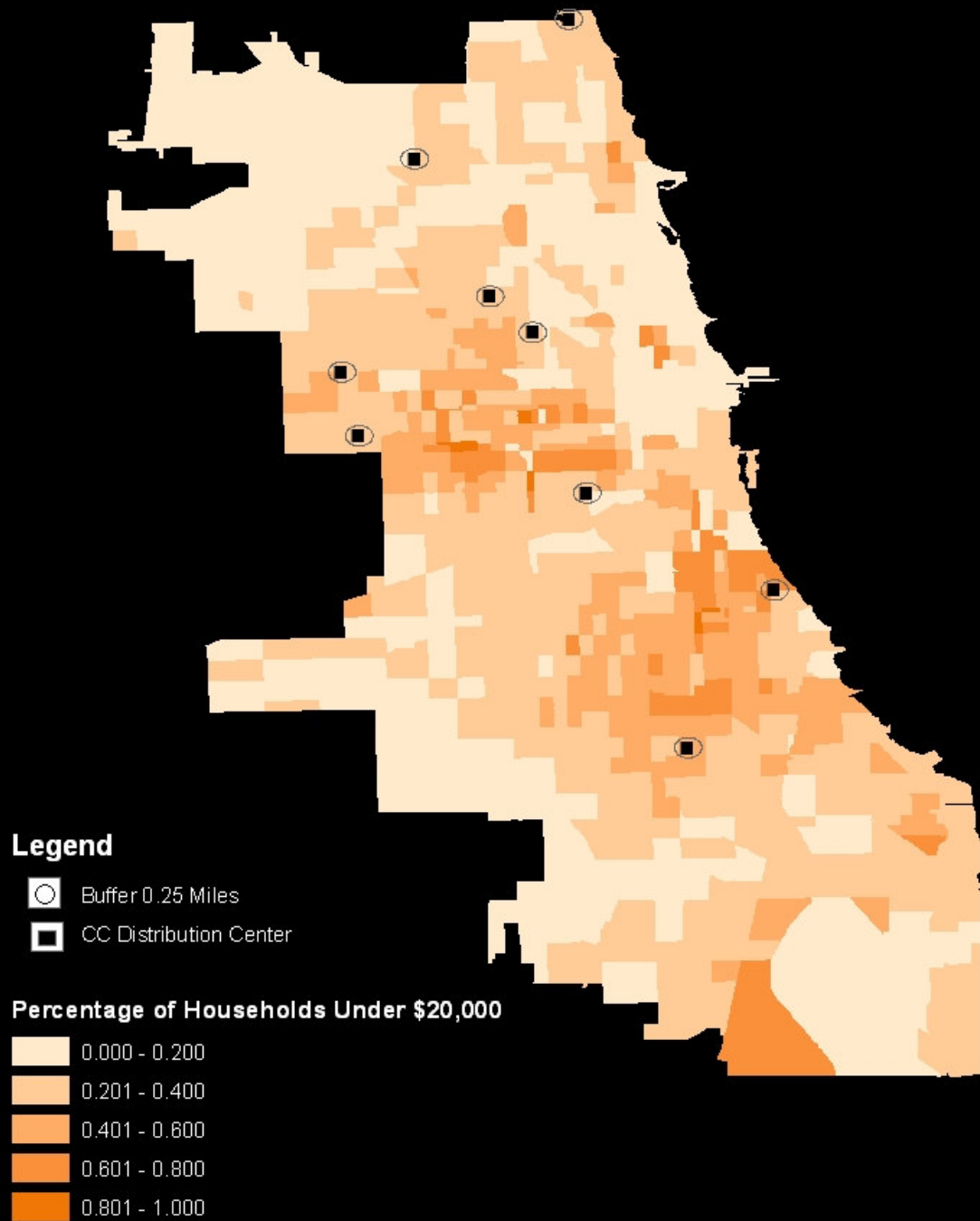




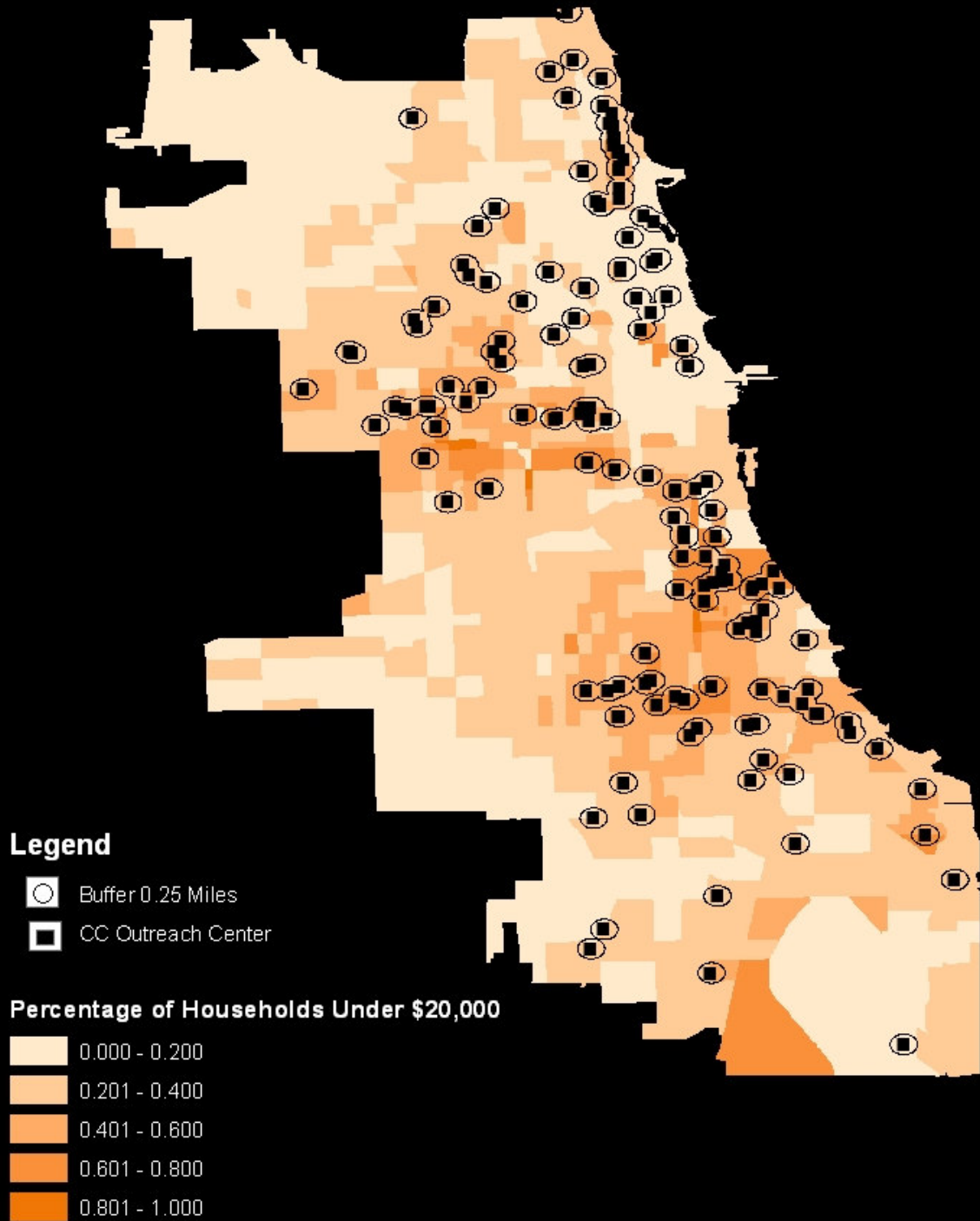
## Percent of Total Households Measured Against Households With Income Under \$20,000



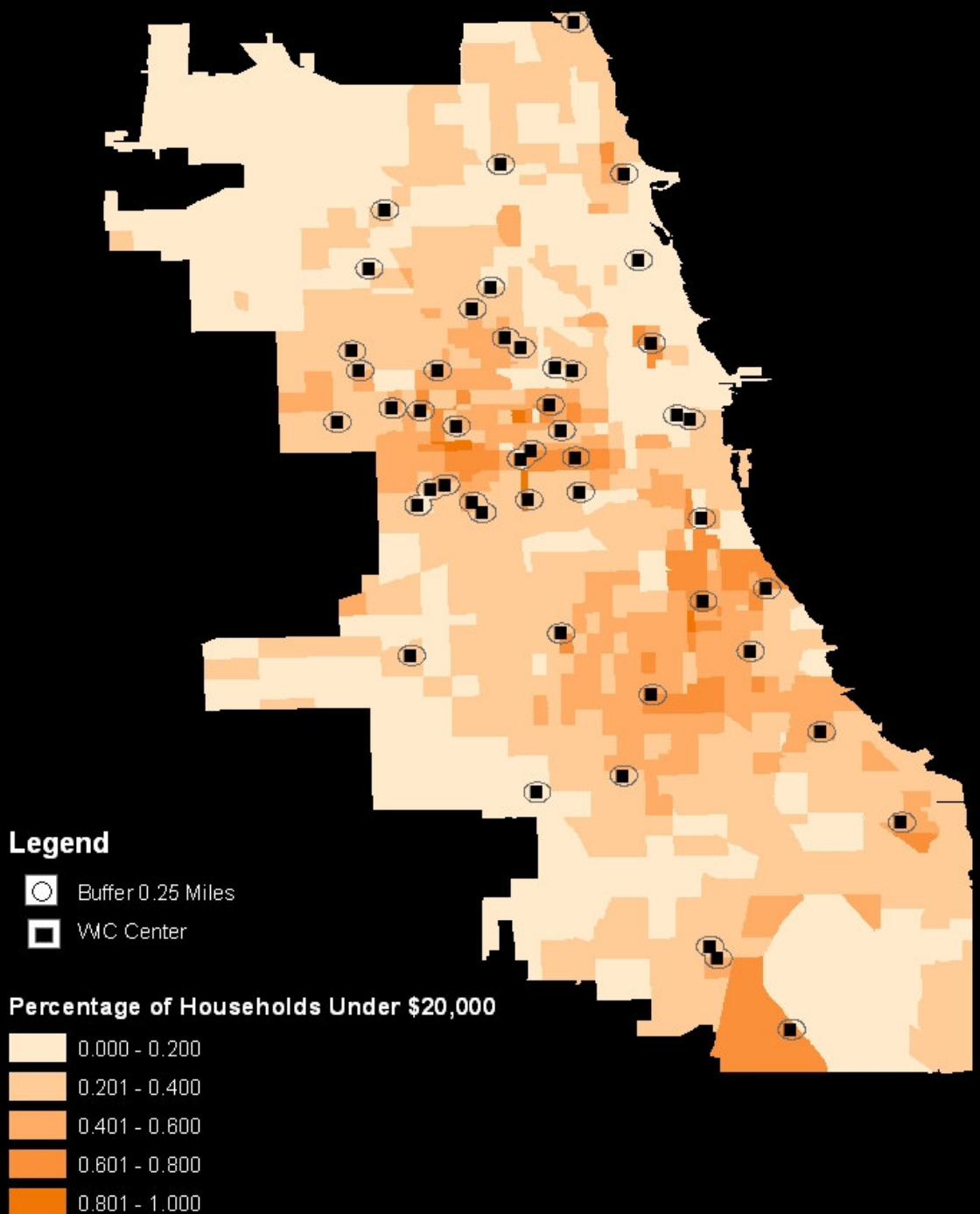
## CFSP Distribution Centers In Vicinity of Household Income Under \$20,000



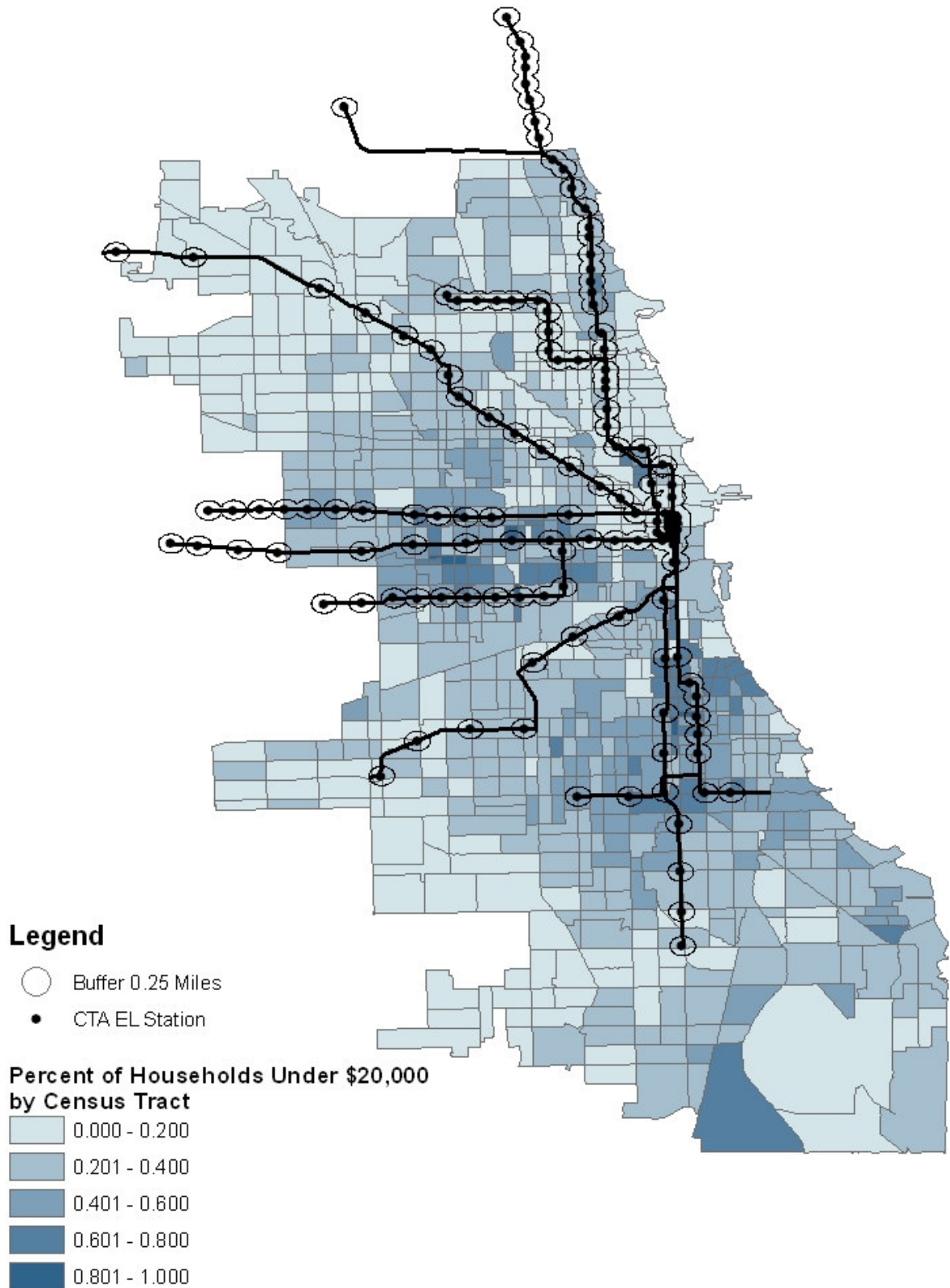
# CFSP Outreach Centers In Vicinity of Household Income Under \$20,000



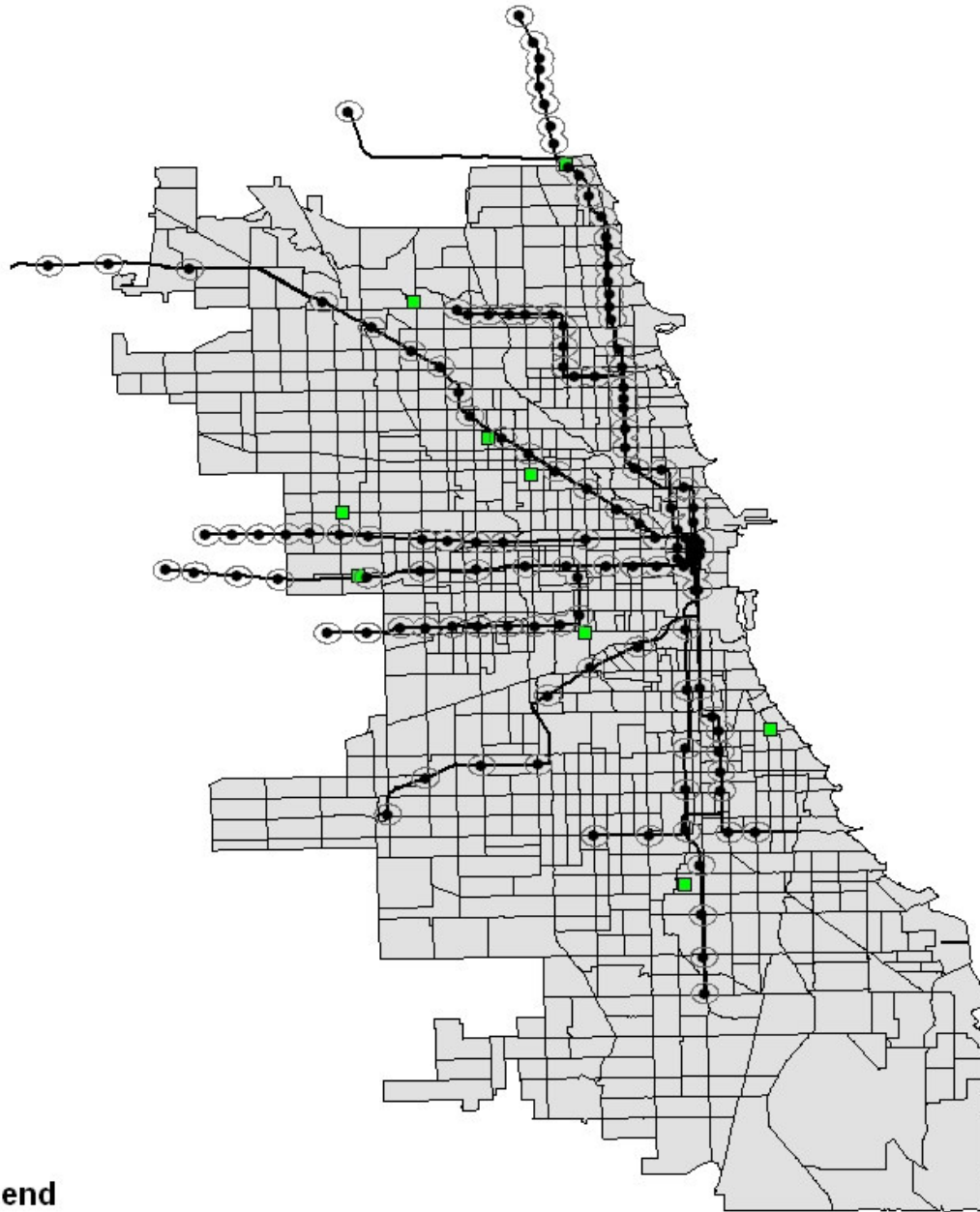
# WIC Centers In Vicinity of Household Income Under \$20,000



# Tracts in Vicinity of CTA EL Stations



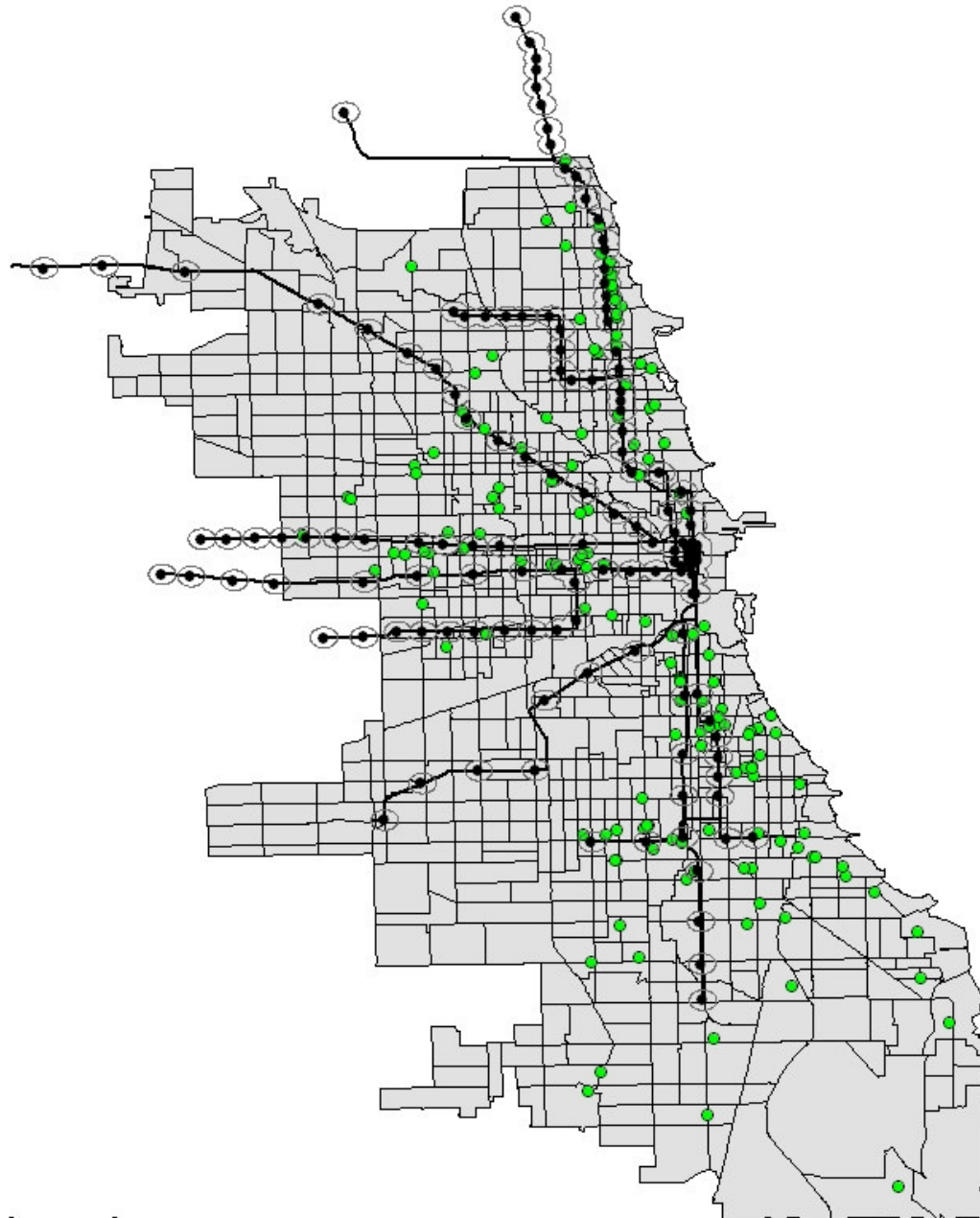
## CSFP Distribution Centers In Vicinity of CTA EL Transport



### Legend

- Buffer 0.25 Miles
- CTA EL Station
- Distribution Center

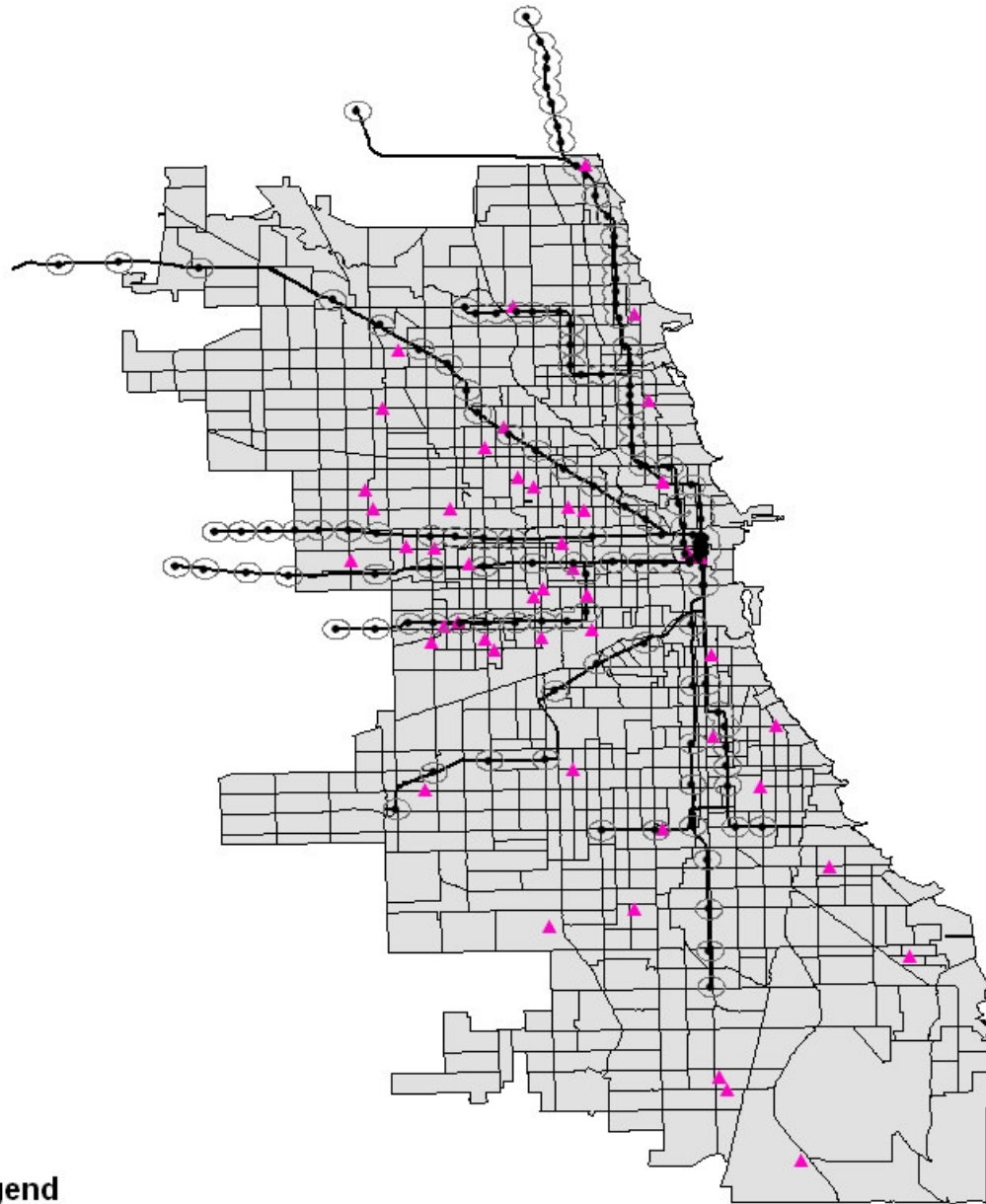
## CSFP Outreach Centers In Vicinity Of CTA EL Transport



### Legend

- Buffer 0.25 Miles
- CTA EL Station
- CC Outreach Center

# WIC Centers In Vicinity of CTA EL Transport



## Legend

- Buffer 0.25 Miles
- CTA EL Station
- ▲ WIC Center



*Works Cited*

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Portland-Multnomah Food Policy Council. October 2003. 'Food Policy Recommendations.' Portland, OR. Retrieved: January 26, 2007.

Urban Institute. 2001. 'Data Development Initiatives for Research on Food Assistance and Nutrition Programs, Phase I-Ten Potential Data Initiatives.' Retrieved: January 26, 2007.