

# *Food Marketing Policy Center*

## **A Town-Level Assessment of Community Food Security in Connecticut**

by Sylvie Tchumtchoua  
and Rigoberto A. Lopez

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Department of Agricultural and Resource Economics

# **A TOWN-LEVEL ASSESSMENT OF COMMUNITY FOOD SECURITY IN CONNECTICUT**

A Report for the Connecticut Food Policy Council  
and the Hartford Food System

By

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# **A TOWN-LEVEL ASSESSMENT OF COMMUNITY FOOD SECURITY IN CONNECTICUT**

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## **EXECUTIVE SUMMARY**

### **Introduction and Objectives**

Identifying the food insecure population and the factors underlying such insecurity is a critical step in developing public and private policies that target and allocate scarce resources to the needy population. This report summarizes the first-ever town-level assessment of community food security (CFS) in Connecticut. Its specific objectives are to:

1. Develop and implement a methodology for ranking Connecticut towns by various aspects of CFS;
2. Identify towns where low levels of CFS are critical; and
3. Identify barriers to increased food security across Connecticut towns.

To these ends, a data set with 38 indicators of CFS was assembled for each of the 169 towns in Connecticut, including a wide array of socio-demographic and economic characteristics, community food provision resources, community food production resources and transportation characteristics. Principal component factor analysis was applied to the data to produce town rankings from which Spearman rank correlation coefficients were obtained.

### **Main Findings**

Overall rankings (based on 38 indicators) and rankings by 11 distinct categories of CFS subgroups were conducted for all 169 Connecticut towns. Based on these, the main findings are:

1. The 12 towns with the lowest level of overall CFS are: Brooklyn, New Britain, Killingly, Hartford, North Canaan, Meriden, New Haven, Bridgeport, Willington, Sterling, Eastford, and West Haven.
2. The greater the degree of poverty or the lower the wealth in a given town, the lower CFS is. Although these two factors were the ones most strongly correlated with CFS rankings, they did not correlate perfectly with overall CFS as even some obviously wealthy towns (e.g., Greenwich) did not rank high on overall CFS.
3. Towns with a more vulnerable household structure (e.g., female-headed households, high proportion of children under 18 or elderly population with less education) are clearly more food insecure, with Hartford, Bridgeport, New Haven, Plainfield, Naugatuck, and Waterbury ranking worst.

4. The greater the degree of transportation accessibility (e.g., car ownership, public transportation), the higher the level of CFS. This association is quite significant.
5. Poor households in poor (therefore, insecure) towns are more likely to participate in public food assistance programs (e.g., food stamps, WIC, and school lunch) than poor households in richer or wealthier towns.
6. Higher expenditures per beneficiary on food assistance programs are positively associated with overall CFS.
7. Having a nearby WIC or food stamp office or food retail outlet is not significantly correlated with overall CFS rankings. However, these factors are more prevalent in poor towns with limited transportation access.
8. Towns with relatively higher private food provision resources (e.g., soup kitchens) tend to have a higher level of CFS.
9. Towns with higher levels of food production resources (e.g., farmland areas) tend also to be more food secure.

From a methodological standpoint, the use of principal component factor analysis seems suitable for application in similar analyses elsewhere, particularly when a metric measure of CFS is not available. The use of cluster analysis to create CFS groups was more limited as it did not facilitate comparison of the level of CFS across groups, except for one group of 12 towns that closely coincided with the lowest ranked towns, thus reinforcing the factor analysis.

### **Some Recommendations**

Although some of the determinants of low levels of CFS in certain areas of the state stem primarily from macroeconomic factors, such structural poverty or socio-demographic profiles, other factors are more amenable to policy changes. In this regard, some policy suggestions can be advanced:

1. Although food security can be improved in all towns in Connecticut, the towns with the highest priority for policy intervention are those with the lowest levels of CFS, including Hartford, New Haven, New Britain, and Meriden.
2. CFS can be improved in all towns by identifying pockets of their population who are most food insecure and identifying their barriers to CFS, such as lack of public transportation when many households do not own a car or having a high percentage of eligible population not participating in food assistance programs.

The removal of critical impediments to increased CFS in all towns in Connecticut may not be an easy task, but there is considerable room for improvement. Whether or not a more secure food environment emerges will depend on how partnerships, projects and public policy respond to the challenges involved.

# 1 INTRODUCTION

## The Problem and Background

Federal, State and local government officials as well as advocacy groups are interested in identifying the food insecure and hungry population as a means of more effectively targeting these groups and allocating scarce resources. Although since 1998 the U.S. Department of Agriculture (USDA) has provided state-level figures of *household* food insecurity incidence (Nord, Andrews, and Carlson, 2003) which are useful for comparing states, more specific information is needed to identify specific communities within a state that may be at risk and the barriers to increased food security. The more comprehensive definition and measurement of *community food security* (CFS) allow for identification of these problems at the community rather than individual household levels.

Much of the previous work on CFS points to data sources and methodologies for collecting individual indicators that are related to the concept of CFS, without guidance on how to analyze them jointly or produce comprehensive empirical measures of CFS (some of these approaches are reviewed in section 2 and Appendix A). In order to formulate effective public and private policies for addressing the lack of CFS, an assessment of the factors that influence CFS levels is required. Of special importance, then, are those factors, if any, which can be influenced by the policies of Federal, State and local governments or through the programs of non-governmental organizations as well as the conversion of the indicators of CFS into a comprehensive measure of CFS.

This study originated out of concern for a lack of quantitative or score measures to evaluate CFS in Connecticut communities. This concern was further formalized in a USDA-funded grant to the Connecticut Food Policy Council administered by the Hartford Food System. The main thrust of that project is to reduce food insecurity in Connecticut. The study reported here is the output of a subcontract of that grant to the University of Connecticut entitled *Evaluation of Community Food Security in Connecticut*, which is nested in the main project.

## Objectives

The main thrust of this study is to provide quantitative and statistically sound scores of CFS for each town in Connecticut to facilitate advocacy and to support policy changes. The specific objectives are to:

1. Develop and implement a methodology for ranking Connecticut towns by various aspects of CFS;
2. Identify towns where low levels of CFS are critical; and
3. Identify barriers to increased CFS in Connecticut towns.



## **Organization of the Study**

The remainder of the report is organized to meet the above objectives. Section 2 presents the conceptual framework for analyzing CFS and the statistical methodology used to implement it as well as data collection procedures. Section 3 presents the key results in terms of CFS rankings of Connecticut towns and groupings of towns according to CFS levels. Section 5 presents the summary and conclusions as well as recommendations. Appendix A elaborates on the conceptual determinants of CFS, Appendix B presents the detailed rankings of Connecticut towns, and Appendix C presents the complete data set of CFS indicators used throughout the analysis.

This study uses both principal component factor analysis and cluster analysis to identify towns with critically low levels of CFS and to identify barriers to increased food security across Connecticut towns. The database consists of 38 CFS indicators based on the most recent data available on all 169 Connecticut towns.

## **Main Limitations**

One of the important limitations of the study pertains to data availability. First and foremost, direct measures of CFS are not observable at the town level; it is rather a concept that has prevented quantitative assessments of its status across communities. The general strategy adopted is to examine variables correlated with CFS levels such as poverty incidence, food retail footage per capita, and transportation conditions.

Second, the empirical definition of a ‘community’ is a town, as defined by geographic and political boundaries. These boundaries may not correspond to CFS boundaries in certain situations. Third, some data that were sought could not be collected unless primary data collection methods were implemented, and time and financial constraints prevented such a task. For instance, the activities of food advocacy groups at the local level and the cost of food items across towns would have been desirable to incorporate. However, the additional information these variables would add to the information already provided by the 38 CFS indicators used is likely to be marginal.

With these limitations in mind, one of the guiding principles of this project was to provide a benchmark evaluation of CFS in Connecticut and a methodology for the evaluation of CFS that can be used in the future in Connecticut or in other states and communities.

## 2 METHODOLOGY

### Conceptual Framework

#### The Concept of CFS

Although there is no consensus on the exact definition of CFS, it is useful to consider it as an extension of household food security. The latter was defined by The World Bank (1986) as:

Access by all people at all times to enough food for an active, healthy lifestyle. Household food security includes at a minimum (1) the ready availability of nutritionally adequate and safe food, and (2) an assured ability to acquire acceptable food in socially acceptable ways.

Cohen, Andrews, and Kantor (2002) point out that whereas household food security is concerned with the ability to acquire food at the household level, CFS concerns the underlying social, economic, and institutional factors within a community that affect the quantity and quality of available food and its affordability. In sum, the concept of CFS extends the more familiar concept of household food security in two dimensions: (1) horizontally by extending the boundaries of analysis to the community level factors that affect access to food, and (2) vertically by extending the focus to a community's entire food system.

For the analysis presented in this study, we use towns as the proxy for communities. In addition, we focus more on the farm level and food retail outlet ends of the food system, as processing activities at the town levels are either non-existent in Connecticut or are not observable to the analyst.

#### The Determinants of CFS

As seen above, CFS is a guiding concept rather than a tangible measure. There are no quantitative and/or unique measures of CFS. It is rather an evolving concept that can be applied to communities so as to rank them on a 'more' to 'less' spectrum in terms of CFS indicators. Thus, this section focuses on the factors underlying and correlated with the concept in order to assess CFS in Connecticut towns.

There are several closely related frameworks that list indicators upon which to assess CFS, including the one by Winne, Joseph, and Fisher (1997). For the purpose of this study, we rely heavily on the assessment toolkit by Cohen, Andrews, and Kantor (2002), not only because it is the most comprehensive effort on the various aspects of CFS to date, but also because it applies to both urban and rural communities. They propose an assessment process involving six aspects of CFS: (1) community socio-demographic characteristics, (2) community food resources, (3) household food security, (4) food resource availability, (5) food availability and affordability, and (6) community food production resources. Cohen, Andrews, and Kantor (2002) also provide a series of specific indicators for each of these categories (see Appendix A).

Note that household food security indicators published by the U.S. Department of Agriculture (Nord, Jemison, and Bickel, 1999; Nord, Andrews, and Carlson, 2003) are not available at the town level and are, thus, excluded from further consideration.

Based on the CFS indicators outlined above (and in more detail in Appendix A), secondary data were collected whenever they were readily available at the town level. In total, 38 indicators were constructed for all 169 towns in Connecticut. These indicators and their sources are defined in Table 1 and their descriptive statistics are found in Table 2. The complete dataset of the 38 indicators is found in Appendix C.

### **Characteristics of the Sample**

The data set includes socio-demographic and economic characteristics, community food provision resources, community food production resources and transportation characteristics. The data came from different sources including online resources and printed reports. The web location (URL) is provided for data collected over the Internet. The column “year” indicates the year of the data. An attempt was made to collect the data for the most recent year. Many of the socio-demographic indicators were taken from the 2000 Census of Population.

While some of the variables listed in Table 2 exist at the town level (for example, income per capita, median household income, property tax mill rate), others needed to be aggregated or summarized (e.g., square footage of supermarkets, number of farmers’ markets), approximated (e.g., all the transportation variables, except the number of households without a car) or created (e.g., distance and time to nearest WIC clinic and Food Stamps Office).

### **Rankings of Towns**

One objective of this study is to produce overall rankings and rankings by categories of towns. Each town is characterized by 38 indicators that are relevant to community food security. The allocation of these indicators by category is as follows: 5 pertain to socio-demographics, 15 to community food provision resources, 3 to community food production resources and 15 to food accessibility. Refer to Table 1 below for the list of indicators in each category.

Univariate analysis (individual analysis for each indicator) is not appropriate because (1) a single indicator does not encompass the more complex and multi-dimensional concept of CFS; and (2) the indicators are many and likely correlated with each other. In order to reduce the set of the 38 indicators to a few meaningful composite indicators per town, we used principal component factor analysis.

Factor analysis is used to (1) *reduce* the number of variables in the analysis and (2) *identify* groups of interrelated variables; that is, to *classify* variables. Thus, this technique was also used to discover which sets of variables in the set of 38 indicators form coherent subsets that are relatively independent of other subsets of variables combined into factors. Factors so generated are thought to be representative of the underlying subset and processes that have created the correlations among the variables. These factors, or principal components to be more precise, are a linear combination of

original variables. For details about the computational aspects of principal component factors analysis or factor analysis in general, refer to Stevens (1986), Johnson (1998), Hair et al. (1998), or Gorsuch (1983).

Principal component factor analysis was applied to the 38 indicators to produce: 1) an overall ranking of CFS for all 169 towns, and 2) 11 additional rankings based on 11 subsets of the 38 indicators to examine various aspects of CFS across towns. The subsets or categories of CFS aspects included socio-demographics, transportation constraints, income/wealth, community food provision resources, and community food production resources.

Beyond simply producing rankings of towns by various aspects of CFS, one can also measure the degree of association between two factors (variables). Spearman rank correlation measures the strength and direction (positive or negative) of the relationship between two variables (Lehmann and D'Abrera). The results always fall between 1 (rankings are perfectly correlated and in the same direction) and minus 1 (rankings are perfectly opposite). *One should keep in mind that correlation does not necessarily imply causality*, it is rather a degree of association between two rankings.

### **Groupings of Towns**

A corollary objective of the study is to classify the 169 towns into small meaningful groups with reference to CFS. Two approaches were used: ranking quartiles and cluster analysis.

The first approach groups towns into four equal-sized sets based on their overall rankings. The first group represents the first quartile, which includes the top ranked towns (towns with very high food security); the second group corresponds to the second quartile, which includes towns with high food security; the third group the third quartile which matches with low food security, and the fourth group, the fourth quartile, or the towns with very low food security.

The second approach is based on cluster analysis. Cluster analysis is an exploratory data analysis tool which aims at sorting different subjects into groups in such a way that the degree of association between two subjects is maximal if they belong to the same group and minimal otherwise. Thus, it helps to organize towns into meaningful groups, based on the 38 CFS indicators. However, unlike groups based on overall rankings, groups resulting from cluster analysis cannot always be ordered in all characteristics of CFS since a group may only be characterized by one dominant, not necessarily all the aspects of CFS. It is used rather as a supplementary tool to analyze the results of the rankings. For details concerning the cluster analysis methodology, refer to Ward (1963), El-Hamdouchi and Willet (1986), Everitt (2001) or Aldenderfer (1984).

**Table 1. Definition of Empirical Indicators of CFS in Connecticut and their Data Sources**

<b>Indicator</b>	<b>Definition</b>	<b>Source</b>	<b>Year</b>	<b>URL</b>
<b>Socio-demographics</b>				
% 65+ years old	Proportion of total population aged 65 years and over	CT Dept. of Econ. & Com. Dev.	2000	<a href="http://www.ct.gov/ecd">http://www.ct.gov/ecd</a>
% Under 18 years old	Proportion of total population aged below 18 years	CT Dept. of Econ. & Com. Dev.	2000	<a href="http://www.ct.gov/ecd">http://www.ct.gov/ecd</a>
% Adults 25+ with less than a high school degree	Proportion of total population aged 25 years and over who did not graduate from high school	CT Dept. of Econ. & Com. Dev.	2000	<a href="http://www.ct.gov/ecd">http://www.ct.gov/ecd</a>
% Female-headed households with children under 18	Proportion of households where husband is not present and with children under 18	CT Dept. of Econ. & Com. Dev.	2000	<a href="http://www.ct.gov/ecd">http://www.ct.gov/ecd</a>
% Female householders	Proportion of households where husband is not present	CT Dept. of Econ. & Com. Dev.	2000	<a href="http://www.ct.gov/ecd/">http://www.ct.gov/ecd/</a>
Population density	Number of people per square mile	CT Dept. of Econ. & Com. Dev.	2000	<a href="http://www.ct.gov/ecd">http://www.ct.gov/ecd</a>
<b>Community Food Provision Resources</b>				
School breakfast participation rate	Extent to which a town's schools are reaching students from low income families; obtained by dividing the number of children receiving free & reduced-price breakfasts by the number receiving free or reduced-price lunches.	Ending Hunger in Connecticut 2003 Report	2000	n/a
WIC programs participation rate	Extent to which the program reaches eligible children and infants; obtained by dividing the number of people participating in WIC programs by the number of all people with incomes below 100% of the federal poverty level. <sup>1</sup>	Barbara Walsh	2004	n/a

<sup>1</sup> WIC program has eligibility criteria in addition to income but because the number of eligible people was not available, the number of people living in poverty was used instead.

**Table 1. Continued**

Free/reduced price meals eligibility	Proportion of pupils eligible for free/reduced-price meals in the school district associated with town	CT Strategic School Profiles (CDE)	2004	<a href="http://www.csde.state.ct/public/dev/ssp/index.htm">www.csde.state.ct/public/dev/ssp/index.htm</a>
Food Stamp program participation rate	Number of people receiving food stamps divided by number of people with income below 100% of poverty level	CT Dept. of Social Services	2004	n/a
Distance to nearest WIC clinic	Approximate driving distance (miles) from town center to nearest WIC clinic	Mapquest	2004	<a href="http://www.mapquest.com">www.mapquest.com</a>
Time to nearest WIC clinic	Approximate driving time (minutes) from town center to nearest WIC clinic	Mapquest	2004	<a href="http://www.mapquest.com">www.mapquest.com</a>
Distance to nearest Food Stamp program office	Approximate driving distance (miles) from town center to nearest Food Stamp program office	Mapquest	2004	<a href="http://www.mapquest.com">www.mapquest.com</a>
Time to nearest Food Stamp program office	Approximate driving time from town center to nearest Food Stamp Program office	Mapquest	2004	<a href="http://www.mapquest.com">www.mapquest.com</a>
Cost per participant in WIC	Total participation cost (\$) in WIC program divided by total number of participants in all categories.	Barbara Walsh	2004	n/a
Expenditure for food service per pupil	Expenditure for food services per pupil in town (\$)	CT Strategic School Profiles (CDE)	2004	<a href="http://www.csde.state.ct/public/dev/ssp/index.htm">www.csde.state.ct/public/dev/ssp/index.htm</a>
Number food pantries per person in poverty	Number of food pantries in town, divided by number of people with income below 100% of poverty level	2-1-1 Infoline Food Resources	2004	<a href="http://www.infoline.org/search/foodresources.asp">http://www.infoline.org/search/foodresources.asp</a>
Number soup kitchens per person in poverty	Number of soup kitchen in town, divided by number of people with income below 100% of poverty level	2-1-1 Infoline Food Resources	2004	<a href="http://www.infoline.org/search/foodresources.asp">http://www.infoline.org/search/foodresources.asp</a>
Square footage supermarkets per capita	Total square footage of supermarkets in town, divided by town's total population.	Trade Dimension/fmpc	2004	
Number convenience stores per capita	Number of convenience stores in town, divided by town's total population.	Yellow pages	2004	<a href="http://www.yellowpages.com">www.yellowpages.com</a>
Number farmers' markets per capita	Number of farmers' markets in town, divided by total population	Hartford Food System	2004	n/a

**Table 1. Continued**  
**Food Accessibility**  
*Transportation*

% households without car	Number of households without car in town, divided by total number of households	CT Dept. of Econ. and Com. Dev.	1999 - 2000	<a href="http://www.ct.gov/ecd/">http://www.ct.gov/ecd/</a>
Availability of public transportation	Number of public transportation operations serving town, divided by number of households without car	CT Depart. of Transportation	2001	<a href="http://www.ct.gov/dot/lib/dot/documents/dpt/00_01_biennialreport.pdf">http://www.ct.gov/dot/lib/dot/documents/dpt/00_01_biennialreport.pdf</a>
Average fare of transportation	Total revenue of public transportation operations serving town, divided by the operations' passenger trips	CT Depart. of Transportation	2001	<a href="http://www.ct.gov/dot/lib/dot/documents/dpt/00_01_biennialreport.pdf">http://www.ct.gov/dot/lib/dot/documents/dpt/00_01_biennialreport.pdf</a>
Public transportation ridership	Number of passenger trips of public transportation operators serving town, divided by number of households without car	CT Depart. of Transportation	2001	<a href="http://www.ct.gov/dot/lib/dot/documents/dpt/00_01_biennialreport.pdf">http://www.ct.gov/dot/lib/dot/documents/dpt/00_01_biennialreport.pdf</a>
<b>Income/wealth</b>				
Median household income	Median household income (\$) in town	CT Dept. of Econ. and Com. Dev.	1999 - 2000	<a href="http://www.ct.gov/ecd/">http://www.ct.gov/ecd/</a>
Per capita income	Income per capita (\$) in town	CT Dept. of Econ. and Com. Dev.	1999 - 2000	<a href="http://www.ct.gov/ecd/">http://www.ct.gov/ecd/</a>
Net grand list per capita	Net grand list per capita in town	CT Dept. of Econ. and Com. Dev.	2000 - 2001	<a href="http://www.ct.gov/ecd/">http://www.ct.gov/ecd/</a>
Monthly gross rent	Monthly gross rent of rented housing units	CT Dept. of Econ. and Com. Dev.	2000	<a href="http://www.ct.gov/ecd/">http://www.ct.gov/ecd/</a>
Monthly owner cost	Monthly owner housing cost of owned housing units	CT Dept. of Econ. and Com. Dev.	2000	<a href="http://www.ct.gov/ecd/">http://www.ct.gov/ecd/</a>
Renters' housing units	Number of renter occupied housing units in town, divided by total number of households	CT Dept. of Econ. and Com. Dev.	2000	<a href="http://www.ct.gov/ecd/">http://www.ct.gov/ecd/</a>
Child poverty rate	Proportion children under 18 living in poverty	CT Dept. of Econ. and Com. Dev.	2000	<a href="http://www.ct.gov/ecd/">http://www.ct.gov/ecd/</a>
Overall poverty rate	Proportion total population with income below 100% of poverty level	CT Dept. of Econ. and Com. Dev.	2000	<a href="http://www.ct.gov/ecd/">http://www.ct.gov/ecd/</a>
Unemployment rate	Number of people unemployed in town, divided by number of people 16+ in the labor force	CT Dept. of Econ. and Com. Dev.	2000	<a href="http://www.ct.gov/ecd/">http://www.ct.gov/ecd/</a>
Mil rate	Property tax mil rate in town	CT Dept. of Econ. and Com. Dev.	2000	<a href="http://www.ct.gov/ecd/">http://www.ct.gov/ecd/</a>

**Table 1. Continued.**

**Community Food  
Production Resources**

Acreage farmland preserved per capita	Total acreage farmland preserved in town by state program, divided by town's total population	CT Depart. of Agric. (Dippel, Program Administrator)	2004	n/a
% land in farms and agriculture	Proportion of total land surface in agriculture and farms	Nemo		<a href="http://www.nemo.uconn.edu/maps_mapping">http://www.nemo.uconn.edu/maps_mapping</a>
Number community supported agriculture per capita	Number of community supported agriculture farms located in town, divided by total population	CT Dept. of Agric. (CSREES/NAL)	2004	<a href="http://www.nal.usda.gov/afsic/csa/">http://www.nal.usda.gov/afsic/csa/</a>



**Table 2. Descriptive Statistics for Indicators of CFS in Connecticut**

<b>Indicators</b>	<b>Corr. to CFS</b>	<b>Mean</b>	<b>Stand. Dev.</b>	<b>Min.</b>	<b>Max.</b>
<b>Sociodemographics</b>					
% 65+ years old	-	13.43	3.54	6	26
% Under 18 years old	-	24.91	2.78	13	33
% Adults 25+ with less than high school degree	-	12.15	6.21	2	39
% Female headed households with children under 18	-	4.97	2.57	1	20
% Female householders	-	8.90	3.69	4	30
<b>Community food provision resources</b>					
<b><i>Public food assistance programs</i></b>					
School breakfast participation rate (%)	+	9.94	17.12	0	75
WIC programs participation Rate (%)	+	17.27	12.74	0	88.74
Free/reduced price meals eligibility	+	11.30	15.27	0	67.3
Food Stamp Program participation rate (%)	+	37.02	23.22	3.16	95.34
Distance to nearest WIC clinic	-	6.52	6.19	.01	41.07
Time to nearest WIC clinic	-	12.06	9.74	0	50
Distance to nearest Food Stamp Program office	-	12.22	7.44	.32	41.07
Time to nearest Food Stamp Program office	-	20.58	11.19	1	53
Cost per participant in WIC	+	139.34	36.11	0	330.5
Expenditure food service per pupil	+	96.89	83.09	0	360
<b><i>Private food assistance programs</i></b>					
Number food pantries per persons in poverty	+	.0033912	.0046937	0	.025
Number soup kitchens per persons in poverty	+	.0005526	.0023932	0	.0208333
<b><i>Food retail outlets</i></b>					
Square footage supermarkets per capita	+	2.24	2.32	0	16.65
Number convenience stores per capita	+	.0001044	.0001392	0	.0010098
Number farmers' markets per capita	+	.0000174	.000041	0	.0003499

**Table 2. Continued.**

**Accessibility to food**

**Transportation**

% households without car	-	5.15	4.85	1	36
Availability of public transportation	+	.009563	.0214941	0	.1666667
Average fare of public transportation	-	.6723669	.6037682	0	3.1
Public transportation ridership	+	20773.12	87204.62	0	978010.1

**Income/Wealth**

Median household income	+	63956.6	20130.42	24820	146755
Per capita income	+	30804.04	11438.96	13428	82049
Net grand list per capita	+	63659.40	29607.59	10271.98	173986.3
Monthly gross rent	+	762.48	190.37	482	1828
Monthly owner cost	+	1406.43	291.02	976	2593

**Poverty**

Renters units housing	-	22.53	13.15	4	75
Child poverty rate	-	5.10	5.68	0	40
Overall poverty rate	-	4.63	3.76	1	29
Unemployment rate	-	3.82	2.40	1	16
Mil rate	-	28.74	8.35	14.02	97.80

**Community food production resources**

Acreage farmland preserved per capita	+	.0395266	.1131519	0	1.04
% Land in farm and agriculture	+	11.77	7.06	1.81	40.76
Number community supported agriculture per capita	+	.000021	.000081	0	.000697

## 3 FINDINGS

The computer data analysis utilized the statistical package STATA while the data sets were placed in Excel formats. Appendix C presents the raw data for the indicators utilized. Recognizing that it is not only important to find out an overall level of CFS for each town but also to identify the factors where communities may be weak, the data set is analyzed not only for the entire 38 indicators but also for the 11 categories obtained from the factor analysis. Following Cohen, Andrews, and Kantor (2002), these categories fall into four subgroups of CFS components: socio-demographics, accessibility to food, community food provision resources, and food production resources.

### **Rankings of Connecticut Towns According to CFS Factors**

#### **Overall Rankings**

Table 3 presents the top 20 and bottom 20 towns for the overall CFS while Appendix B presents the rankings for all 169 towns. Note that *the higher the ranking number (the closer to 169), the more food insecure a given town is deemed* relative to the others.

- Overall, the 10 towns with the lowest ranking of CFS were: Brooklyn (lowest), New Britain, Killingly, Hartford, North Canaan, Meriden, New Haven, Bridgeport, Willington, and Sterling.
- Overall, the 10 towns that were deemed the most food secure based on the overall rankings were: Avon (highest), Durham, Hebron, Middlebury, Darien, Weston, South Windsor, Burlington, Madison, and New Canaan.

Results based on the Spearman rank correlation coefficients are presented in Table B2 of Appendix B. Figure 1 presents the correlation coefficients between the rankings by overall food *insecurity* and the 11 categories of CFS. *A positive correlation coefficient indicates that there is a positive association between food insecurity and the ranking by the category in question.* These rankings indicate the following:

- The rankings for poverty, wealth, and socio-demographic characteristics (heavily based on household structure) are the most strongly correlated with the rankings of CFS.
- The greater the degree of transportation accessibility, the higher the level of CFS.
- Poor households in poor towns are more likely to participate in public food assistance programs (e.g., food stamps, WIC, and school lunch) than poor households in richer and wealthier towns.
- Higher expenditures per beneficiary of public food assistance programs are positively associated with higher levels of CFS.
- Having a nearby WIC clinic or food stamp program office or retail food resources (such as supermarkets) is not significantly correlated to overall CFS rankings.
- Towns with relatively high private food provision resources (e.g., soup kitchens) tend to be somewhat more food secure.
- Higher levels of food production resources (e.g., farmland) are associated with higher levels of CFS.

The existence of WIC or food stamp offices, or supermarkets for that matter, may be a necessary but not a sufficient condition to increase CFS. It is not so much that there are offices for public food assistance or supermarkets in a town that is important as the means to get there (i.e., transportation). In addition, other food access constraints, such as poverty and elders living alone, may act as barriers to accessing food retail resources or public food assistance offices.

As shown in Figure 1, the overall rankings of CFS do not generally perfectly correlate with wealth or poverty, although they are strongly correlated with the rankings for those categories. Since CFS embodies a broader concept, there appears to be some crossover of towns from the conventional poverty classification. For instance, Hartford, in spite of being the poorest town in Connecticut (and second poorest in the United States after Brownsville, Texas), is not last in the overall ranking thanks to showing some strength in the extent of public food assistance programs with relatively good access to WIC clinics and food stamp offices as well as decent food retail resources.

Poor households in poor towns may be more likely to participate in public food assistance programs than poor households in richer towns perhaps in part due to the higher number of food assistance offices in the former. In addition, the stigma of participating in these programs may be greater in wealthier towns and more commonly accepted in poorer towns.

While overall rankings in Table 3 give a general picture of the relative status of CFS in Connecticut towns, it is useful to examine the rankings by detailed CFS categories in order to identify specific barriers to increased CFS, whether it be lack of transportation or food retail resources, for instance. To that end, the following sections examine the rankings of Connecticut towns by 11 CFS categories as well as some interactions with the rankings by the other categories.

### **Rankings by Socio-demographic Profiles**

The socio-demographic profile used is characterized by five indicators: population density, proportion of children less than 18 years, proportion of people 65 years and over, proportion of adults 25 years and over who did not graduate from high school, proportions of female-headed households with or without children under 18 years. Principal components factor analysis conducted on these indicators yielded the rankings provided in Appendix B. Table 3 presents the top 20 in the bottom 20 towns. *The higher the ranking number (closer to 169), the weaker the household structure and related socio-demographics.*

- The top five towns in terms of socio-demographic profile are: Roxbury, Killingworth, Lyme, Redding, and Weston. These towns have, altogether, lower population density, lower proportion of female headed households with or without children under 18, more advanced educated adults and fewer children under 18.
- The towns with the weakest household structure and education profiles (more uneducated adults, more female-headed households with or without children under 18) are: Hartford, Bridgeport, New Haven, Plainfield and Naugatuck, ranked last.

Towns with a weaker household structure and education profile tend to be also the more food insecure, as indicated by the positive correlation coefficient between socio-demographic rankings and overall food security rankings (see Table 4). In addition, socio-demographic rankings are strongly and

positively correlated with rankings based on public food assistance programs and poverty. They were negatively correlated with rankings based on wealth.

- Towns with a high proportion of female-headed households with or without children under 18 and with less educated adults tended to have the highest poverty and public food assistance participation rates.

### **Rankings by Accessibility to Food**

Accessibility to food includes three categories: transportation accessibility, income/wealth, and poverty.

The transportation accessibility ranking was constructed from the principal components of four indicators: percent of households without a car, number of public transportation operations per household without a car, average fare, and number of passenger trips per household without a car (these indicators are defined in Table 1). Appendix B presents the transportation rankings for all 169 towns while Table 3 presents the top 20 and bottom 20 towns. *The higher the ranking number (the closer to 169), the lower the access to transportation.* In addition, Figure 2 presents the correlation coefficients between rankings by transportation access and by other categories. The findings can be summarized as follows:

- In terms of transportation accessibility, the five towns that ranked worst are: Hartford, New Haven, Bridgeport, New London, Waterbury, and New Britain.
- On the other hand, the ones that ranked best are: Sharon, Canaan, Bolton, Marlborough, and New Hartford.
- Wealthier towns and those with more food production resources (many of which are rural) tended to have greater transportation access.

The towns that ranked worst had some access to public transportation but severely lacked car ownership. For instance, in Hartford (worst ranked), 36% of the households did not have a car. In contrast, in Sharon (best ranked) only 1% of the households did not have a car while having some public transportation resources. Thus, people in worse-ranked communities have to rely more heavily on public transportation to access food, especially supermarkets (rather than convenience stores). It is interesting to note that the transportation access rankings are negatively correlated to the rankings based on distance to a WIC or food stamp office as well as to the location of food retail resources. This implies that transportation constraints may be compounded by lack of food assistance offices as well as supermarkets, for instance.

The income/wealth ranking was constructed from principal components of five indicators: median household income, per capita income, value of property wealth per capita, monthly rent, and monthly cost of owning a house (defined in Table 1). *The higher the income/wealth ranking number (closer to 169), the wealthier a town is relative to the others.*

- In terms of income/wealth indicators, the five towns that ranked worst are: Windham (last), Hartford, Waterbury, New London, and Killingly
- The five towns that ranked best are: New Canaan, Darien, Weston, Greenwich, and Westport.

It is interesting to note that the relatively ‘richest’ towns are not necessarily the most food secure. Neither are the ‘poorest’ towns necessarily the most food insecure in terms of overall ranking. Although there is some correlation in these rankings, other aspects influence the overall ranking as well.

The poverty constraint ranking was constructed from five principal indicators: overall poverty rate, child poverty rate, unemployment, property tax mill rate, proportion of renter housing units. Poverty constraints are related but not necessarily the mirror image of income/wealth since these indicators are based on averages rather than pure distributions. *The higher the ranking number (closer to 169) in terms of poverty constraints, the poorer a town is deemed.*

- The five towns that ranked worst, where the poverty constraints are the strongest, are: Hartford, New Haven, Waterbury, Bridgeport, and New Britain.
- The five best-ranked are: Weston, Darien, Burlington, Prospect, and Killingworth.

Although the lowest ranked towns are the usual suspects in terms of poverty rates in Connecticut, the highest ranked are not necessarily the wealthiest or the ones with highest per capita income. Rather, they represent towns with the lowest rates of poverty incidence, pointing perhaps to a more equitable distribution of income.

### **Rankings by Community Food Provision Resources**

Community food provision resources included six CFS categories: participation in public food assistance programs (FAPs), private FAPs, proximity to a FSP office, proximity to a WIC clinic, food retail resources and food program expenditures. Note that the data on participation in food assistance programs were expressed relative to poverty incidence in each town. As before, Table 3 presents the top 20 towns while Appendix B presents the rankings for all towns.

- The five towns that had the highest participation rates in public food assistance programs (school meals, Food Stamp Program, WIC programs) are: Ansonia, New Haven, Waterbury, Windham and New Britain.
- The towns with the lowest participation rate are: Weston, Wilton, Colebrook, Union and Darien.

Note that there is a positive and significant correlation between participation in public food assistance programs rankings and overall CFS rankings; that is, the higher the participation rates, the higher the level of food insecurity. Recall that participation rates are defined by dividing participation by the number of poor people. Figure 3 gives some insight as to the implications of the rank correlation coefficients between participation rates in public FAPs and other categories of CFS. The findings are:

- The poor in poor towns is more likely to participate in public food assistance programs than the poor in richer towns.

- Towns with higher participation rates in public food assistance programs also had more food retail resources, more WIC clinics and food stamp offices, but accessibility to food is limited because of poverty and transportation constraints.

Besides accessibility to WIC and food stamp offices, there may be additional difficulty for poor households in rich town to participate in public FAPs. Couples with lack of transportation accessibility and perhaps a stigma of what it means to be poor in a rich environment may all contribute to lack of participation of poor households in richer towns. Additional findings pertaining to food access are:

- The higher the expenditures per beneficiary (WIC and school lunch programs), the more food secure a town tends to be.
- There is a negative correlation between the rankings for private food assistance resources (food pantries, soup kitchens) and overall CFS rankings, indicating that private food assistance can play a modest but positive role in reducing food insecurity.

Regarding private food assistance resources, Chester, Essex, Norfolk, Salem and Hartland ranked best and Union, Colebrook, Andover, Scotland, and Easton worst. Private food assistance resources can play a significant role as a supplement of public FAPs.

In terms of expenditures per participant in WIC programs and school meals, Weston, Wilton, Waterbury, Bethlehem and Chaplin ranked best whereas Union, Colebrook, Redding, Andover and Scotland ranked worst. Although WIC expenditures per beneficiary are tied to state and Federal guidelines, school lunch budgets also depend on local school financing. In general, towns that are more food insecure also spend less per participant on school meals. It is interesting, however, to note that there is no significant correlation between expenditures per beneficiary on these two food programs and poverty or wealth.

- In terms of food retail resources (supermarkets, convenience stores, farmers' markets), Canaan, Deep River, Kent, Sprague and Putnam ranked highest while Brooklyn, Preston, Eastford, Franklin, and Bethany ranked last.
- Towns with more food retail resources are not necessarily the most food secure.
- The poorest towns tend to have more food retail resources but income and transportation constraints limit access to food.

### **Rankings by Community Food Production Resources**

Food production resources included three indicators: state-sponsored farmland preservation, land in farms and agriculture, and community supported agriculture. Based on availability of these resources, New Britain, New Haven, Newington, Hartland, and Bridgeport ranked worst while Franklin, Cornwall, Scotland, Goshen, and Lebanon ranked highest.

- The higher the level of food production resources in a town, the higher the ranking of overall CFS tends to be.

Although this association is statistically significant, it is not of the same strength as that between poverty (or transportation access, for that matter) and food insecurity. Nonetheless, this result lends support for farmland preservation programs beyond environmental amenity benefits or historical and cultural identities.

## **Grouping of Connecticut Towns According to CFS Factors**

### **Groups Based on Rankings**

Based on the overall ranking of towns according to the 38 indicators of CFS, quartile-based categories were created: green (very high food security), yellow (high food security), orange (low food security) and red (very low food security). Table 4 lists the towns of each group and the four-color map in Figure 4 gives a geographic representation of the categories.

#### *Lowest Quartile (Red): Towns with lowest CFS Levels*

42 towns were found to be the most food insecure. Table 4 gives a complete list of these towns. The population of this group represents 33.74% of the state's population. Although more than 50% of towns in this group ranked top in terms of participation in public food assistance programs, accessibility to food is still a major problem because of income, poverty and transportation constraints. It is interesting to note that this category includes mostly, but not all, urban communities (Stamford and Norwalk are excluded, for example). These communities are generally weak in nearly all 38 CFS indicators considered and are the ones that deserve more attention to removing barriers to CFS.

#### *Second Lowest Quartile (Orange): Towns with lower than Average CFS Levels*

This category includes 42 towns and represents 30.94% of the state's population. As in the red group, accessibility to food is limited in this group because of income, poverty and transportation constraints. The other aspects of CFS are weak as well but to a lesser extent.

#### *Second Highest Quartile (Yellow): Towns with somewhat High CFS Levels*

This category includes 42 towns and 22.21% of the total population of the state. It includes towns that may have relatively high levels of per capita income but with some pockets of poor persons facing transportation constraints (e.g., Windsor Locks, Branford, Milford, Farmington, Fairfield, Bloomfield and Enfield). Most towns in this category are rural communities that are often isolated and have very weak food retail resources

#### *Highest Quartile (Green): Towns with the Highest CFS Levels*

This category includes 42 towns, among which are some of the wealthiest towns (e.g., Darien, Weston, and New Canaan), but also towns that although not among the wealthiest are strong in other CFS indicators such as transportation, food assistance, community farmland, and food emergency outlets (e.g., Sharon, Lebanon, Middlefield and Cornwall).



## Groups Based on Cluster Analysis

A second technique used for grouping towns was cluster analysis based on the 38 CFS indicators. The groups resulting from cluster analysis are given in Table 5. Groups 1, 2, 3 and 4 include respectively 10, 95, 52 and 12 of the 169 Connecticut towns.

Unlike the rankings, the groups dictated by the cluster analysis were more variable with respect to the estimating technique. One can place more confidence on groups based on the rankings than on the cluster analysis. However, even considering those, the group identified as the most food insecure by both methods, rankings and cluster analysis, contained the same towns.

- The 12 towns where CFS is at critically low levels in Connecticut, as stated in Group 4, are: Ansonia, Bridgeport, East Hartford, Hartford, Meriden, New Britain, New Haven, New London, Norwich, Waterbury, West Haven and Windham.

These towns are very similar to one another in terms of socio-demographic profile (population density, less educated adults, more female-headed households), high participation rates in food assistance programs (Food Stamps, school meals, WIC), poverty, income, and transportation constraints. In addition, these towns are listed in the red group (towns with very low food security) identified in Table 5.

Unlike towns in group 4, those in groups 1-3 cannot be indisputably characterized as having, globally, lower or higher levels of CFS than other groups. However, the groups do provide some useful insight for policy analysis by providing some common thread among the towns in each group.

- Group 1 contains 10 towns that are regarded as the wealthiest in Connecticut. As seen before, although wealth is negatively correlated with overall community food insecurity, it is not perfectly so, and towns like Greenwich, for example, are not ranked high on other aspects that ensure all residents are food-secure.
- Group 2 contains more than half of the towns in Connecticut (96 out of 169, or approximately 57%). These towns are generally characterized by low population density (i.e., rural) with more farmland preserved (e.g., Ashford, Lebanon, and Pomfret).
- Group 3 contains 52 towns that are generally characterized by a high proportion of elders, are located on the outskirts of metropolitan areas, and have adequate food retail resources (e.g., Manchester, Milford, Mansfield, and Stamford).

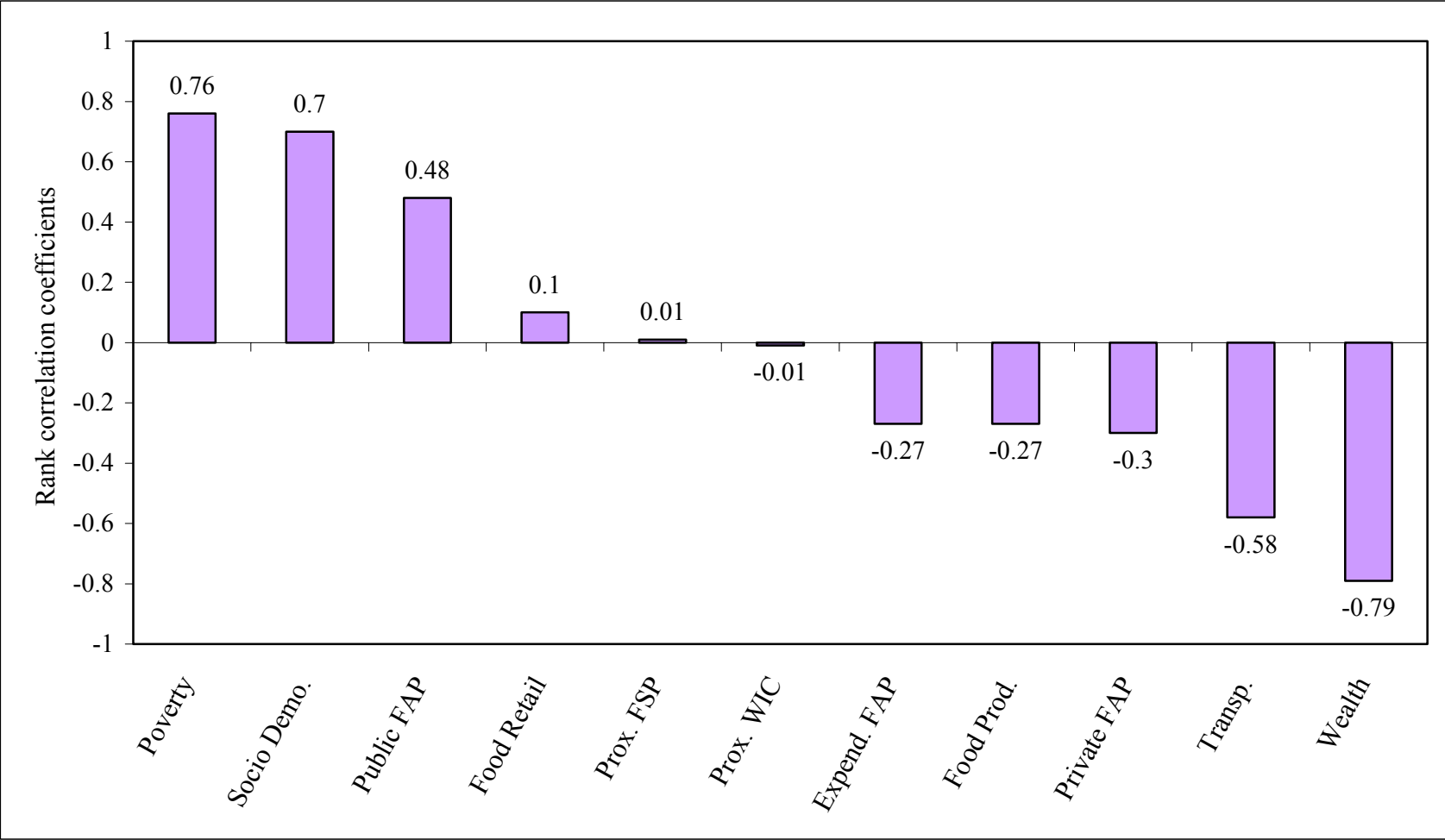
**Table 3: Top 20 and bottom 20 towns for overall CFS and by category (from best to worse)**

<b>Overall</b>	<b>Socio-Demo.</b>	<b>Public FAP</b>	<b>Private FAP</b>	<b>Prox. FSP</b>	<b>Prox. WIC</b>	<b>Expend. Food</b>	<b>Food Retail</b>	<b>Poverty</b>	<b>Wealth</b>	<b>Trans.</b>	<b>Food Prod.</b>
<b>Top 20</b>	<b>Top 20</b>	<b>Top 20</b>	<b>Top 20</b>	<b>Top 20</b>	<b>Top 20</b>	<b>Top 20</b>	<b>Top 20</b>	<b>Top 20</b>	<b>Top 20</b>	<b>Top 20</b>	<b>Top 20</b>
Avon	Roxbury	Ansonia	Chester	Danbury	Plainfield	Weston	Canaan	Weston	New Canaan	Sharon	Franklin
Durham	Killingworth	New Haven	Essex	Waterbury	New London	Wilton	Deep River	Darien	Darien	Canaan	Cornwall
Hebron	Lyme	Waterbury	Norfolk	Middletown	Thomaston	Waterbury	Kent	Burlington	Weston	Bolton	Scotland
Middlebury	Redding	Windham	Salem	Stamford	Hebron	Bethlehem	Sprague	Prospect	Greenwich	Marlborough	Goshen
Darien	Weston	New Britain	Hartland	New Britain	Greenwich	Chaplin	Putnam	Killingworth	Westport	New Hartford	Lebanon
Weston	Harwinton	New London	Bozrah	Manchester	Clinton	New Canaan	Waterford	Lyme	Wilton	Morris	Suffield
South Windsor	Sherman	West Haven	Cornwall	Portland	Windsor	Woodbridge	Clinton	Madison	Easton	Scotland	Sharon
Burlington	Essex	Hartford	Old Lyme	Norwich	Rocky Hill	Middlebury	Old Saybrook	Sherman	Redding	Lyme	East Windsor
Madison	Colebrook	Brooklyn	Chaplin	New Haven	Shelton	Eastford	Sharon	New Fairfield	Ridgefield	Cornwall	Bozrah
New Canaan	Avon	Bridgeport	Middlefield	Torrington	Windsor Locks	Westbrook	Thomaston	Avon	Roxbury	Barkhamsted	Washington
East Granby	Warren	Putnam	East Granby	Bridgeport	East Hampton	Orange	Essex	Durham	Woodbridge	Canton	Somers
New Hartford	Easton	Norwich	Deep River	Cromwell	West Hartford	Trumbull	Windham	Easton	Avon	Hampton	North Canaan
Middlefield	Wilton	Meriden	Bethlehem	Windham	Woodbury	Warren	Torrington	Hebron	Fairfield	Colchester	Salisbury
Lebanon	Southbury	Winchester	Prospect	Vernon	Branford	East Haven	Stafford	Tolland	Trumbull	Kent	Roxbury
Columbia	Union	East Hartford	Burlington	Plainville	Prospect	Simsbury	Bristol	Redding	Sherman	East Granby	Hampton
Killingworth	Woodbridge	Middletown	New Hartford	Windsor	Watertown	Berlin	Norwich	Lebanon	Lyme	Columbia	Woodstock
Orange	Bridgewater	Lebanon	Sharon	Bethel	West Haven	Thomaston	Stonington	Franklin	Madison	Harwinton	Ellington
Glastonbury	Ridgefield	Killingly	Barkhamsted	Hartford	Deep River	Madison	Old Lyme	New Canaan	Killingworth	Avon	Bethlehem
Tolland	Goshen	Windsor	Westbrook	Bolton	Norwalk	New Haven	Coventry	Trumbull	Washington	Durham	Sterling
New Fairfield	Kent	Norwalk	Durham	Newington	Colchester	Bloomfield	Vernon	Marlborough	Bridgewater	Chaplin	Morris
<b>Bottom 20</b>	<b>Bottom 20</b>	<b>Bottom 20</b>	<b>Bottom 20</b>	<b>Bottom 20</b>	<b>Bottom 20</b>	<b>Bottom 20</b>	<b>Bottom 20</b>	<b>Bottom 20</b>	<b>Bottom 20</b>	<b>Bottom 20</b>	<b>Bottom 20</b>
Hamden	Putnam	Granby	Harwinton	Plainfield	New Hartford	Salem	Middlefield	Middletown	Sprague	Bristol	Branford
Ansonia	Bristol	Willington	Lyme	Old Saybrook	Cornwall	North Stonington	Oxford	Norwalk	East Hartford	Hamden	Darien
Waterbury	Stamford	Woodbury	Sprague	Stafford	Lyme	Ashford	Chester	Derby	Mansfield	Killingly	Trumbull
Groton	Naugatuck	Eastford	Pomfret	Union	Bethlehem	Canterbury	Colebrook	Hamden	Meriden	Middletown	Deep River
New London	Norwalk	Bethany	Oxford	Warren	Colebrook	Thompson	Union	Putnam	North Canaan	West Haven	Waterbury
Union	Plainfield	Easton	Brooklyn	Canaan	East Haddam	Voluntown	Bozrah	Manchester	Brooklyn	Stamford	Milford
East Hartford	Derby	Sherman	Canaan	Westbrook	East Granby	Haddam	Woodstock	West Hartford	Norwich	North Canaan	Old Saybrook
Griswold	Killingly	Southbury	Sterling	Stonington	Voluntown	Canton	Lisbon	Mansfield	Griswold	Winchester	Barkhamsted
West Haven	Norwich	New Canaan	Lisbon	Pomfret	Ashford	Marlborough	Woodbridge	Ansonia	Bridgeport	Torrington	Hartford
Eastford	Ansonia	Sharon	Hampton	Washington	Hartland	Kent	Warren	West Haven	Sterling	Meriden	West Hartford
Sterling	Meriden	Bridgewater	Woodstock	Killingly	Suffield	Sherman	Bethlehem	East Hartford	New London	Norwich	Stamford
Willington	East Hartford	Ridgefield	North Stonington	Sterling	Barkhamsted	Cornwall	Norfolk	Meriden	New Haven	Putnam	West Haven
Bridgeport	Windham	Redding	Kent	Clinton	Essex	Franklin	Salem	Norwich	Thompson	East Hartford	New London
New Haven	West Haven	Salisbury	Sherman	Woodstock	Union	Easton	Griswold	New London	Plainfield	Windham	Norwalk

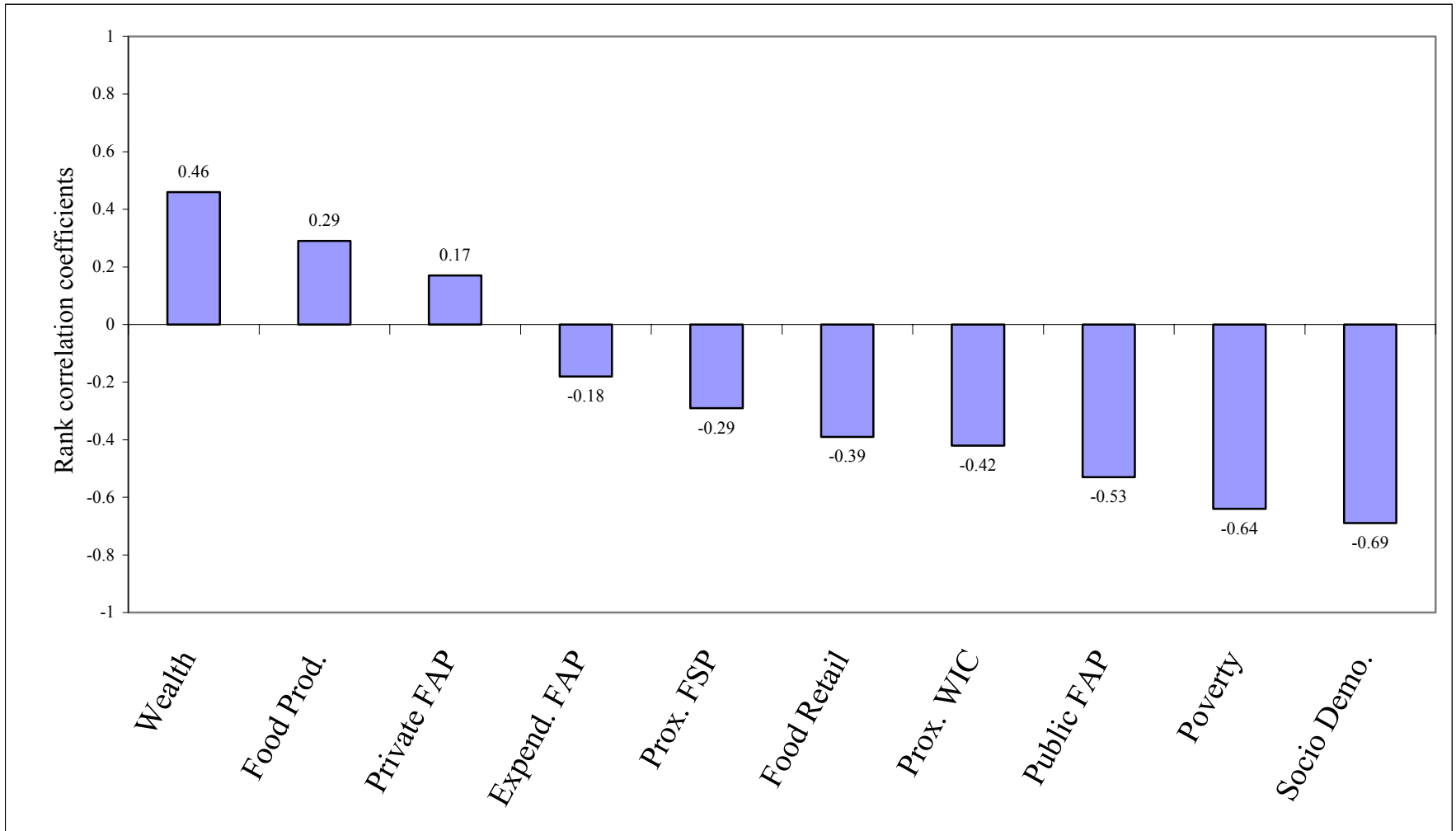
**Table 3. Continued.**

Meriden	New London	Roxbury	Franklin	Sharon	Granby	North Canaan	Sterling	Windham	Putnam	New Britain	Union
North Canaan	Waterbury	Darien	Easton	Kent	Warren	Scotland	Bethany	New Britain	Killingly	Waterbury	Bridgeport
Hartford	New Britain	Union	Scotland	Putnam	North Canaan	Andover	Franklin	Bridgeport	New Britain	New London	Hartland
Killingly	New Haven	Colebrook	Andover	Salisbury	Kent	Redding	Eastford	Waterbury	Waterbury	Bridgeport	Newington
New Britain	Bridgeport	Wilton	Union	Thompson	Salisbury	Union	Preston	New Haven	Hartford	New Haven	New Haven
Brooklyn	Hartford	Weston	Colebrook	Griswold	Griswold	Colebrook	Brooklyn	Hartford	Windham	Hartford	New Britain

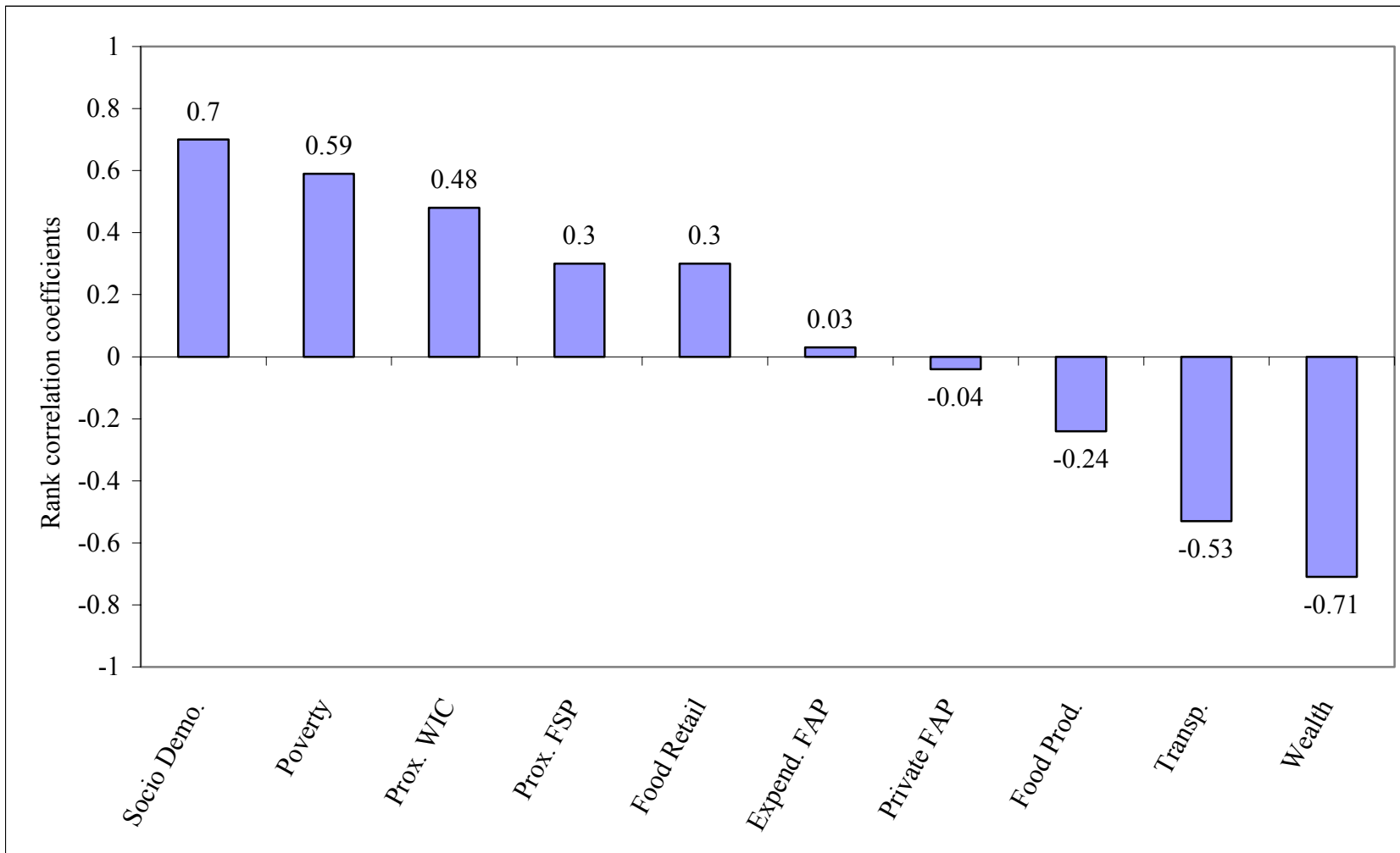
**Figure 1. Correlation Coefficients between the Rankings by Food Insecurity and by Various Categories of CFS**



**Figure 2. Correlation Coefficients between Rankings by Transportation Access and by Other CFS Categories**



**Figure 3. Correlation Coefficients between Rankings by Participation Rates in Public Food Assistance Programs and by Other CFS categories**



**Table 4. Connecticut Towns by CFS Groups Based on Rankings**

***Highest Quartile (green): Towns with the Highest CFS Levels***

Avon	Cornwall	Hebron	New Fairfield	Redding	Wilton
Bethlehem	Darien	Killingworth	New Hartford	Roxbury	Windsor
Bolton	Durham	Lebanon	Newtown	Sharon	Woodbridge
Bridgewater	East Granby	Lyme	North Branford	Simsbury	
Brookfield	Glastonbury	Madison	North Haven	South Windsor	
Burlington	Goshen	Middlebury	Old Lyme	Tolland	
Colchester	Granby	Middlefield	Orange	Weston	
Columbia	Harwinton	New Canaan	Prospect	Westport	

***Second Highest Quartile (Yellow): Towns with somewhat High CFS Levels***

Barkhamsted	Chaplin	Easton	Monroe	Rocky Hill	Trumbull
Berlin	Cheshire	Ellington	Morris	Salem	Warren
Bethany	Chester	Essex	New Milford	Shelton	Washington
Bethel	Clinton	Guilford	Old Saybrook	Sherman	Waterford
Bozrah	Coventry	Kent	Oxford	Southbury	Watertown
Canaan	Cromwell	Litchfield	Preston	Southington	Windsor Locks
Canton	East Windsor	Marlborough	Ridgefield	Suffield	Woodbury

***Second Lowest Quartile (Orange): Towns with lower than Average CFS Levels***

Andover	East Lyme	Hartland	Norfolk	Seymour	Westbrook
Beacon Falls	Enfield	Ledyard	North	Somers	Wethersfield
Bloomfield	Fairfield	Lisbon	Stonington	Stamford	Wolcott
Branford	Farmington	Manchester	Norwalk	Stonington	
Danbury	Franklin	Middletown	Pomfret	Stratford	
Deep River	Greenwich	Milford	Portland	Thomaston	
Derby	Haddam	Montville	Salisbury	Torrington	
East Haddam	Hampton	Newington	Scotland	Wallingford	

***Lowest Quartile (Red): Towns with lowest CFS Levels***

Ansonia	Hartford	Sprague
Ashford	Killingly	Stafford
Bridgeport	Mansfield	Sterling
Bristol	Meriden	Thompson
Brooklyn	Naugatuck	Union
Canterbury	New Britain	Vernon
Colebrook	New Haven	Voluntown
East Hampton	New London	Waterbury
East Hartford	North Canaan	West Hartford
East Haven	Norwich	West Haven
Eastford	Plainfield	Willington
Griswold	Plainville	Winchester
Groton	Plymouth	Windham
Hamden	Putnam	Woodstock

**Table 5: Connecticut Towns by CFS groups Based on Cluster Analysis**

***Group 1: Wealthy Towns***

Darien	Greenwich	Redding	Weston	Wilton
Easton	New Canaan	Ridgefield	Westport	Woodbridge

***Group 2: Towns with less transportation constraints, low population density and more farmland preserved***

Andover	Colebrook	Hampton	Newtown	Simsbury
Ashford	Columbia	Hartland	Norfolk	Somers
Avon	Cornwall	Harwinton	North Branford	South Windsor
Barkhamsted	Coventry	Hebron	North Canaan	Southbury
Beacon Falls	Durham	Kent	North Haven	Sterling
Berlin	East Granby	Killingworth	North	Suffield
Bethany	East Haddam	Lebanon	Stonington	Tolland
Bethel	East Lyme	Ledyard	Old Lyme	Trumbull
Bethlehem	Eastford	Lisbon	Old Saybrook	Union
Bolton	Ellington	Litchfield	Orange	Voluntown
Bozrah	Essex	Lyme	Oxford	Warren
Bridgewater	Fairfield	Madison	Pomfret	Washington
Brookfield	Farmington	Marlborough	Preston	Westbrook
Burlington	Franklin	Middlebury	Prospect	Willington
Canterbury	Glastonbury	Middlefield	Roxbury	Woodbury
Canton	Goshen	Monroe	Salem	Woodstock
Chaplin	Granby	Morris	Salisbury	
Cheshire	Griswold	New Fairfield	Scotland	
Chester	Guilford	New Hartford	Sharon	
Clinton	Haddam	New Milford	Sherman	

***Group 3: Towns with high proportion of elders and more food retail resources***

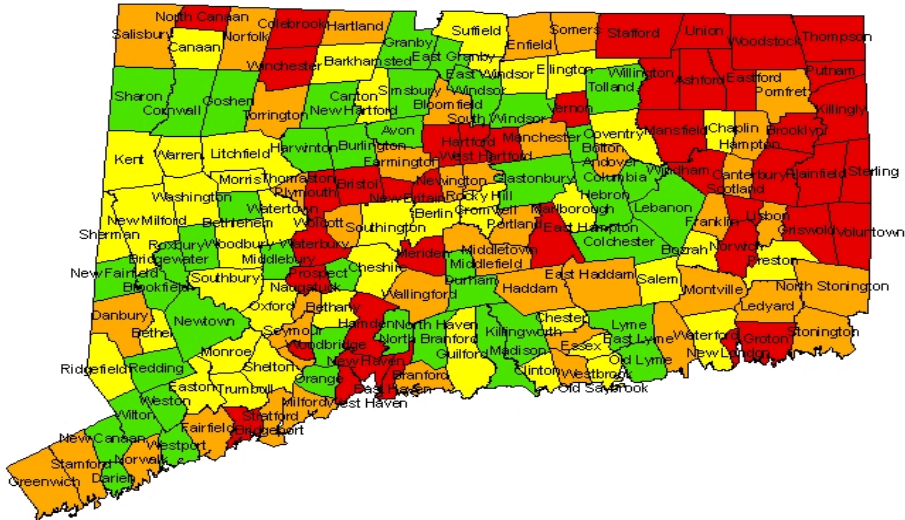
Bloomfield	East Haven	Naugatuck	Southington	Waterford
Branford	East Windsor	Newington	Sprague	Watertown
Bristol	Enfield	Norwalk	Stafford	West Hartford
Brooklyn	Groton	Plainfield	Stamford	Wethersfield
Canaan	Hamden	Plainville	Stonington	Winchester
Colchester	Killingly	Plymouth	Stratford	Windsor
Cromwell	Manchester	Portland	Thomaston	Windsor Locks
Danbury	Mansfield	Putnam	Thompson	Wolcott
Deep River	Middletown	Rocky Hill	Torrington	
Derby	Milford	Seymour	Vernon	
East Hampton	Montville	Shelton	Wallingford	

***Group 4: Densely populated towns with very high poverty incidence and limited transportation access***

Ansonia	Hartford	New Haven	Waterbury
Bridgeport	Meriden	New London	West Haven
East Hartford	New Britain	Norwich	Windham



**Figure 5. CFS Map of Connecticut Based on Town Rankings**



Legend:

- Highest CFS level (top 25%)
- Higher than average CFS level
- Lower than average CFS level
- Lowest CFS level (bottom 25%)

## SUMMARY AND CONCLUSIONS

### Purpose and Methodology

This study grew out of concern for the lack of quantitative indicators of CFS for Connecticut communities, and an interest in targeting resources and policies towards communities where food security is critically low. In addition, this report identifies some of the constraints responsible for the low levels of food security in some communities. More specifically, the following objectives were pursued: (1) develop and implement a methodology for ranking Connecticut towns by various aspects of CFS; (2) identify towns where low levels of CFS are critical; and (3) identify barriers to increased CFS in Connecticut towns.

The identification of CFS indicators was based on the framework of Cohen, Andrews, and Kantor (2002). From the town-level data collected, 38 indicators for all 169 Connecticut towns were constructed. The indicators included a wide array of socio-demographic and economic characteristics, community food provision resources, community food production resources, and transportation characteristics. These indicators were analyzed two ways: rankings based on principal component factor analysis and reference groups formed from cluster analysis.

### Main Findings

Both, the overall CFS rankings produced and the cluster analysis identify the following towns as having critically low levels of food security:

- Brooklyn, New Britain, Killingly, Hartford, North Canaan, Meriden, New Haven, Bridgeport, Willington, Ansonia, Sterling, and Windham.

In addition, detailed rankings by categories and Spearman rank correlation coefficients yield the following findings:

- Poverty and lack of wealth are the sets of indicators most correlated with overall CFS.
- Poverty and lack of wealth, however, did not correlate perfectly with food insecurity; even some towns that are regarded as wealthy (e.g., Greenwich) did not rank very high in terms of overall CFS.
- Towns with a weaker household structure (e.g., female-headed households, elders) and lack of formal education (e.g., low percentage of high school graduates) tend to be more food insecure in spite of receiving more public food assistance.
- The greater transportation access is, the higher the level of CFS.
- Poor households in poor towns (therefore, more food insecure towns) are more likely to participate in public food assistance programs (i.e., food stamps, WIC, and school lunch) than poor households in richer towns.
- The higher the expenditures per beneficiary on these programs, the higher the level of CFS.

- The mere existence of nearby WIC or food stamp offices may be necessary but is not sufficient to guarantee CFS; other constraints such as transportation and poverty are more significant.
- Food retail resources (e.g., supermarkets) are not significantly associated with CFS; it is rather, income and lack of transportation that limit access to food.
- Food production resources (e.g., farmland preservation, farmland) have a modest but significant positive impact on overall CFS.

### **Some Policy Recommendations**

The major findings of this study identify a number of towns facing CFS constraints, which if ameliorated or eliminated would be conducive to a more food-secure environment in the state. Indisputably, some of the core barriers to increased CFS in Connecticut towns stem from macroeconomic factors such as pockets of poverty in the state and from weak socio-demographic profiles such as female-headed households and lack of formal education. From a policy perspective, there are policy changes that can potentially make a remarkable improvement in CFS in the state.

Although CFS can be improved in all towns in Connecticut, from a global state perspective it is recommended that first policy priority be given to towns where the level of CFS were found to be critically low. In this regard, it is recommended that high priority be placed on addressing CFS in Hartford, New Haven, New Britain, and New London, for instance. To improve CFS at the local level in all towns in Connecticut, policy changes and advocacy can be implemented to address particular barriers to increased CFS such as transportation constraints and other factors identified in this report.

The important role of both public food assistance programs and transportation accessibility were identified as critical determinants of CFS. Increasing the allocation of funding to FAPs and increasing participation among those eligible can go a long way to improve food security in the affected communities. State and local policies can facilitate the affected population reaching supermarkets and places of employment by supporting public transportation in communities that face severe transportation constraints. These constraints can accentuate other CFS constraints such as the elderly or the working poor living in isolated communities or urban communities with retail food resources consisting of convenience stores where food variety is low and prices high. Other policies that are desirable include the continued support for community food production resources such as farmland preservation and farmers' markets. Finally, private food provision resources such as soup kitchens, though they certainly play a less prominent role than public food assistance programs can partially address lack of CFS on an emergency basis, but not enough to offset lack of CFS in needy areas..

The removal of critical impediments to increased CFS in all towns in Connecticut may not be an easy task, but there is considerable room for improvement. Whether or not a more secure food environment emerges will depend on how partnerships, projects, and public policy respond to the challenges involved.

# APPENDIX A

## DETERMINANTS OF COMMUNITY FOOD SECURITY

### What is Community Food Security?

The term *food security* entered the literature and policy debates as early as the 1970s in reference to the problem of security of national and international grain-reserves to feed the population in various countries (e.g., Chisholm and Tyers, 1982). In the 1980s, as the number of the hungry remained high, the thinking on food security shifted from a concern with food supplies to concern over hungry people (Foster and Leathers, 1999). Reutlinger et al. (1986) defined food security as: “access by all people to enough food for an active, healthy lifestyle.”

In the 1980s, the more specific concept of *household* food security emerged. Based on Reutlinger et al.’s (1986) definition, the U.S. Department of Agriculture (USDA) report of Cohen, Andrews, and Kantor (2002) adopts the following definition of household food security as:

Access by all people at all times to enough food for an active, healthy lifestyle. Household food security includes at a minimum (1) the ready availability of nutritionally adequate and safe food, and (2) an assured ability to acquire acceptable foods in socially acceptable ways.

The USDA has issued a series of annual state-level estimates of household food security since 1996 based on a questionnaire in the Current Population Survey conducted annually by the U.S. Department of Labor (Nord, Jemison, and Bickel, 1999; Nord, Andrews, and Carlson, 2003).

In the 1990s, the broader concept of *community* food security emerged. Although there is no consensus on the exact definition of CFS, it is useful to consider it as an extension of household food security. Cohen, Andrews, and Kantor (2002) point out that whereas household food security is concerned with the ability to acquire food at the household level, CFS concerns the underlying social, economic, and institutional factors within a community that affect the quantity and quality of available food and its affordability. Winne, Joseph and Fisher (1997) defines CFS as

All persons in a community having access to culturally acceptable, nutritionally adequate food through local non-emergency sources at all times.

Kantor (2001) points out that communities may be considered food insecure if:

- There are inadequate resources from which people can purchase foods.
- The available food purchasing resources are not accessible to all community members.
- The food available through the resources is not sufficient in quantity or variety.
- There are inadequate food assistance resources to help low-income people purchase food at retail markets.
- There are no local food production resources.
- Locally produced food is not available to community members.
- There is no support to local food production resources.
- There is any significant household food insecurity within the community.

Cohen, Andrews, and Kantor (2002) also point out that programs that improve community food security include participation in and access to food assistance programs, farmland preservation, emergency food access, and economic opportunity and job security.

### **Factors Affecting Community Food Security**

As seen above, CFS is a guiding concept rather than a tangible measure. There are no quantitative and/or unique measures of CFS. Rather, this section focuses on the factors underlying and correlated with the concept in order to assess CFS in Connecticut towns.

There are several closely related frameworks to assess CFS, including that of Winne, Joseph, and Fisher (1997). For the purpose of this study, we rely heavily on the assessment toolkit by Cohen, Andrews, and Kantor (2002), not only because it is the most comprehensive effort on the various aspects of CFS to date, but also because it applies to both urban and rural communities. They propose an assessment process by analyzing and providing indicators for six aspects of CFS: (1) community socio-demographic characteristics, (2) community food resources, (3) household food security, (4) food resource availability, (5) food availability and affordability, and (6) community food production resources.

- *Community Socio-Demographic Characteristics:* Data on socio-demographic characteristics at the town level are widely available from Federal and State sources. Particular emphasis is placed on household structure (such as age, family size, female-headed households) and socioeconomic variables (such as employment status, income, and poverty incidence). As these data are published periodically, they allow one to compare indicators over time and across communities.
- *Community Food Resources:* These include public policy aspects (such as participation in as well as number and location of offices and related clinics), retail stores and other places to purchase food, and emergency food assistance providers (food banks, pantries, and soup kitchens).
- *Household Food Security:* Unless focus groups and primary data are collected on household food security, these are not available from secondary sources at the town level. They are available at the state level and for selected metropolitan areas in the United States. Since household food security indicators (such as those provided by the USDA) are not available at the town level, they are not included in this study. However, some of the determinants of household food security are included via other variables.
- *Food Resource Accessibility:* These factors rely heavily on transportation conditions and other barriers to food shopping and/or the use of food assistance programs. Accessibility may also be influenced by neighborhood characteristics such as number of occupied housing units and population density.
- *Food Availability and Affordability:* Cohen, Andrews and Kantor (2002) propose measuring food availability as the percentage of the total market basket of foods offered in a particular

store type, based on a survey. An important and related aspect is the cost of food, especially for low-income households, which also requires food store surveys. This information is excluded from this study as it is not readily available on a per town basis for Connecticut.

- *Community Food Production Resources:* These factors include community-supported agriculture and community food gardens as well as conventional primary agriculture such as farms, dairies, and fisheries. It also includes political and community support aspects of the different stages of the food system (from farm to table) and the activities of advocacy groups and community organizations.

With the concept of CFS, many advocacy groups across the United States are re-orienting their activities from fighting hunger to increasing CFS (Community Food Security Coalition, 2004). As part of the assessment of CFS, several studies have collected selected indicators of CFS at the state level (e.g., Connecticut Food Policy Council, 2003; Edwards and Weber, 2003) or for specific communities (Food Action Network, 2004). Although a lot of data on these indicators collected, and these are very useful in their own right, what is missing is synthesis that combines all the information into a comprehensive measure or that allows comparison across communities.

In sum, the concept of CFS extends the more familiar concept of household food security in two dimensions: (1) horizontally by extending the boundaries of analysis to the community level factors that affect access to food, and (2) vertically by extending the focus to a community's entire food system. For the analysis presented in this study, we use towns as the proxy for communities. In addition, we focus more on the farm level and food retail outlet ends of the food system, as processing activities at the town levels are either non-existent in Connecticut or are not observable to the analyst. With this in mind, the following section presents the data collected on factors affecting CFS in Connecticut as well as the methodology used to analyze them.

## APPENDIX B

### DETAILED RANKINGS AND RANK CORRELATIONS

**Table B1. Rankings of Connecticut Towns according to CFS aspects (from best to worse)**

Towns	Overall	Socio-Demo.	Public FAP Part.	Private FAP Res.	Prox. to FSP Office	Prox. to WIC Clinic	Expend. on food Prog.	Food Retail Res.	Poverty Constraints	Wealth	Trans. Constraints	Food Prod. Res.
Avon	1	10	128	29	93	55	50	91	10	12	18	99
Durham	2	41	95	20	29	94	36	143	11	57	19	28
Hebron	3	34	107	23	71	4	65	123	13	69	33	38
Middlebury	4	23	130	38	37	90	8	46	64	52	21	73
Darien	5	35	165	81	25	71	32	37	2	2	46	151
Weston	6	5	169	40	132	122	1	87	1	3	28	107
South Windsor	7	91	94	92	26	75	35	63	53	49	22	27
Burlington	8	30	50	15	100	125	109	148	3	30	32	117
Madison	9	25	103	49	145	140	18	51	7	17	54	147
New Canaan	10	22	158	99	80	136	6	60	18	1	43	118
East Granby	11	64	63	11	83	156	34	142	51	55	15	25
New Hartford	12	62	69	16	99	150	147	48	32	50	5	89
Middlefield	13	82	67	10	30	89	39	150	25	92	41	21
Lebanon	14	106	17	34	36	100	99	121	16	115	37	5
Columbia	15	40	54	145	27	65	45	106	65	73	16	67
Killingworth	16	2	52	149	130	113	96	114	5	18	34	143
Orange	17	33	147	68	69	135	11	53	23	21	56	111
Glastonbury	18	59	91	117	58	43	63	45	69	31	77	59
Tolland	19	26	123	58	90	79	86	32	14	70	52	120
New Fairfield	20	24	111	50	34	105	125	134	9	25	38	138
Goshen	21	19	75	143	68	97	31	126	37	53	106	4
Westport	22	50	148	36	97	66	59	42	28	5	95	113
Woodbridge	23	16	143	43	42	121	7	158	26	11	68	109
Harwinton	24	6	118	150	40	82	102	110	43	74	17	43
Old Lyme	25	42	138	8	142	144	44	18	49	26	51	112
Brookfield	26	75	140	71	43	112	106	69	38	23	23	83
Redding	27	4	162	32	87	134	167	132	15	8	27	85
Roxbury	28	1	164	144	148	120	43	147	33	10	31	14
Lyme	29	3	133	151	147	152	116	138	6	16	8	64

**Table B1. Continued**

Bethlehem	30	38	142	13	123	153	4	160	21	37	74	18
Wilton	31	13	168	104	143	108	2	84	45	6	59	82
Sharon	32	57	159	17	164	39	149	9	119	36	1	7
Bridgewater	33	17	160	147	120	86	72	26	88	20	47	24
Simsbury	34	39	145	103	122	123	15	83	58	28	29	61
Cornwall	35	45	109	7	136	151	161	139	44	47	9	2
Newtown	36	28	141	78	76	139	91	70	42	27	62	65
Prospect	37	77	42	14	52	15	118	94	4	91	110	124
Windsor	38	139	19	56	16	7	70	24	110	71	112	33
Bolton	39	44	135	28	19	145	71	135	52	79	3	48
North Branford	40	84	62	47	109	76	27	125	34	68	80	52
North Haven	41	89	104	42	49	101	47	100	30	56	79	58
Colchester	42	110	45	79	131	20	83	38	77	96	13	70
Granby	43	21	150	64	117	164	108	41	72	45	24	34
Berlin	44	83	113	93	21	69	16	58	40	77	88	68
Canaan	45	49	34	156	155	30	129	1	92	94	2	100
Chester	46	73	59	1	112	51	60	152	46	46	49	148
Rocky Hill	47	100	97	101	88	8	95	28	89	63	53	36
Essex	48	8	106	2	140	162	134	11	31	29	127	137
Kent	49	20	108	162	165	167	159	3	55	42	14	79
Litchfield	50	52	122	67	72	92	25	113	61	75	73	29
Marlborough	51	54	121	25	125	88	158	86	20	62	4	144
Southbury	52	14	157	123	74	45	30	76	56	32	136	56
Coventry	53	56	80	89	47	91	100	19	81	113	60	54
Shelton	54	108	61	133	77	9	80	54	62	59	99	76
Waterford	55	94	105	41	113	58	69	6	67	41	104	114
Salem	56	48	53	4	101	146	150	162	24	89	89	23
New Milford	57	101	71	61	115	44	52	44	86	66	113	39
Cromwell	58	97	88	88	12	61	93	80	98	85	44	40
Easton	59	12	155	165	86	143	163	146	12	7	30	92
Trumbull	60	78	129	119	24	129	12	102	19	14	100	152
Windsor Locks	61	141	40	109	57	10	26	67	84	117	57	57
Bethel	62	115	96	48	17	59	81	85	63	48	108	84
Old Saybrook	63	53	98	35	151	80	73	8	85	39	93	156
Cheshire	64	71	149	77	95	54	46	118	48	38	86	72
Watertown	65	119	76	52	45	16	133	78	68	108	72	32
Bethany	66	27	154	27	92	137	37	165	47	44	102	42



**Table B1. Continued.**

Canton	67	79	57	53	107	63	157	130	80	58	11	122
Sherman	68	7	156	163	135	118	160	127	8	15	69	74
Ridgefield	69	18	161	111	79	131	130	124	36	9	84	86
Monroe	70	29	146	106	149	147	110	119	41	22	48	80
Bozrah	71	51	74	6	62	116	123	155	78	122	58	9
Washington	72	47	139	148	159	114	87	99	99	19	45	10
Warren	73	11	115	141	154	165	13	159	71	33	71	46
Woodbury	74	76	152	142	106	13	23	90	103	40	78	31
East Windsor	75	123	39	82	44	103	122	30	129	121	39	8
Guilford	76	37	134	65	119	106	124	71	70	34	94	91
Oxford	77	55	89	154	105	124	127	151	22	65	42	88
Clinton	78	87	85	30	162	6	139	7	93	84	67	130
Suffield	79	66	114	90	103	160	67	74	50	76	131	6
Barkhamsted	80	31	100	18	133	161	135	140	54	78	10	157
Chaplin	81	116	23	9	65	127	5	144	102	141	20	108
Morris	82	60	136	31	128	126	64	136	128	83	6	20
Preston	83	86	56	33	66	119	62	168	35	132	122	26
Southington	84	105	79	91	60	38	94	39	74	101	116	97
Ellington	85	58	110	97	98	68	88	101	115	99	66	17
Branford	86	111	65	84	70	14	21	68	112	60	118	150
Pomfret	87	67	47	153	158	57	121	145	87	120	25	22
Thomaston	88	112	77	63	51	3	17	10	126	123	133	87
Deep River	89	93	78	12	116	18	136	2	120	88	85	153
Enfield	90	133	31	69	84	49	89	49	113	128	105	30
Milford	91	122	66	66	81	28	66	59	106	67	91	155
Portland	92	103	87	46	7	48	42	36	123	104	128	103
Bloomfield	93	147	38	57	32	115	20	31	144	80	142	47
East Lyme	94	102	83	94	94	96	29	108	73	87	103	71
Farmington	95	63	119	128	56	104	77	75	104	35	107	104
Westbrook	96	68	92	19	156	22	10	117	91	81	121	132
Greenwich	97	85	125	139	39	5	120	97	97	4	126	140
Andover	98	81	126	167	55	99	166	33	39	106	92	60
Fairfield	99	107	131	107	31	78	104	103	114	13	109	81
Franklin	100	36	116	164	78	132	162	166	17	102	117	1
Hartland	101	74	120	5	129	159	74	149	27	103	36	166
East Haddam	102	65	93	54	118	155	113	93	83	95	114	44
Middletown	103	143	16	83	3	29	49	43	150	125	153	69

**Table B1. Continued.**

Wolcott	104	98	84	146	50	36	53	104	75	114	82	136
Haddam	105	43	117	55	82	138	156	111	90	43	101	141
Hampton	106	80	102	159	91	148	145	141	60	140	12	15
Wallingford	107	117	73	108	139	46	82	47	109	105	129	37
Somers	108	95	137	26	146	133	85	129	59	110	96	11
North												
Stonington	109	69	70	161	137	95	151	107	96	111	40	66
Wethersfield	110	127	68	130	41	73	48	56	105	86	130	119
Stonington	111	104	49	124	157	84	61	17	116	97	125	95
Montville	112	128	51	51	38	98	56	131	101	135	87	93
Newington	113	134	82	126	20	109	54	52	95	98	76	167
Lisbon	114	118	60	158	63	117	143	157	29	142	64	53
Stratford	115	148	48	102	28	40	22	73	127	90	132	139
Norfolk	116	32	132	3	138	102	105	161	100	72	83	134
Seymour	117	125	43	113	108	81	57	22	130	119	115	96
Danbury	118	145	26	131	1	32	97	40	146	82	147	135
Ledyard	119	96	101	59	73	110	78	133	111	107	65	98
Stamford	120	152	29	132	4	21	131	88	143	24	155	160
Norwalk	121	154	20	125	64	19	84	50	151	54	141	163
Salisbury	122	70	163	60	167	168	112	95	132	51	81	13
Derby	123	156	22	105	85	23	41	35	152	130	137	77
Scotland	124	88	144	166	61	128	165	137	94	126	7	3
Manchester	125	149	35	118	6	42	68	27	155	116	144	105
Torrington	126	140	32	76	10	24	101	13	148	148	158	90
Beacon Falls	127	113	112	62	54	70	126	109	134	100	90	62
Woodstock	128	46	124	160	163	83	148	156	76	129	61	16
Bristol	129	151	21	73	75	26	76	15	147	144	150	110
Ashford	130	99	90	21	126	158	152	92	124	127	26	106
Naugatuck	131	153	41	138	23	37	58	25	141	146	120	115
Vernon	132	138	25	87	14	93	117	20	137	134	139	131
Colebrook	133	9	167	169	111	154	169	153	66	64	50	146
West Hartford	134	126	58	134	53	12	90	64	156	61	149	159
Canterbury	135	109	72	45	124	67	153	122	82	149	124	55
Plymouth	136	129	46	98	59	27	98	115	118	139	123	101
Voluntown	137	92	86	24	134	157	155	116	79	137	63	121
East Haven	138	142	24	136	46	72	14	120	131	133	146	78
Plainfield	139	155	44	44	150	1	107	29	138	163	143	45

**Table B1. Continued.**

Thompson	140	124	27	22	168	87	154	98	107	162	75	102
Windham	141	162	4	95	13	74	111	12	164	169	163	41
Mansfield	142	90	81	137	22	85	132	55	157	152	111	50
Putnam	143	150	11	37	166	31	51	5	154	164	161	94
Plainville	144	131	64	122	15	41	28	79	133	136	138	145
Norwich	145	158	12	86	8	53	144	16	162	156	160	75
East Hampton	146	114	99	85	89	11	138	112	149	109	70	142
Winchester	147	135	14	74	67	107	38	82	145	147	157	126
Stafford	148	132	33	115	152	56	141	14	122	138	140	133
Sprague	149	144	37	152	102	149	119	4	135	150	135	51
Hamden	150	130	30	127	33	77	103	89	153	112	151	128
Ansonia	151	159	1	70	104	62	92	21	158	145	145	149
Waterbury	152	165	3	129	2	34	3	34	167	167	165	154
Groton	153	136	28	80	110	60	140	65	139	131	148	116
New London	154	164	6	75	96	2	33	23	163	160	166	162
Union	155	15	166	168	153	163	168	154	57	93	55	164
East Hartford	156	161	15	121	35	52	75	57	160	151	162	125
Griswold	157	137	36	112	169	169	24	163	125	157	97	49
West Haven	158	163	7	116	48	17	55	105	159	143	154	161
Eastford	159	61	153	140	144	141	9	167	136	124	119	35
Sterling	160	120	55	157	161	111	137	164	108	159	98	19
Willington	161	72	151	120	121	130	146	128	140	118	35	127
Bridgeport	162	168	10	96	11	47	40	81	166	158	167	165
New Haven	163	167	2	100	9	50	19	96	168	161	168	168
Meriden	164	160	13	114	114	35	79	61	161	153	159	129
North Canaan	165	121	127	39	127	166	164	77	121	154	156	12
Hartford	166	169	8	110	18	25	114	62	169	168	169	158
Killingly	167	157	18	72	160	64	142	66	142	165	152	123
New Britain	168	166	5	135	5	33	115	72	165	166	164	169
Brooklyn	169	146	9	155	141	142	128	169	117	155	134	63

**Table B2. Spearman Rank Correlation Coefficients for Categories of CFS**

Categories	Overall	Socio Demo.	Public FAPs	Private FAPs	Prox. WIC	Prox. FSP	Food Retail	Expend. FAP	Poverty	Wealth	Transp.	Food Prod.
<b>Overall</b>	1.00											
<b>Socio Demo.</b>	0.70**	1.00										
<b>Public FAP</b>	0.48**	0.70**	1.00									
<b>Private FAP</b>	-0.30**	0.02	-0.04	1.00								
<b>Prox. WIC</b>	-0.01	0.54**	0.48**	0.08	1.00							
<b>Prox. FSP</b>	0.01	0.36**	0.30**	0.09	0.34**	1.00						
<b>Food Retail</b>	0.10	0.36**	0.30**	-0.02	0.46**	-0.14	1.00					
<b>Expend. FAP</b>	-0.27**	0.09	0.03	0.07	0.17*	0.24**	0.08	1.00				
<b>Poverty</b>	0.76**	0.71**	0.59**	0.21**	0.44**	0.19**	0.40**	-0.01	1.00			
<b>Wealth</b>	-0.79**	-0.75**	-0.71**	0.10	-0.25**	-0.13	-0.12	0.15	-0.67**	1.00		
<b>Transp.</b>	-0.58**	-0.69**	-0.53**	0.17	-0.42**	-0.29**	-0.39**	-0.18*	-0.64**	0.46**	1.00	
<b>Food Prod.</b>	-0.27*	-0.22*	-0.24*	-0.01	-0.26**	-0.15	-0.22**	-0.04	-0.21**	0.02	0.29**	1.00

Notes:

\*\* Correlation is significant at the 0.01 level (2-tailed)

\* Correlation is significant at the 0.05 level (2-tailed)

A negative sign in the first column means negatively correlated to food insecurity. Note that (participation) in public FAPs and (resources) in private FAPs are expressed relative to the number of poor households. "Transp." Indicates transportation accessibility. The variables generating the rankings whose correlation are reported above are defined in Table 1.

## APPENDIX C: CFS INDICATORS

**Table C1. Indicators of Socio-demographic Characteristics**

<b>Town</b>	<b>% Under18</b>	<b>% 65+</b>	<b>Population Density</b>	<b>% Adults 25+ &lt; high school degree</b>	<b>% Female householder with children &lt; 18</b>	<b>%Female householder</b>
Andover	0.27	0.08	193.66	0.07	0.05	0.08
Ansonia	0.24	0.15	2968.62	0.18	0.09	0.16
Ashford	0.26	0.08	103.79	0.13	0.05	0.08
Avon	0.26	0.15	675.85	0.05	0.03	0.05
Barkhamsted	0.25	0.10	90.26	0.07	0.04	0.06
Beacon Falls	0.25	0.10	531.91	0.13	0.05	0.09
Berlin	0.25	0.17	671.66	0.13	0.03	0.08
Bethany	0.27	0.12	235.62	0.04	0.04	0.07
Bethel	0.27	0.10	1066.33	0.11	0.05	0.09
Bethlehem	0.25	0.13	174.17	0.09	0.03	0.07
Bloomfield	0.21	0.22	743.05	0.16	0.07	0.16
Bolton	0.26	0.12	340.40	0.06	0.04	0.07
Bozrah	0.23	0.14	116.20	0.12	0.03	0.07
Branford	0.21	0.17	1292.00	0.09	0.05	0.10
Bridgeport	0.28	0.11	8534.29	0.35	0.15	0.24
Bridgewater	0.22	0.13	105.07	0.07	0.03	0.06
Bristol	0.23	0.15	2239.02	0.19	0.07	0.12
Brookfield	0.27	0.11	769.00	0.07	0.04	0.08
Brooklyn	0.24	0.13	246.11	0.21	0.08	0.11
Burlington	0.28	0.07	268.81	0.06	0.03	0.07
Canaan	0.24	0.14	32.62	0.09	0.04	0.07
Canterbury	0.26	0.09	116.58	0.16	0.05	0.08
Canton	0.25	0.12	353.29	0.07	0.05	0.08
Chaplin	0.25	0.08	114.57	0.16	0.05	0.09
Cheshire	0.25	0.13	863.12	0.08	0.04	0.07
Chester	0.22	0.17	222.95	0.12	0.04	0.07
Clinton	0.25	0.11	804.13	0.07	0.05	0.08
Colchester	0.30	0.09	293.15	0.11	0.06	0.09
Colebrook	0.25	0.14	44.73	0.10	0.02	0.05
Columbia	0.26	0.11	226.96	0.06	0.04	0.07
Cornwall	0.24	0.18	30.88	0.05	0.05	0.08
Coventry	0.27	0.09	300.45	0.08	0.04	0.07
Cromwell	0.22	0.16	992.29	0.13	0.04	0.08
Danbury	0.22	0.11	1703.67	0.23	0.05	0.10
Darien	0.32	0.12	1541.62	0.04	0.03	0.06
Deep River	0.24	0.13	326.21	0.10	0.05	0.09
Derby	0.22	0.17	2284.00	0.21	0.07	0.13
Durham	0.29	0.09	278.76	0.08	0.03	0.07
East Granby	0.26	0.11	475.45	0.07	0.04	0.08
East Haddam	0.25	0.11	235.84	0.10	0.04	0.07
East Hampton	0.21	0.08	1340.26	0.09	0.05	0.09
East Hartford	0.24	0.16	1500.45	0.23	0.11	0.17
East Haven	0.22	0.17	1440.85	0.19	0.05	0.12

**Table C1. Continued.**

East Lyme	0.22	0.13	281.80	0.11	0.06	0.08
East Windsor	0.22	0.15	272.05	0.18	0.05	0.10
Eastford	0.26	0.13	161.71	0.12	0.04	0.06
Easton	0.29	0.13	56.56	0.06	0.03	0.06
Ellington	0.25	0.10	373.53	0.08	0.04	0.07
Enfield	0.23	0.14	1320.93	0.16	0.06	0.10
Essex	0.22	0.20	551.80	0.06	0.03	0.05
Fairfield	0.24	0.16	1888.53	0.08	0.04	0.09
Farmington	0.24	0.16	823.07	0.08	0.04	0.07
Franklin	0.24	0.13	93.28	0.11	0.03	0.06
Glastonbury	0.27	0.13	610.52	0.06	0.04	0.08
Goshen	0.23	0.15	59.66	0.10	0.03	0.05
Granby	0.27	0.11	251.81	0.07	0.03	0.06
Greenwich	0.25	0.16	1258.35	0.08	0.04	0.08
Griswold	0.26	0.11	292.43	0.17	0.07	0.11
Groton	0.25	0.12	1233.59	0.12	0.07	0.11
Guilford	0.25	0.13	452.24	0.05	0.04	0.07
Haddam	0.25	0.10	154.62	0.09	0.03	0.07
Hamden	0.21	0.18	1711.86	0.12	0.06	0.11
Hampton	0.26	0.12	69.12	0.11	0.04	0.08
Hartford	0.30	0.10	6734.66	0.39	0.20	0.30
Hartland	0.27	0.11	58.70	0.10	0.04	0.08
Harwinton	0.25	0.13	169.85	0.08	0.02	0.05
Hebron	0.30	0.06	230.21	0.06	0.04	0.06
Kent	0.23	0.18	57.51	0.07	0.03	0.07
Killingly	0.26	0.13	329.81	0.25	0.09	0.13
Killingworth	0.27	0.12	167.45	0.07	0.01	0.04
Lebanon	0.28	0.09	125.23	0.12	0.05	0.09
Ledyard	0.28	0.09	367.99	0.07	0.06	0.09
Lisbon	0.26	0.11	243.72	0.17	0.05	0.09
Litchfield	0.25	0.17	146.07	0.10	0.04	0.07
Lyme	0.20	0.20	58.51	0.05	0.03	0.05
Madison	0.28	0.14	486.57	0.03	0.04	0.07
Manchester	0.23	0.14	1978.71	0.13	0.08	0.13
Mansfield	0.13	0.09	454.51	0.09	0.05	0.08
Marlborough	0.27	0.08	243.06	0.08	0.04	0.07
Meriden	0.26	0.14	2432.42	0.22	0.10	0.15
Middlebury	0.25	0.17	350.25	0.08	0.03	0.06
Middlefield	0.25	0.16	320.18	0.13	0.04	0.07
Middletown	0.22	0.13	1008.29	0.16	0.07	0.12
Milford	0.22	0.15	2278.08	0.11	0.04	0.10
Monroe	0.29	0.11	732.23	0.09	0.02	0.06
Montville	0.24	0.11	419.19	0.16	0.06	0.10
Morris	0.25	0.14	123.10	0.15	0.03	0.06
Naugatuck	0.27	0.12	1885.11	0.17	0.08	0.13
New Britain	0.24	0.16	5325.73	0.31	0.11	0.18
New Canaan	0.31	0.14	860.56	0.03	0.03	0.07
New Fairfield	0.30	0.09	554.57	0.06	0.03	0.06
New Hartford	0.27	0.09	159.93	0.12	0.03	0.07

**Table C1. Continued.**

New Haven	0.25	0.10	6438.91	0.26	0.15	0.23
New London	0.23	0.12	4362.13	0.22	0.12	0.18
New Milford	0.27	0.09	458.79	0.10	0.05	0.09
Newington	0.21	0.19	1957.17	0.15	0.05	0.11
Newtown	0.29	0.09	424.96	0.07	0.03	0.06
Norfolk	0.24	0.14	35.82	0.09	0.03	0.07
North Branford	0.26	0.14	516.49	0.11	0.04	0.08
North Canaan	0.23	0.19	171.59	0.16	0.06	0.10
North Haven	0.23	0.19	1091.25	0.13	0.03	0.08
North Stonington	0.25	0.10	90.85	0.09	0.04	0.08
Norwalk	0.22	0.13	3598.40	0.17	0.06	0.12
Norwich	0.24	0.15	1231.01	0.21	0.10	0.15
Old Lyme	0.24	0.17	304.94	0.07	0.04	0.07
Old Saybrook	0.22	0.21	661.38	0.07	0.04	0.08
Orange	0.25	0.20	760.55	0.07	0.03	0.07
Oxford	0.27	0.09	294.66	0.08	0.04	0.07
Plainfield	0.27	0.11	339.49	0.23	0.09	0.13
Plainville	0.21	0.15	1757.94	0.16	0.05	0.10
Plymouth	0.26	0.13	521.25	0.19	0.05	0.10
Pomfret	0.27	0.11	93.60	0.09	0.04	0.08
Portland	0.25	0.15	357.68	0.12	0.05	0.09
Preston	0.22	0.14	147.68	0.15	0.04	0.07
Prospect	0.25	0.13	603.20	0.13	0.03	0.07
Putnam	0.24	0.17	441.70	0.22	0.08	0.13
Redding	0.29	0.10	258.23	0.03	0.03	0.05
Ridgefield	0.31	0.11	678.24	0.04	0.03	0.06
Rocky Hill	0.20	0.16	1301.47	0.12	0.04	0.08
Roxbury	0.23	0.14	81.26	0.04	0.02	0.04
Salem	0.29	0.07	129.95	0.07	0.04	0.07
Salisbury	0.22	0.22	66.09	0.11	0.05	0.07
Scotland	0.28	0.09	83.00	0.12	0.05	0.07
Seymour	0.24	0.14	1034.04	0.15	0.05	0.10
Sharon	0.21	0.21	49.71	0.10	0.04	0.08
Shelton	0.24	0.15	1194.93	0.13	0.04	0.09
Sherman	0.27	0.13	163.60	0.06	0.03	0.05
Simsbury	0.30	0.13	676.82	0.06	0.04	0.06
Somers	0.21	0.10	363.84	0.16	0.04	0.07
South Windsor	0.27	0.12	1384.27	0.09	0.04	0.08
Southbury	0.23	0.26	610.27	0.11	0.02	0.05
Southington	0.24	0.15	508.33	0.14	0.04	0.09
Sprague	0.26	0.12	215.07	0.17	0.08	0.12
Stafford	0.26	0.12	192.55	0.18	0.07	0.10
Stamford	0.22	0.14	3047.25	0.18	0.06	0.12
Sterling	0.28	0.07	113.48	0.20	0.05	0.08
Stonington	0.22	0.17	457.50	0.12	0.05	0.09
Stratford	0.23	0.19	2765.96	0.17	0.06	0.12
Suffield	0.22	0.14	314.78	0.13	0.03	0.07
Thomaston	0.25	0.12	617.64	0.13	0.05	0.09
Thompson	0.25	0.13	182.35	0.20	0.05	0.09

**Table C1. Continued.**

Tolland	0.28	0.08	326.89	0.07	0.03	0.06
Torrington	0.23	0.18	873.45	0.22	0.06	0.10
Trumbull	0.26	0.17	1451.51	0.10	0.03	0.07
Union	0.22	0.12	23.26	0.11	0.02	0.05
Vernon	0.22	0.14	1548.63	0.14	0.07	0.10
Voluntown	0.27	0.10	63.56	0.14	0.05	0.07
Wallingford	0.24	0.15	1066.45	0.14	0.05	0.09
Warren	0.23	0.15	45.61	0.08	0.03	0.05
Washington	0.24	0.16	93.07	0.09	0.04	0.07
Waterbury	0.27	0.15	3699.63	0.28	0.12	0.19
Waterford	0.22	0.19	559.46	0.13	0.04	0.09
Watertown	0.25	0.14	731.19	0.16	0.05	0.09
West Hartford	0.22	0.19	2838.80	0.10	0.05	0.09
West Haven	0.23	0.14	4782.40	0.19	0.09	0.16
Westbrook	0.22	0.17	390.61	0.09	0.04	0.08
Weston	0.33	0.10	485.74	0.02	0.03	0.05
Westport	0.28	0.15	1275.78	0.04	0.04	0.07
Wethersfield	0.20	0.23	1994.55	0.16	0.04	0.10
Willington	0.21	0.08	177.66	0.12	0.04	0.06
Wilton	0.32	0.12	644.95	0.05	0.03	0.05
Winchester	0.23	0.15	314.88	0.21	0.06	0.10
Windham	0.23	0.13	823.12	0.26	0.11	0.17
Windsor Locks	0.24	0.17	909.54	0.14	0.07	0.12
Windsor	0.25	0.14	1289.66	0.12	0.07	0.13
Wolcott	0.26	0.13	719.22	0.12	0.04	0.09
Woodbridge	0.28	0.17	468.03	0.06	0.03	0.06
Woodbury	0.24	0.13	250.35	0.10	0.04	0.08
Woodstock	0.26	0.12	117.01	0.08	0.04	0.07



**Table C2. Indicators of Public Food Assistance Resources**

Town	% Part. FSP	% part. WIC	% eligible free/reduced price meals	% School breakfast part.	Expend. food services per pupil(\$)	Cost per part. WIC	Distance to FSP office	Time to FSP office	Distance to WIC office	Time to WIC office
Andover	21.33	0.12	0	0	0	79.35	8.38	14	6.18	14
Ansonia	95.34	0.37	37.7	75	55	156.41	11.99	24	2.97	7
Ashford	36.10	0.20	0	0	0	122.48	13.96	29	14.87	30
Avon	21.67	0.08	2.3	0	191	121.17	10.88	22	2.73	6
Barkhamsted	32.08	0.16	0	0	0	145.11	17.16	26	18.23	27
Beacon Falls	17.15	0.12	9.1	0	40	135.23	9.49	12	4.54	8
Berlin	25.56	0.12	2.9	0	186	155.38	4.66	9	4.44	8
Bethany	13.18	0.02	1	0	263	100.69	12.74	19	9.47	21
Bethel	31.18	0.14	6.6	0	90	147.32	3.25	9	2.27	7
Bethlehem	17.98	0.04	2.8	0	182	225.20	13.42	29	11.61	26
Bloomfield	48.48	0.22	25.5	21	193	144.29	5.39	13	6.9	18
Bolton	15.27	0.09	3	0	149	125.01	3.55	9	11.15	23
Bozrah	63.53	0.15	0	0	0	153.86	8.81	15	8.87	15
Branford	44.62	0.16	12.1	5	171	153.58	9.5	17	0.26	1
Bridgeport	72.65	0.27	66.9	32	108	167.55	3.23	6	2.26	4
Bridgewater	4.05	0.03	3.8	0	187	108.37	13.51	28	5.43	12
Bristol	74.47	0.31	24	12	117	137.51	9.35	18	0.51	2
Brookfield	18.41	0.05	2.6	0	131	109.72	8.17	11	9.15	13
Brooklyn	24.61	0.89	16.8	55	39	132.49	16.66	31	13.05	18
Burlington	58.06	0.37	2.9	0	0	164.56	11.78	22	8.09	18
Canaan	37.14	0.76	0	0	0	147.04	25.4	37	0.64	2
Canterbury	36.67	0.20	14.4	0	0	121.32	13.43	29	3.72	9
Canton	20.17	0.08	3.9	57	0	113.92	12.27	24	3.65	7
Chaplin	82.81	0.45	12.5	0	345	132.98	7.87	17	9.21	17
Cheshire	13.60	0.04	1.8	0	129	152.12	11.69	21	2.46	6
Chester	70.83	0.23	0	0	0	196.22	17.28	19	2.05	6
Clinton	32.42	0.18	9.1	0	0	138.25	35.1	35	0.11	0
Colchester	58.22	0.30	6.7	17	110	136.85	15.07	29	0.38	1
Colebrook	7.89	0.00	0	0	0	0.00	14.25	23	13.7	23
Columbia	16.91	0.06	59.6	0	112	160.85	5.51	10	4.61	7
Cornwall	20.93	0.19	0	0	0	101.37	15.13	30	12.74	24
Coventry	30.90	0.12	4.1	20	111	123.98	6.66	14	5.76	12
Cromwell	35.89	0.13	8.6	0	128	123.25	3.37	6	3.24	6
Danbury	35.35	0.24	30.2	42	61	149.41	0.32	1	0.8	2
Darien	6.65	0.02	0.8	0	267	102.57	5.13	10	4.79	8
Deep River	33.76	0.26	5.7	0	11	137.85	18.61	19	0.34	1
Derby	64.00	0.26	30.4	19	114	163.97	10.46	21	0.41	1
Durham	31.53	0.18	2.7	0	187	134.54	5.34	12	5.6	13
East Granby	72.46	0.14	0.6	0	162	147.09	13.05	16	17.4	23
East Haddam	27.20	0.18	7.9	0	21	152.95	17.76	21	17.63	21
East Hampton	27.48	0.13	6.7	0	8	138.90	11.14	21	0.21	1
East Hartford	64.82	0.33	32.7	34	83	152.54	6.47	12	2.16	6
East Haven	65.86	0.21	18.2	36	200	158.68	6.65	14	4.39	9
East Lyme	39.91	0.19	4.4	0	153	154.47	13.68	18	7.2	11
East Windsor	70.33	0.34	14.4	0	0	154.01	8.21	11	6.61	14
Eastford	16.67	0.01	0	0	0	262.58	16.15	35	9.56	22
Easton	8.00	0.03	1.7	0	0	96.32	10.7	21	11.59	22
Ellington	22.86	0.15	2.6	0	137	122.65	9.71	25	3.8	9
Enfield	58.13	0.33	16.6	18	115	132.14	13.69	16	1.9	5
Essex	30.00	0.14	0	0	0	145.50	21.77	23	21.63	23
Fairfield	19.08	0.06	4.2	1	86	130.63	7.32	10	6.34	9

**Table C2. Continued.**

Farmington	24.45	0.08	3.8	0	144	125.00	8.45	14	8.09	12
Franklin	28.89	0.11	0	0	0	99.92	9.78	18	9.78	18
Glastonbury	30.15	0.13	3.6	10	138	135.62	9.2	13	1.49	4
Goshen	35.56	0.26	7.6	0	133	162.80	8.65	17	6.29	13
Granby	13.56	0.04	1.5	0	88	126.46	16.28	23	20.64	30
Greenwich	13.18	0.09	7.1	3	59	130.22	7.07	12	0.11	0
Griswold	66.13	0.26	16.3	14	178	148.92	41.07	48	41.07	48
Groton	51.30	0.37	23.6	17	0	137.64	14.21	23	2.55	7
Guilford	19.66	0.05	4.7	0	111	105.35	16.45	23	8.53	12
Haddam	21.69	0.14	0	0	0	116.55	12.84	16	12.71	16
Hamden	37.71	0.13	23.4	53	44	149.90	5.45	13	4.87	11
Hampton	40.98	0.10	0	0	0	129.79	10.71	22	12.04	23
Hartford	90.17	0.21	60.4	34	0	161.50	4.58	7	0.42	2
Hartland	9.52	0.21	0	0	0	188.89	15.79	27	16.86	28
Harwinton	20.18	0.12	2.9	0	0	170.68	6.53	13	5.04	12
Hebron	23.77	0.15	3.7	0	153	126.68	10.17	16	0.1	0
Kent	22.73	0.18	0	0	0	112.00	27.28	52	24.92	47
Killingly	82.94	0.10	31.7	30	22	125.40	25.11	44	3.79	7
Killingworth	60.00	0.33	4.5	0	136	117.67	17.39	25	7.74	16
Lebanon	92.99	0.26	5.4	36	69	142.37	6.73	12	6.91	13
Ledyard	24.87	0.17	3.5	0	131	130.42	9.18	18	7.21	16
Lisbon	55.47	0.17	0	19	0	132.76	7.66	17	7.66	17
Litchfield	21.58	0.09	4.1	0	166	153.51	10.32	16	5.87	12
Lyme	24.00	0.04	3	0	199	74.81	22.44	27	15.95	19
Madison	32.75	0.13	1	0	173	159.95	21.28	28	13.36	16
Manchester	51.98	0.23	29.8	16	110	144.52	1.83	5	1.45	4
Mansfield	11.41	0.05	10.3	37	37	129.65	4.19	10	5.3	12
Marlborough	20.49	0.14	0	0	0	113.21	15.01	27	5.61	12
Meriden	84.46	0.34	48.9	4	81	151.72	16.34	21	0.93	3
Middlebury	22.41	0.08	1.3	0	147	199.56	6.1	13	5.76	12
Middlefield	52.31	0.23	2.7	0	187	133.47	4.76	13	5.01	13
Middletown	67.03	0.27	30.7	35	171	131.14	0.73	2	0.55	2
Milford	45.71	0.15	14.2	2	119	141.32	11.91	17	0.52	2
Monroe	11.20	0.06	2.5	0	96	121.86	19.78	33	12.81	21
Montville	45.69	0.25	12.4	13	145	135.78	7.02	12	7.02	12
Morris	6.90	0.10	7.6	0	133	135.63	15.41	27	8.25	18
Naugatuck	55.13	0.24	22.5	12	113	147.79	6.05	8	1.06	3
New Britain	82.90	0.29	64.8	33	22	151.90	1.09	4	0.76	3
New Canaan	8.88	0.03	0.8	0	239	173.71	9.21	20	10.04	20
New Fairfield	28.70	0.09	4	0	84	116.85	5.54	13	6.52	15
New Hartford	43.16	0.25	4.6	0	0	127.08	13.74	19	14.8	20
New Haven	81.91	0.24	57.9	75	154	165.26	2.06	7	1.59	6
New London	80.59	0.27	67.3	33	168	144.73	12.64	20	0.04	0
New Milford	40.79	0.13	6.9	14	143	141.00	15.24	24	1.6	4
Newington	40.10	0.15	9.1	0	126	145.80	4.51	9	8.17	14
Newtown	11.48	0.04	2.3	7	113	131.70	11.43	15	12.41	17
Norfolk	14.93	0.13	0	0	0	167.07	18.18	27	7.84	12
North Branford	51.57	0.21	8.6	0	169	150.38	13.56	23	4.65	11
North Canaan	33.72	0.03	0	0	0	86.87	13.38	30	21.69	41
North Haven	25.53	0.09	8.8	0	108	159.67	7.04	14	7.68	12
North										
Stonington	18.64	0.35	11.4	0	0	123.48	15.04	31	5.73	13
Norwalk	44.16	0.31	20.7	42	96	142.80	9.81	14	0.37	1
Norwich	70.41	0.24	41.5	50	0	130.01	2.18	6	2.18	6
Old Lyme	13.25	0.09	3	0	199	123.76	21.36	24	14.87	17
Old Saybrook	19.96	0.18	7.4	0	158	120.79	25.86	28	6.03	10

**Table C2. Continued.**

Orange	17.47	0.02	2.3	0	263	142.58	8.1	18	10.91	18
Oxford	24.27	0.23	5.7	0	40	135.08	14.07	21	9.12	16
Plainfield	61.89	0.25	23.9	0	81	129.76	17.15	38	0.01	0
Plainville	49.66	0.19	11.7	0	147	157.34	4.29	7	1.25	4
Plymouth	63.62	0.30	15.3	0	74	141.33	9.64	13	0.52	2
Pomfret	31.85	0.17	0	54	0	155.23	21.86	45	2.87	6
Portland	38.32	0.15	7.3	0	156	145.13	2.52	5	1.78	5
Preston	35.26	0.15	10.9	28	38	179.25	8.01	17	8.01	17
Prospect	56.18	0.45	9.1	0	40	142.38	6.61	16	0.27	1
Putnam	79.58	0.32	31.6	56	145	140.90	30.06	50	0.75	2
Redding	9.93	0.00	2.1	0	6	0.00	10.04	22	9.06	20
Ridgefield	9.40	0.02	0.7	0	180	68.01	10.11	18	9.14	19
Rocky Hill	33.13	0.12	5.3	0	59	151.18	12.79	18	0.1	1
Roxbury	3.61	0.02	3.8	0	187	130.59	19.93	32	8.22	17
Salem	65.00	0.33	0	0	0	123.82	11.34	23	11.34	23
Salisbury	6.73	0.04	0	0	0	162.36	31.88	51	26.18	50
Scotland	12.33	0.08	0	0	0	86.43	7.23	17	8.14	19
Seymour	60.21	0.24	12.1	18	137	138.87	10.57	27	6.81	9
Sharon	5.29	0.06	0	0	0	123.96	26.46	50	1.27	3
Shelton	39.57	0.20	9.2	17	84	149.96	10.93	16	0.12	1
Sherman	11.86	0.02	0	0	0	101.73	14.76	30	7.78	17
Simsbury	14.60	0.04	2.8	0	99	193.34	15.37	26	7.77	18
Somers	15.14	0.09	1.6	0	93	142.83	15.33	37	8.58	20
South Windsor	26.54	0.19	5.3	0	163	146.17	5.94	9	4.82	10
Southbury	8.88	0.02	1.3	0	147	156.97	11.94	14	2.12	4
Southington	42.42	0.20	5.8	0	109	129.93	9.04	14	1.13	3
Sprague	64.74	0.25	0	34	0	157.94	11.62	23	12.97	22
Stafford	38.39	0.23	22.4	39	6	132.46	21.85	36	2.78	6
Stamford	31.37	0.34	32.9	27	0	146.21	0.91	3	0.39	1
Sterling	46.49	0.42	0	0	0	142.42	22.52	50	7.87	15
Stonington	42.78	0.07	11.5	39	147	132.02	25.91	37	5.17	12
Stratford	45.81	0.23	27.7	0	150	162.18	6.47	10	1.24	4
Suffield	20.47	0.07	3.6	9	85	155.75	13.88	21	18.23	27
Thomaston	38.26	0.22	9.2	0	202	148.04	9.21	12	0.09	0
Thompson	49.69	0.21	15	50	0	120.05	34.31	53	6.13	11
Tolland	14.48	0.15	3	0	136	123.98	11.21	21	5.87	10
Torrington	61.21	0.29	24.7	10	87	133.49	2.86	6	0.48	1
Trumbull	22.41	0.07	3	0	142	190.13	4.98	10	10.01	17
Union	8.33	0.00	0	0	0	0.00	24.72	35	16.61	35
Vernon	63.25	0.33	19.3	21	56	136.40	2.67	9	6.12	12
Voluntown	39.34	0.21	0	0	0	117.45	15.26	29	15.26	29
Wallingford	37.03	0.22	10.9	0	136	126.87	20.62	24	1.57	5
Warren	14.29	0.14	7.6	0	133	193.44	22.47	40	18.02	36
Washington	14.78	0.07	3.8	0	187	101.52	24.21	42	7.21	17
Waterbury	95.03	0.27	63.4	32	348	161.46	0.53	1	0.92	3
Waterford	25.48	0.11	4.1	3	128	136.17	14.77	23	2.24	7
Watertown	53.29	0.10	11.6	0	8	142.24	6.33	14	0.29	1
West Hartford	57.21	0.10	13.2	13	69	151.97	8.81	13	0.24	1
West Haven	75.15	0.31	42.6	56	104	153.79	6.12	15	0.3	1
Westbrook	32.62	0.15	6.6	1	267	145.65	30.39	30	0.39	1
Weston	3.16	0.01	0.7	0	360	330.50	17.12	26	7.11	19
Westport	14.92	0.02	3	0	224	99.00	13.49	19	4	8
Wethersfield	37.73	0.09	9	20	155	138.44	8.04	11	4.57	9
Willington	5.33	0.04	5.1	0	0	127.53	14.94	26	10.95	16
Wilton	4.37	0.01	0.3	0	247	280.81	19.3	28	8.8	13
Winchester	79.55	0.35	35.7	20	152	148.84	7.68	18	6.71	15

**Table C2. Continued.**

Windham	73.57	0.28	59.6	52	112	114.75	3.23	8	4.13	10
Windsor Locks	48.85	0.24	17.8	24	161	155.25	9.83	12	0.16	1
Windsor	63.70	0.35	20.7	24	83	154.69	3.82	8	0.14	0
Wolcott	38.78	0.13	11.1	0	82	165.58	6.43	16	0.97	3
Woodbridge	21.08	0.03	1	0	263	152.11	5.51	15	7.11	19
Woodbury	7.77	0.04	2.8	0	182	147.82	12.08	24	0.24	1
Woodstock	18.95	0.09	5	0	10	122.21	24.03	53	5.09	12

**Table C3 Indicators of Private Food Assistance Resources**

<b>Town</b>	<b>No. food pantries per person in poverty</b>	<b>No. soup kitchen per person in poverty</b>	<b>Table C3. Continued</b>		
			East Lyme	0.00222	0.00000
			East Windsor	0.00256	0.00000
Andover	0.00000	0.00000	Eastford	0.00000	0.00000
Ansonia	0.00143	0.00072	Easton	0.00000	0.00000
Ashford	0.00830	0.00000	Ellington	0.00214	0.00000
Avon	0.00760	0.00000	Enfield	0.00061	0.00121
Barkhamsted	0.00943	0.00000	Essex	0.00000	0.01667
Beacon Falls	0.00324	0.00000	Fairfield	0.00066	0.00066
Berlin	0.00222	0.00000	Farmington	0.00095	0.00000
Bethany	0.00775	0.00000	Franklin	0.00000	0.00000
Bethel	0.00445	0.00000	Glastonbury	0.00152	0.00000
Bethlehem	0.01124	0.00000	Goshen	0.00000	0.00000
Bloomfield	0.00345	0.00000	Granby	0.00315	0.00000
Bolton	0.00763	0.00000	Greenwich	0.00041	0.00000
Bozrah	0.02353	0.00000	Griswold	0.00178	0.00000
Branford	0.00085	0.00085	Groton	0.00088	0.00088
Bridgeport	0.00088	0.00064	Guilford	0.00310	0.00000
Bridgewater	0.00000	0.00000	Haddam	0.00402	0.00000
Bristol	0.00128	0.00077	Hamden	0.00048	0.00024
Brookfield	0.00283	0.00000	Hampton	0.00000	0.00000
Brooklyn	0.00000	0.00000	Hartford	0.00118	0.00034
Burlington	0.01075	0.00000	Hartland	0.02381	0.00000
Canaan	0.00000	0.00000	Harwinton	0.00000	0.00000
Canterbury	0.00476	0.00000	Hebron	0.00820	0.00000
Canton	0.00420	0.00000	Kent	0.00000	0.00000
Chaplin	0.01563	0.00000	Killingly	0.00143	0.00071
Cheshire	0.00267	0.00000	Killingworth	0.00000	0.00000
Chester	0.02083	0.02083	Lebanon	0.00637	0.00000
Clinton	0.00364	0.00182	Ledyard	0.00338	0.00000
Colchester	0.00261	0.00000	Lisbon	0.00000	0.00000
Colebrook	0.00000	0.00000	Litchfield	0.00304	0.00000
Columbia	0.00000	0.00000	Lyme	0.00000	0.00000
Cornwall	0.02326	0.00000	Madison	0.00437	0.00000
Coventry	0.00236	0.00000	Manchester	0.00047	0.00047
Cromwell	0.00239	0.00000	Mansfield	0.00055	0.00000
Danbury	0.00053	0.00018	Marlborough	0.00820	0.00000
Darien	0.00256	0.00000	Meriden	0.00079	0.00048
Deep River	0.00427	0.00427	Middlebury	0.00575	0.00000
Derby	0.00197	0.00000	Middlefield	0.01538	0.00000
Durham	0.00901	0.00000	Middletown	0.00191	0.00032
East Granby	0.01449	0.00000	Milford	0.00207	0.00052
East Haddam	0.00418	0.00000	Monroe	0.00196	0.00000
East Hampton	0.00248	0.00000	Montville	0.00431	0.00000
East Hartford	0.00040	0.00040	Morris	0.00690	0.00000
East Haven	0.00069	0.00000	Naugatuck	0.00051	0.00000

**Table C3. Continued**

New Britain	0.00035	0.00018
New Canaan	0.00207	0.00000
New Fairfield	0.00435	0.00000
New Hartford	0.01053	0.00000
New Haven	0.00134	0.00036
New London	0.00220	0.00027
New Milford	0.00112	0.00112
Newington	0.00100	0.00000
Newtown	0.00264	0.00000
Norfolk	0.00000	0.01493
North Branford	0.00448	0.00000
North Canaan	0.00535	0.00000
North Haven	0.00250	0.00125
North Stonington	0.00000	0.00000
Norwalk	0.00101	0.00000
Norwich	0.00098	0.00074
Old Lyme	0.00803	0.00402
Old Saybrook	0.00215	0.00215
Orange	0.00301	0.00000
Oxford	0.00000	0.00000
Plainfield	0.00100	0.00199
Plainville	0.00114	0.00000
Plymouth	0.00213	0.00000
Pomfret	0.00000	0.00000
Portland	0.00454	0.00000
Preston	0.00641	0.00000
Prospect	0.01124	0.00000
Putnam	0.00298	0.00149
Redding	0.00662	0.00000
Ridgefield	0.00181	0.00000
Rocky Hill	0.00203	0.00000
Roxbury	0.00000	0.00000
Salem	0.02500	0.00000
Salisbury	0.00337	0.00000
Scotland	0.00000	0.00000
Seymour	0.00175	0.00000
Sharon	0.00962	0.00000
Shelton	0.00083	0.00000
Sherman	0.00000	0.00000
Simsbury	0.00200	0.00000
Somers	0.00811	0.00000

**Table C3. Continued**

South Windsor	0.00229	0.00000
Southbury	0.00114	0.00000
Southington	0.00078	0.00078
Sprague	0.00000	0.00000
Stafford	0.00165	0.00000
Stamford	0.00065	0.00011
Sterling	0.00000	0.00000
Stonington	0.00113	0.00000
Stratford	0.00202	0.00000
Suffield	0.00233	0.00000
Thomaston	0.00322	0.00000
Thompson	0.00418	0.00209
Tolland	0.00345	0.00000
Torrington	0.00118	0.00079
Trumbull	0.00131	0.00000
Union	0.00000	0.00000
Vernon	0.00122	0.00061
Voluntown	0.00820	0.00000
Wallingford	0.00065	0.00065
Warren	0.00000	0.00000
Washington	0.00000	0.00000
Waterbury	0.00066	0.00012
Waterford	0.00507	0.00000
Watertown	0.00425	0.00000
West Hartford	0.00075	0.00000
West Haven	0.00112	0.00022
Westbrook	0.00308	0.00308
Weston	0.00526	0.00000
Westport	0.00304	0.00152
Wethersfield	0.00087	0.00000
Willington	0.00127	0.00000
Wilton	0.00199	0.00000
Winchester	0.00000	0.00141
Windham	0.00111	0.00055
Windsor Locks	0.00192	0.00000
Windsor	0.00396	0.00000
Wolcott	0.00000	0.00000
Woodbridge	0.00490	0.00000
Woodbury	0.00000	0.00000
Woodstock	0.00000	0.00000

**Table C4. Indicators of Food Retail Resources**

Town	Square footage super- markets per capita	Number farmer markets per capita	Share convenience stores in grocery stores				
				Fairfield	2.49	0.000017	0.00
				Farmington	2.24	0.000042	0.50
				Franklin	0.00	0.000000	0.00
				Glastonbury	4.64	0.000000	0.60
				Goshen	1.85	0.000000	0.00
				Granby	6.19	0.000000	0.00
				Greenwich	1.78	0.000016	0.27
				Griswold	0.00	0.000000	0.00
				Groton	1.45	0.000025	0.78
				Guilford	3.27	0.000000	0.25
				Haddam	0.70	0.000000	1.00
				Hamden	3.87	0.000000	0.20
				Hampton	0.00	0.000000	0.00
				Hartford	1.37	0.000041	0.40
				Hartland	0.00	0.000000	0.00
				Harwinton	0.00	0.000000	1.00
				Hebron	2.09	0.000000	0.00
				Kent	2.80	0.000350	0.00
				Killingly	2.67	0.000061	0.00
				Killingworth	0.00	0.000000	1.00
				Lebanon	0.00	0.000000	1.00
				Ledyard	0.95	0.000000	0.00
				Lisbon	0.00	0.000000	0.00
				Litchfield	2.65	0.000000	0.00
				Lyme	0.00	0.000000	0.00
				Madison	2.41	0.000000	0.80
				Manchester	4.13	0.000018	0.80
				Mansfield	3.62	0.000048	0.00
				Marlborough	1.58	0.000000	1.00
				Meriden	2.44	0.000017	0.67
				Middlebury	1.40	0.000000	0.50
				Middlefield	0.00	0.000000	0.00
				Middletown	2.13	0.000023	0.82
				Milford	3.48	0.000000	0.40
				Monroe	2.18	0.000000	0.00
				Montville	1.35	0.000000	0.00
				Morris	0.00	0.000000	0.00
				Naugatuck	4.55	0.000032	0.63
				New Britain	1.69	0.000028	0.75
				New Canaan	2.42	0.000052	0.25
				New Fairfield	0.50	0.000000	0.00
				New Hartford	3.45	0.000000	0.25
				New Haven	1.65	0.000008	0.43
				New London	2.77	0.000039	0.78
				New Milford	4.13	0.000037	0.20
				Newington	4.71	0.000000	0.67
				Newtown	3.48	0.000000	0.67
				Norfolk	0.00	0.000000	0.00
				North Branford	0.86	0.000000	0.20
				North Canaan	0.00	0.000000	1.00
				North Haven	2.04	0.000000	0.40
				North Stonington	0.00	0.000000	0.50
				Norwalk	3.13	0.000012	0.57
				Norwich	6.42	0.000028	0.44
Andover	1.98	0.000000	1.00				
Ansonia	5.17	0.000000	0.80				
Ashford	0.00	0.000000	1.00				
Avon	3.73	0.000000	0.00				
Barkhamsted	0.00	0.000000	0.00				
Beacon Falls	0.00	0.000000	1.00				
Berlin	2.91	0.000000	0.75				
Bethany	0.00	0.000000	0.00				
Bethel	1.27	0.000055	0.50				
Bethlehem	0.00	0.000000	0.00				
Bloomfield	4.14	0.000051	0.33				
Bolton	0.00	0.000000	0.00				
Bozrah	0.00	0.000000	0.00				
Branford	3.70	0.000000	0.25				
Bridgeport	1.56	0.000014	0.54				
Bridgewater	0.00	0.000000	0.50				
Bristol	4.63	0.000017	0.73				
Brookfield	3.77	0.000000	0.25				
Brooklyn	0.00	0.000000	0.00				
Burlington	0.00	0.000000	0.00				
Canaan	16.65	0.000000	1.00				
Canterbury	2.13	0.000000	0.00				
Canton	1.36	0.000000	0.00				
Chaplin	0.00	0.000000	0.00				
Cheshire	1.75	0.000000	0.25				
Chester	0.00	0.000000	0.00				
Clinton	6.34	0.000076	1.00				
Colchester	3.37	0.000000	0.75				
Colebrook	0.00	0.000000	0.00				
Columbia	0.00	0.000000	1.00				
Cornwall	0.00	0.000000	0.00				
Coventry	1.39	0.000087	0.60				
Cromwell	3.19	0.000000	0.50				
Danbury	4.52	0.000013	0.40				
Darien	3.77	0.000051	0.20				
Deep River	2.39	0.000217	0.67				
Derby	5.49	0.000000	1.00				
Durham	0.00	0.000000	0.00				
East Granby	0.00	0.000000	0.00				
East Haddam	0.00	0.000000	1.00				
East Hampton	1.57	0.000000	1.00				
East Hartford	1.90	0.000020	0.82				
East Haven	0.60	0.000000	0.43				
East Lyme	2.04	0.000000	0.50				
East Windsor	7.64	0.000000	0.00				
Eastford	0.00	0.000000	0.00				
Easton	0.00	0.000000	0.00				
Ellington	1.01	0.000000	0.67				
Enfield	2.85	0.000000	0.75				
Essex	2.15	0.000154	0.33				

**Table C4. Continued**

Old Lyme	4.86	0.000000	1.00
Old Saybrook	5.98	0.000096	0.33
Orange	4.38	0.000000	0.50
Oxford	0.00	0.000000	0.00
Plainfield	4.10	0.000068	0.17
Plainville	3.52	0.000000	1.00
Plymouth	1.12	0.000000	1.00
Pomfret	0.00	0.000000	0.00
Portland	3.21	0.000000	0.67
Preston	0.00	0.000000	0.00
Prospect	1.84	0.000000	0.50
Putnam	10.78	0.000111	0.00
Redding	0.97	0.000000	0.00
Ridgefield	1.95	0.000000	0.00
Rocky Hill	4.29	0.000056	0.67
Roxbury	0.00	0.000000	0.00
Salem	0.00	0.000000	0.00
Salisbury	3.52	0.000000	0.00
Scotland	0.00	0.000000	0.00
Seymour	2.98	0.000065	0.75
Sharon	6.06	0.000000	0.50
Shelton	2.94	0.000026	0.44
Sherman	1.83	0.000000	0.00
Simsbury	3.57	0.000000	1.00
Somers	0.00	0.000000	1.00
South Windsor	1.72	0.000041	0.60
Southbury	2.85	0.000000	0.40
Southington	4.76	0.000000	0.67
Sprague	0.00	0.000000	1.00
Stafford	4.60	0.000088	1.00
Stamford	1.67	0.000009	0.55
Sterling	0.00	0.000000	0.00
Stonington	5.98	0.000056	1.00

**Table C4. Continued**

Stratford	2.04	0.000020	0.38
Suffield	0.66	0.000074	1.00
Thomaston	1.60	0.000133	0.67
Thompson	0.00	0.000000	0.67
Tolland	0.68	0.000076	0.75
Torrington	5.28	0.000028	0.47
Trumbull	2.10	0.000029	0.00
Union	0.00	0.000000	0.00
Vernon	3.78	0.000000	0.69
Voluntown	2.37	0.000000	0.00
Wallingford	3.14	0.000046	0.60
Warren	0.00	0.000000	0.00
Washington	3.34	0.000000	0.00
Waterbury	3.12	0.000019	0.71
Waterford	8.77	0.000000	1.00
Watertown	4.39	0.000000	0.00
West Hartford	3.08	0.000016	0.75
West Haven	1.22	0.000019	0.31
Westbrook	0.00	0.000000	1.00
Weston	0.40	0.000100	0.00
Westport	5.01	0.000000	0.40
Wethersfield	4.26	0.000000	0.50
Willington	1.51	0.000000	0.00
Wilton	3.35	0.000000	0.50
Winchester	4.31	0.000000	0.00
Windham	5.78	0.000044	1.00
Windsor Locks	0.00	0.000000	1.00
Windsor	2.97	0.000071	0.63
Wolcott	1.18	0.000000	0.67
Woodbridge	0.00	0.000000	0.00
Woodbury	2.28	0.000000	0.50
Woodstock	0.00	0.000000	0.00



**Table C5. Indicators of Transportation Accessibility**

<b>Town</b>	<b>% Household without car</b>	<b>Number public operators per capita</b>	<b>Average fare</b>	<b>Average passenger trips per household without car</b>
Andover	0.03	0.000000	0.00	0.00
Ansonia	0.11	0.000162	1.74	10916.55
Ashford	0.03	0.000244	0.74	2336.74
Avon	0.03	0.000063	0.26	80605.23
Barkhamsted	0.02	0.000286	0.50	4217.37
Beacon Falls	0.03	0.000000	0.00	0.00
Berlin	0.03	0.000000	0.00	0.00
Bethany	0.04	0.000000	0.00	0.00
Bethel	0.04	0.000055	0.93	1922.34
Bethlehem	0.03	0.000000	0.00	0.00
Bloomfield	0.09	0.000102	0.85	20502.86
Bolton	0.02	0.000199	0.26	444550.03
Bozrah	0.02	0.000000	0.00	0.00
Branford	0.06	0.000070	1.62	12342.33
Bridgeport	0.24	0.000014	1.67	162.97
Bridgewater	0.02	0.000000	0.00	0.00
Bristol	0.07	0.000017	0.25	40.47
Brookfield	0.01	0.000064	0.93	7531.36
Brooklyn	0.08	0.000139	0.27	101.08
Burlington	0.01	0.000000	0.00	0.00
Canaan	0.01	0.000925	0.50	18978.17
Canterbury	0.04	0.000000	0.00	0.00
Canton	0.04	0.000113	0.26	116429.77
Chaplin	0.03	0.000444	0.74	4506.57
Cheshire	0.04	0.000070	1.62	23832.38
Chester	0.04	0.000267	0.76	414.21
Clinton	0.03	0.000076	0.76	176.37
Colchester	0.03	0.000069	0.26	87322.33
Colebrook	0.02	0.000000	0.00	0.00
Columbia	0.02	0.000201	0.74	3154.60
Cornwall	0.03	0.000697	0.50	5993.11
Coventry	0.03	0.000087	0.74	888.62
Cromwell	0.04	0.000233	0.91	24619.27
Danbury	0.08	0.000013	0.93	260.32
Darien	0.03	0.000051	0.27	18158.34
Deep River	0.05	0.000217	0.76	276.14
Derby	0.12	0.000323	1.66	18798.86
Durham	0.01	0.000151	0.96	6651.92
East Granby	0.01	0.000211	0.26	978010.07
East Haddam	0.04	0.000000	0.00	0.00
East Hampton	0.03	0.000075	0.96	1281.11
East Hartford	0.15	0.000040	0.85	5125.71
East Haven	0.09	0.000071	1.62	9586.89
East Lyme	0.04	0.000055	1.18	4315.84
East Windsor	0.05	0.000204	0.85	79529.51

**Table C5. Continued.**

Eastford	0.04	0.000000	0.00	0.00
Easton	0.01	0.000000	0.00	0.00
Ellington	0.03	0.000077	0.58	2685.71
Enfield	0.05	0.000044	0.85	18563.40
Essex	0.07	0.000154	0.76	146.19
Fairfield	0.04	0.000017	1.67	4849.86
Farmington	0.06	0.000085	0.85	27624.51
Franklin	0.04	0.000000	0.00	0.00
Glastonbury	0.04	0.000063	0.85	27776.85
Goshen	0.04	0.000000	0.00	0.00
Granby	0.03	0.000193	0.85	136131.59
Greenwich	0.05	0.000033	1.36	2857.80
Griswold	0.04	0.000093	1.18	5541.93
Groton	0.08	0.000025	1.18	821.03
Guilford	0.05	0.000093	1.62	24457.90
Haddam	0.04	0.000000	0.00	0.00
Hamden	0.09	0.000035	1.62	4786.06
Hampton	0.02	0.000569	0.74	9706.46
Hartford	0.36	0.000025	0.89	482.83
Hartland	0.01	0.000000	0.00	0.00
Harwinton	0.02	0.000189	0.50	2372.27
Hebron	0.01	0.000000	0.00	0.00
Kent	0.03	0.000350	0.50	3077.54
Killingly	0.08	0.000061	0.27	41.53
Killingworth	0.03	0.000166	0.76	455.63
Lebanon	0.03	0.000145	0.74	1538.83
Ledyard	0.02	0.000068	1.18	7445.65
Lisbon	0.02	0.000000	0.00	0.00
Litchfield	0.04	0.000120	0.50	796.29
Lyme	0.01	0.000496	0.76	3037.56
Madison	0.02	0.000112	1.62	61305.65
Manchester	0.08	0.000037	0.85	7940.41
Mansfield	0.05	0.000048	0.74	481.62
Marlborough	0.03	0.000175	0.26	252933.64
Meriden	0.12	0.000052	0.96	919.95
Middlebury	0.03	0.000155	0.32	20589.49
Middlefield	0.05	0.000476	0.92	4924.97
Middletown	0.10	0.000069	0.90	4007.23
Milford	0.06	0.000076	3.10	2351.37
Monroe	0.01	0.000052	1.67	60207.56
Montville	0.03	0.000054	1.18	4689.33
Morris	0.02	0.000435	0.50	5175.86
Naugatuck	0.06	0.000032	0.32	1652.58
New Britain	0.16	0.000056	0.90	1194.17
New Canaan	0.02	0.000000	0.00	0.00
New Fairfield	0.02	0.000072	0.93	6704.74
New Hartford	0.01	0.000164	0.50	3673.19
New Haven	0.30	0.000016	1.62	665.37
New London	0.19	0.000039	1.18	497.39

**Table C5. Continued.**

New Milford	0.04	0.000037	0.93	1470.02
Newington	0.04	0.000068	0.85	28191.43
Newtown	0.02	0.000040	0.93	3272.55
Norfolk	0.03	0.000000	0.00	0.00
North Branford	0.05	0.000144	1.62	38826.91
North Canaan	0.12	0.000000	0.00	0.00
North Haven	0.04	0.000087	1.62	28067.65
North Stonington	0.01	0.000000	0.00	0.00
Norwalk	0.09	0.000024	2.05	863.79
Norwich	0.13	0.000028	1.18	505.38
Old Lyme	0.03	0.000135	0.76	284.77
Old Saybrook	0.04	0.000096	0.76	156.22
Orange	0.03	0.000151	1.62	69025.62
Oxford	0.01	0.000204	1.62	202575.20
Plainfield	0.06	0.000000	0.00	0.00
Plainville	0.06	0.000000	0.00	0.00
Plymouth	0.04	0.000000	0.00	0.00
Pomfret	0.04	0.000263	0.27	375.96
Portland	0.06	0.000115	0.96	811.97
Preston	0.04	0.000000	0.00	0.00
Prospect	0.04	0.000000	0.00	0.00
Putnam	0.13	0.000111	0.27	45.21
Redding	0.02	0.000121	0.93	8867.56
Ridgefield	0.03	0.000042	0.93	2271.86
Rocky Hill	0.04	0.000111	0.85	50201.35
Roxbury	0.01	0.000000	0.00	0.00
Salem	0.03	0.000000	0.00	0.00
Salisbury	0.03	0.000000	0.00	0.00
Scotland	0.01	0.000643	0.74	15773.00
Seymour	0.08	0.000194	1.65	19719.55
Sharon	0.01	0.000337	0.50	8759.15
Shelton	0.04	0.000079	1.72	7813.51
Sherman	0.03	0.000000	0.00	0.00
Simsbury	0.03	0.000086	0.85	57895.05
Somers	0.03	0.000000	0.00	0.00
South Windsor	0.02	0.000082	0.85	74071.60
Southbury	0.06	0.000000	0.00	0.00
Southington	0.04	0.000000	0.00	0.00
Sprague	0.05	0.000000	0.00	0.00
Stafford	0.06	0.000000	0.00	0.00
Stamford	0.10	0.000009	0.27	736.20
Sterling	0.03	0.000000	0.00	0.00
Stonington	0.05	0.000056	1.18	2664.97
Stratford	0.07	0.000040	1.99	1313.01
Suffield	0.05	0.000000	0.00	0.00
Thomaston	0.05	0.000000	0.00	0.00
Thompson	0.05	0.000113	0.27	128.32
Tolland	0.02	0.000000	0.00	0.00
Torrington	0.10	0.000028	0.50	75.11

**Table C5. Continued.**

Trumbull	0.04	0.000029	1.67	10106.78
Union	0.02	0.000000	0.00	0.00
Vernon	0.08	0.000071	0.85	16007.00
Voluntown	0.02	0.000000	0.00	0.00
Wallingford	0.06	0.000070	1.57	4943.13
Warren	0.03	0.000000	0.00	0.00
Washington	0.02	0.000000	0.00	0.00
Waterbury	0.19	0.000028	1.66	644.34
Waterford	0.04	0.000052	1.18	3219.08
Watertown	0.04	0.000046	0.32	3498.49
West Hartford	0.09	0.000031	0.85	6899.82
West Haven	0.13	0.000038	1.62	3371.37
Westbrook	0.06	0.000159	0.76	166.70
Weston	0.01	0.000000	0.00	0.00
Westport	0.03	0.000039	1.42	3121.06
Wethersfield	0.07	0.000076	0.85	18655.07
Willington	0.03	0.000168	0.74	1705.19
Wilton	0.02	0.000057	1.42	8368.56
Winchester	0.10	0.000094	0.50	257.04
Windham	0.15	0.000044	0.74	100.63
Windsor Locks	0.05	0.000166	0.85	56382.86
Windsor	0.06	0.000071	0.85	24812.16
Wolcott	0.05	0.000066	0.32	4983.96
Woodbridge	0.03	0.000000	0.00	0.00
Woodbury	0.03	0.000000	0.00	0.00
Woodstock	0.02	0.000000	0.00	0.00

**Table C6. Indicators of Income and Poverty**

<b>Town</b>	<b>Grand list per capita</b>	<b>Median household income</b>	<b>Income per capita</b>	<b>Monthly gross rent</b>	<b>Monthly median owner cost</b>	<b>Child poverty rate</b>	<b>Overall poverty rate</b>	<b>Unemployment rate</b>	<b>Mill rate</b>	<b>% Renters occupied units</b>
Andover	44691.41	67452	30273	544	1409	0.03	0.02	0.02	30.30	0.13
Ansonia	31520.81	43026	20504	691	1258	0.12	0.08	0.05	32.40	0.44
Ashford	38409.91	55000	26104	657	1206	0.06	0.06	0.02	33.00	0.27
Avon	97682.80	90934	51706	955	1722	0.01	0.02	0.01	25.90	0.14
Barkhamsted	68267.16	65972	28961	695	1385	0.04	0.03	0.02	27.50	0.14
Beacon Falls	42240.92	56592	25285	866	1298	0.10	0.06	0.03	32.00	0.22
Berlin	63012.27	68068	27744	708	1416	0.01	0.02	0.03	31.40	0.12
Bethany	63930.96	74898	31403	792	1575	0.04	0.03	0.02	30.60	0.08
Bethel	59742.80	68891	28927	877	1548	0.01	0.02	0.03	29.99	0.23
Bethlehem	71975.46	68542	29672	983	1512	0.00	0.03	0.02	24.79	0.15
Bloomfield	73153.96	53812	28843	830	1290	0.10	0.07	0.05	36.79	0.25
Bolton	57850.61	67394	29205	674	1459	0.01	0.03	0.02	33.10	0.15
Bozrah	53656.86	57059	26569	639	1157	0.05	0.04	0.03	23.00	0.18
Branford	68868.87	58009	32301	833	1441	0.04	0.04	0.03	27.92	0.31
Bridgeport	17907.04	34658	16306	671	1266	0.24	0.18	0.11	65.00	0.57
Bridgewater	104609.64	80420	42505	733	1645	0.05	0.04	0.05	24.50	0.10
Bristol	37495.81	47422	23362	594	1217	0.08	0.07	0.05	30.50	0.38
Brookfield	69133.76	82706	37063	945	1628	0.02	0.02	0.03	29.40	0.11
Brooklyn	39287.62	49756	20359	513	1143	0.06	0.05	0.04	22.97	0.26
Burlington	69947.82	82711	36173	814	1593	0.01	0.01	0.02	29.00	0.05
Canaan	80074.53	54688	35841	570	1183	0.05	0.05	0.01	31.25	0.20
Canterbury	42165.99	55547	22317	522	1114	0.04	0.04	0.04	25.77	0.14
Canton	73672.59	65013	33151	694	1497	0.03	0.03	0.03	31.24	0.19
Chaplin	55598.57	51602	22101	624	1063	0.01	0.03	0.05	31.00	0.21
Cheshire	59261.69	80466	33903	798	1599	0.02	0.03	0.02	31.00	0.13
Chester	80556.22	65156	32191	816	1516	0.00	0.01	0.03	24.83	0.26
Clinton	57799.06	60471	26080	771	1400	0.05	0.04	0.03	26.09	0.20
Colchester	43494.76	64807	27038	689	1389	0.02	0.03	0.03	28.46	0.23
Colebrook	80275.57	58684	29789	900	1246	0.00	0.03	0.04	33.17	0.14
Columbia	54529.80	70208	29446	782	1339	0.06	0.04	0.03	25.80	0.08
Cornwall	125748.76	54886	42484	625	1258	0.03	0.03	0.02	20.75	0.20
Coventry	44032.81	64680	27143	713	1217	0.03	0.04	0.04	27.90	0.14
Cromwell	52802.49	60662	29786	797	1306	0.04	0.03	0.03	29.49	0.24
Danbury	62351.25	53664	24500	818	1489	0.09	0.08	0.04	24.30	0.42
Darien	147981.32	146755	77519	1281	2525	0.02	0.02	0.02	14.02	0.12
Deep River	55348.26	51677	32604	769	1320	0.05	0.05	0.04	29.35	0.25
Derby	37103.34	45670	23117	691	1327	0.10	0.08	0.04	31.30	0.42
Durham	57255.01	77639	29306	713	1546	0.00	0.02	0.02	29.70	0.09
East Granby	80137.19	68696	30805	717	1448	0.01	0.01	0.04	27.70	0.18
East Haddam	51064.69	62304	28112	677	1359	0.01	0.03	0.05	29.93	0.16
East Hampton	45316.50	66326	22769	721	1325	0.03	0.03	0.16	26.39	0.19
East Hartford	38946.09	41424	21763	621	1152	0.15	0.10	0.05	38.41	0.42
East Haven	35767.62	47930	22396	722	1258	0.05	0.05	0.04	33.90	0.27
East Lyme	48446.54	66539	28765	722	1336	0.03	0.02	0.03	30.30	0.21
East Windsor	53524.69	51092	24899	703	1231	0.03	0.04	0.05	28.27	0.35
Eastford	40252.86	57159	25364	667	1212	0.10	0.06	0.05	35.30	0.20
Easton	98931.05	125557	53885	1828	2057	0.02	0.02	0.02	28.20	0.06
Ellington	45392.08	62405	27766	712	1345	0.04	0.04	0.03	29.10	0.31
Enfield	39578.60	52810	21967	719	1203	0.03	0.04	0.04	32.60	0.24
Essex	99359.45	66746	42806	739	1532	0.01	0.03	0.03	16.75	0.21
Fairfield	76978.98	83512	43670	1072	1813	0.03	0.03	0.07	29.20	0.17
Farmington	79674.58	67073	39102	860	1533	0.03	0.04	0.04	25.00	0.25
Franklin	73393.80	62083	25477	692	1192	0.02	0.02	0.02	27.30	0.10

**Table C6. Continued.**

Glastonbury	61290.34	80660	40820	775	1611	0.02	0.02	0.03	34.60	0.18
Goshen	79503.09	64432	33925	745	1418	0.04	0.03	0.02	24.80	0.12
Granby	50930.39	81151	33863	815	1497	0.03	0.03	0.03	35.74	0.11
Greenwich	165765.97	99086	74346	1322	2553	0.04	0.04	0.03	18.70	0.31
Griswold	10271.98	50156	21196	588	1109	0.06	0.05	0.04	25.75	0.29
Groton	44981.86	46154	23995	687	1225	0.08	0.06	0.04	23.50	0.49
Guilford	65142.12	76843	37161	845	1600	0.03	0.03	0.03	31.75	0.15
Haddam	73569.82	78571	30519	821	1446	0.05	0.03	0.03	34.50	0.14
Hamden	42627.02	52351	26039	794	1348	0.08	0.07	0.07	34.46	0.33
Hampton	46934.86	54464	25344	552	1120	0.01	0.03	0.03	35.00	0.12
Hartford	47272.90	24820	13428	560	1052	0.40	0.29	0.16	48.00	0.75
Hartland	57642.18	64674	26473	688	1265	0.01	0.02	0.04	26.25	0.08
Harwinton	57008.88	66222	32137	733	1367	0.00	0.02	0.05	29.50	0.07
Hebron	45181.72	75138	30797	713	1445	0.00	0.01	0.02	32.24	0.11
Kent	99051.18	53906	38674	803	1430	0.00	0.03	0.03	19.95	0.27
Killingly	33462.48	41087	19779	544	976	0.07	0.09	0.06	21.00	0.35
Killingworth	56091.83	80805	31929	1273	1596	0.00	0.01	0.03	29.30	0.04
Lebanon	51873.23	61173	25784	678	1276	0.02	0.02	0.02	25.30	0.12
Ledyard	39731.74	62647	24953	789	1294	0.04	0.04	0.04	34.78	0.18
Lisbon	38306.28	55149	22476	658	1088	0.02	0.03	0.04	18.00	0.11
Litchfield	85675.19	58418	30096	613	1459	0.02	0.04	0.02	24.86	0.22
Lyme	145188.01	73250	43347	725	1514	0.00	0.01	0.04	16.75	0.14
Madison	78237.52	87497	40537	872	1682	0.01	0.01	0.02	26.26	0.12
Manchester	57302.97	49426	25989	754	1234	0.11	0.08	0.04	31.13	0.44
Mansfield	24417.64	48888	18094	626	1228	0.07	0.09	0.09	26.35	0.38
Marlborough	49672.27	80265	35605	634	1430	0.00	0.02	0.02	32.50	0.10
Meriden	32389.79	43237	20597	618	1181	0.17	0.11	0.05	40.40	0.40
Middlebury	73033.35	70469	33056	668	1526	0.03	0.03	0.03	33.21	0.11
Middlefield	53707.48	59448	25711	696	1433	0.01	0.02	0.01	31.28	0.16
Middletown	43762.83	47162	25720	665	1278	0.07	0.07	0.04	30.30	0.49
Milford	58237.85	61183	28882	860	1414	0.04	0.04	0.04	26.86	0.23
Monroe	70475.39	85000	34161	937	1673	0.03	0.03	0.03	27.95	0.07
Montville	40044.86	55086	22357	678	1169	0.04	0.04	0.03	27.70	0.23
Morris	76346.23	58050	29233	656	1408	0.11	0.06	0.03	23.50	0.22
Naugatuck	19131.75	51247	22757	631	1251	0.09	0.06	0.05	32.60	0.34
New Britain	20503.01	34185	18404	574	1144	0.24	0.16	0.09	50.88	0.57
New Canaan	157999.26	141788	82049	1379	2593	0.02	0.02	0.02	20.88	0.17
New Fairfield	64087.44	84375	34928	1004	1612	0.02	0.02	0.02	25.43	0.07
New Hartford	71686.51	69321	30429	757	1545	0.00	0.02	0.03	29.80	0.14
New Haven	30336.30	29604	16393	651	1231	0.31	0.22	0.14	34.95	0.70
New London	36610.07	33809	18437	592	1154	0.22	0.14	0.07	33.00	0.62
New Milford	53626.59	65354	29630	777	1494	0.03	0.03	0.03	30.51	0.22
Newington	55628.62	57118	26881	778	1269	0.04	0.03	0.04	28.58	0.19
Newtown	65641.20	90193	37786	735	1690	0.03	0.03	0.02	31.80	0.08
Norfolk	104599.21	58906	34020	644	1165	0.04	0.04	0.03	24.84	0.26
North Branford	46926.89	64438	28542	882	1425	0.01	0.02	0.02	30.92	0.16
North Canaan	56211.77	39020	18971	594	1113	0.03	0.06	0.04	24.00	0.33
North Haven	80026.83	65703	29919	800	1394	0.02	0.03	0.02	25.89	0.13
North Stonington	61830.38	57887	25815	690	1265	0.05	0.05	0.04	27.00	0.11
Norwalk	42315.22	59839	31781	875	1653	0.09	0.07	0.05	33.96	0.38
Norwich	39864.56	39181	20742	588	1170	0.14	0.11	0.06	39.22	0.47
Old Lyme	110088.79	68386	41386	859	1487	0.05	0.03	0.02	21.50	0.16
Old Saybrook	115165.91	62742	30720	852	1389	0.02	0.04	0.06	19.77	0.16
Orange	92190.14	79365	36471	886	1640	0.01	0.03	0.03	26.00	0.07
Oxford	48633.81	77126	28250	688	1542	0.02	0.02	0.03	25.00	0.09
Plainfield	31710.87	42851	18706	595	1030	0.08	0.07	0.06	26.90	0.31
Plainville	49361.37	48136	23257	619	1205	0.04	0.05	0.05	30.38	0.31
Plymouth	37673.12	53750	23244	610	1186	0.03	0.04	0.05	36.30	0.21

**Table C6. Continued.**

Pomfret	46318.81	57937	26029	593	1323	0.03	0.04	0.03	22.34	0.27
Portland	50396.21	63285	28229	630	1378	0.05	0.05	0.04	34.28	0.22
Preston	43082.60	54942	24752	644	1156	0.01	0.03	0.03	21.75	0.17
Prospect	43677.78	67560	26827	707	1365	0.01	0.01	0.02	28.00	0.07
Putnam	41387.13	43010	20597	482	993	0.15	0.07	0.05	17.25	0.44
Redding	110648.46	104137	50687	1375	1932	0.02	0.02	0.02	27.00	0.10
Ridgefield	106018.29	107351	51795	1130	1959	0.02	0.02	0.03	25.49	0.15
Rocky Hill	72397.83	60247	29701	851	1362	0.02	0.03	0.02	26.80	0.34
Roxbury	128398.30	87794	56769	879	1638	0.04	0.04	0.02	19.54	0.13
Salem	48389.06	68750	27288	717	1344	0.01	0.01	0.02	31.75	0.14
Salisbury	124775.35	53051	38752	693	1206	0.07	0.07	0.05	14.50	0.31
Scotland	47944.28	56848	22573	706	1128	0.05	0.05	0.02	33.98	0.13
Seymour	40859.90	52408	24056	678	1400	0.05	0.04	0.04	34.50	0.29
Sharon	104436.96	53000	45418	749	1394	0.10	0.07	0.03	16.70	0.23
Shelton	61031.06	67292	29893	790	1506	0.03	0.03	0.03	25.59	0.18
Sherman	92216.44	76202	39070	1038	1580	0.02	0.03	0.02	19.90	0.09
Simsbury	61521.24	82996	39710	805	1614	0.02	0.02	0.02	36.30	0.16
Somers	40859.97	65273	23952	669	1414	0.03	0.04	0.03	25.26	0.13
South Windsor	54088.97	73990	30966	844	1490	0.01	0.02	0.03	36.01	0.11
Southbury	77856.51	61919	32545	1064	1543	0.02	0.05	0.03	24.50	0.11
Southington	50332.21	60538	26370	687	1396	0.03	0.03	0.03	28.90	0.19
Sprague	43405.94	43125	20796	622	1123	0.05	0.06	0.05	25.25	0.34
Stafford	43580.13	52699	22017	619	1172	0.08	0.05	0.03	28.59	0.25
Stamford	75191.08	60556	34987	1007	1852	0.08	0.08	0.04	25.04	0.43
Sterling	36140.61	49167	19679	521	1030	0.04	0.06	0.04	25.00	0.18
Stonington	65934.32	52437	29653	641	1373	0.05	0.05	0.03	26.21	0.29
Stratford	52621.22	53494	26501	764	1426	0.06	0.05	0.04	34.68	0.20
Suffield	57207.78	66698	28171	714	1470	0.02	0.03	0.02	27.47	0.18
Thomaston	50143.41	54297	24799	649	1218	0.06	0.04	0.04	32.20	0.26
Thompson	40115.65	46065	21003	507	1001	0.06	0.05	0.04	21.64	0.20
Tolland	46890.72	77398	29892	720	1392	0.02	0.02	0.02	29.68	0.07
Torrington	48633.32	41841	21406	591	1187	0.08	0.07	0.05	35.13	0.35
Trumbull	79705.09	79507	34931	1164	1678	0.02	0.02	0.03	24.00	0.09
Union	80500.38	58214	27900	738	1107	0.06	0.03	0.02	22.66	0.16
Vernon	41128.81	47816	25150	653	1240	0.08	0.06	0.03	30.75	0.43
Voluntown	38513.80	56802	23707	619	1129	0.05	0.05	0.02	24.50	0.18
Wallingford	54993.33	57308	25947	705	1358	0.05	0.04	0.03	26.50	0.27
Warren	90627.75	62798	36801	914	1513	0.06	0.03	0.04	22.00	0.13
Washington	140109.79	65288	37215	868	1542	0.01	0.03	0.08	15.75	0.22
Waterbury	15034.75	34285	17701	562	1115	0.23	0.16	0.09	97.80	0.52
Waterford	173986.30	56047	26807	753	1179	0.05	0.04	0.04	16.90	0.16
Watertown	57192.22	59420	26044	646	1349	0.01	0.02	0.05	24.56	0.21
West Hartford	60948.25	61665	33468	751	1525	0.04	0.04	0.13	35.69	0.28
West Haven	33936.94	42393	21121	689	1279	0.12	0.09	0.05	34.08	0.45
Westbrook	83304.31	57531	28680	675	1366	0.04	0.05	0.02	22.25	0.27
Weston	130343.68	146697	74817	1151	2560	0.01	0.02	0.01	22.42	0.07
Westport	122420.30	119872	73664	1302	2411	0.03	0.03	0.03	17.20	0.14
Wethersfield	69413.12	53289	28930	722	1379	0.04	0.04	0.03	32.34	0.22
Willington	54868.97	51690	27062	659	1264	0.04	0.13	0.03	26.50	0.35
Wilton	115328.55	141428	65806	1241	2396	0.02	0.03	0.03	28.11	0.10
Winchester	40161.71	46671	22589	623	1154	0.10	0.07	0.03	35.84	0.36
Windham	23368.83	35087	16978	534	1021	0.23	0.16	0.11	26.73	0.52
Windsor	72399.01	64137	27633	779	1340	0.04	0.04	0.04	31.20	0.20
Windsor Locks	84403.98	48837	23079	692	1155	0.04	0.04	0.03	21.21	0.24
Wolcott	44439.46	61376	25018	735	1275	0.03	0.03	0.04	31.03	0.12
Woodbridge	85624.35	102121	49049	964	1863	0.03	0.02	0.01	31.90	0.11
Woodbury	77933.52	68322	37903	783	1491	0.05	0.04	0.03	24.74	0.25
Woodstock	44066.07	55313	25331	648	1142	0.05	0.04	0.03	22.80	0.17

**Table C7. Indicators of Community Food Production Resources**

<b>Town</b>	<b>Acreage farmland per capita</b>	<b>% land in agriculture &amp; farming</b>	<b>Number community supported agriculture per capita</b>
Andover	0.10	8.56	0.000000
Ansonia	0.00	5.21	0.000000
Ashford	0.00	9.03	0.000000
Avon	0.00	10.09	0.000000
Barkhamsted	0.00	4.22	0.000000
Beacon Falls	0.00	14.44	0.000000
Berlin	0.00	13.52	0.000000
Bethany	0.00	10.30	0.000198
Bethel	0.01	10.28	0.000000
Bethlehem	0.00	31.99	0.000000
Bloomfield	0.00	16.87	0.000000
Bolton	0.00	16.75	0.000000
Bozrah	0.39	14.98	0.000000
Branford	0.00	5.16	0.000000
Bridgeport	0.00	2.65	0.000000
Bridgewater	0.11	20.50	0.000000
Bristol	0.00	8.72	0.000000
Brookfield	0.00	10.96	0.000000
Brooklyn	0.03	12.37	0.000000
Burlington	0.00	8.22	0.000000
Canaan	0.00	9.95	0.000000
Canterbury	0.02	14.63	0.000000
Canton	0.00	7.60	0.000000
Chaplin	0.00	8.97	0.000000
Cheshire	0.00	13.04	0.000000
Chester	0.00	5.30	0.000000
Clinton	0.00	6.69	0.000000
Colchester	0.01	12.73	0.000000
Colebrook	0.00	5.44	0.000000
Columbia	0.01	12.93	0.000000
Cornwall	0.21	8.53	0.000697
Coventry	0.00	15.96	0.000000
Cromwell	0.00	16.35	0.000078
Danbury	0.00	6.16	0.000000
Darien	0.00	5.02	0.000000
Deep River	0.00	4.91	0.000000
Derby	0.00	11.77	0.000000
Durham	0.07	20.29	0.000000
East Granby	0.01	26.59	0.000000
East Haddam	0.07	8.48	0.000120
East Hampton	0.01	4.96	0.000000
East Hartford	0.00	7.47	0.000000
East Haven	0.00	11.77	0.000000
East Lyme	0.00	10.55	0.000055
East Windsor	0.04	40.76	0.000000
Eastford	0.17	9.59	0.000000
Easton	0.00	10.49	0.000000
Ellington	0.03	30.72	0.000000
Enfield	0.02	23.05	0.000000
Essex	0.00	6.13	0.000000
Fairfield	0.00	11.41	0.000000



**Table C7. Continued.**

Farmington	0.00	9.36	0.000000
Franklin	1.04	25.86	0.000000
Glastonbury	0.00	13.86	0.000031
Goshen	0.30	13.68	0.000371
Granby	0.00	13.46	0.000193
Greenwich	0.00	5.69	0.000000
Griswold	0.05	13.39	0.000000
Groton	0.00	8.23	0.000000
Guilford	0.00	10.53	0.000000
Haddam	0.00	5.63	0.000000
Hamden	0.00	6.86	0.000000
Hampton	0.34	11.86	0.000000
Hartford	0.00	3.52	0.000008
Hartland	0.00	2.24	0.000000
Harwinton	0.00	10.06	0.000189
Hebron	0.10	13.64	0.000000
Kent	0.01	11.07	0.000000
Killingly	0.01	6.89	0.000000
Killingworth	0.00	5.60	0.000000
Lebanon	0.32	25.84	0.000000
Ledyard	0.02	8.85	0.000000
Lisbon	0.00	16.15	0.000000
Litchfield	0.03	17.08	0.000120
Lyme	0.12	6.39	0.000000
Madison	0.00	5.33	0.000000
Manchester	0.00	9.12	0.000000
Mansfield	0.01	15.69	0.000000
Marlborough	0.00	5.58	0.000000
Meriden	0.00	6.73	0.000000
Middlebury	0.00	12.77	0.000000
Middlefield	0.04	27.51	0.000000
Middletown	0.00	13.44	0.000000
Milford	0.00	4.55	0.000000
Monroe	0.00	11.56	0.000000
Montville	0.01	9.82	0.000000
Morris	0.13	22.37	0.000000
Naugatuck	0.00	8.23	0.000000
New Britain	0.00	1.81	0.000000
New Canaan	0.00	8.12	0.000000
New Fairfield	0.00	6.04	0.000000
New Hartford	0.00	10.76	0.000000
New Haven	0.00	1.96	0.000000
New London	0.00	3.43	0.000000
New Milford	0.01	17.69	0.000037
Newington	0.00	2.18	0.000000
Newtown	0.00	13.80	0.000000
Norfolk	0.00	6.19	0.000000
North Branford	0.02	14.96	0.000000
North Canaan	0.08	33.63	0.000000
North Haven	0.00	13.44	0.000043
North Stonington	0.08	8.44	0.000000
Norwalk	0.00	3.39	0.000000
Norwich	0.00	12.52	0.000000
Old Lyme	0.02	7.11	0.000000
Old Saybrook	0.00	4.23	0.000000
Orange	0.00	8.55	0.000000

**Table C7. Continued.**

Oxford	0.00	10.79	0.000000
Plainfield	0.00	15.43	0.000068
Plainville	0.00	5.47	0.000000
Plymouth	0.00	9.89	0.000000
Pomfret	0.21	16.18	0.000000
Portland	0.01	9.04	0.000000
Preston	0.13	18.26	0.000000
Prospect	0.00	7.50	0.000000
Putnam	0.03	8.49	0.000000
Redding	0.00	10.91	0.000000
Ridgefield	0.00	10.90	0.000000
Rocky Hill	0.00	20.81	0.000000
Roxbury	0.00	16.05	0.000468
Salem	0.07	12.04	0.000259
Salisbury	0.26	20.55	0.000000
Scotland	0.49	19.25	0.000000
Seymour	0.00	10.40	0.000000
Sharon	0.37	19.09	0.000000
Shelton	0.00	12.42	0.000000
Sherman	0.00	12.56	0.000000
Simsbury	0.00	12.59	0.000043
Somers	0.17	29.29	0.000000
South Windsor	0.00	26.71	0.000000
Southbury	0.00	15.70	0.000000
Southington	0.00	10.33	0.000000
Sprague	0.00	16.32	0.000000
Stafford	0.00	6.28	0.000000
Stamford	0.00	3.83	0.000000
Sterling	0.32	10.08	0.000000
Stonington	0.00	10.44	0.000000
Stratford	0.00	5.97	0.000000
Suffield	0.08	38.48	0.000000
Thomaston	0.00	10.79	0.000000
Thompson	0.01	9.20	0.000000
Tolland	0.00	7.92	0.000000
Torrington	0.00	10.61	0.000000
Trumbull	0.00	5.01	0.000000
Union	0.00	3.15	0.000000
Vernon	0.00	6.48	0.000000
Voluntown	0.04	5.01	0.000000
Wallingford	0.00	20.72	0.000000
Warren	0.14	9.23	0.000000
Washington	0.13	19.16	0.000278
Waterbury	0.00	4.85	0.000000
Waterford	0.00	8.33	0.000000
Watertown	0.01	22.73	0.000000
West Hartford	0.00	3.87	0.000000
West Haven	0.00	3.54	0.000000
Westbrook	0.00	6.32	0.000000
Weston	0.00	9.01	0.000000
Westport	0.00	8.35	0.000000
Wethersfield	0.00	8.06	0.000000
Willington	0.00	6.93	0.000000
Wilton	0.00	11.33	0.000000
Winchester	0.00	7.00	0.000000
Windham	0.03	17.58	0.000000

**Table C7. Continued.**

Windsor Locks	0.00	15.51	0.000000
Windsor	0.00	23.33	0.000000
Wolcott	0.00	6.14	0.000000
Woodbridge	0.00	8.80	0.000000
Woodbury	0.01	18.71	0.000109
Woodstock	0.12	18.84	0.000138

## REFERENCES

- Aldenderfer, Mark S. *Cluster analysis (quantitative applications in the social sciences)*. Newbury Park, CA: Sage Publications, 1984
- Chisholm, A.H. and R. Tyers, eds. *Food Security: Theory, Policy, and Perspectives from Asia and the Pacific Rim*. Lexington, MA: Lexington Books, 1982.
- Cohen, Barbara, Margaret Andrews, and Linda Kantor. *Community Food Security Toolkit*. U.S. Department of Agriculture, Economic Research Service, Publication No. E-FAN-02-013, July 2002. Available online from <http://www.ers.usda.gov/publications/efan02013>
- Community Food Security Coalition Homepage. Retrieved, November 11, 2004 from <http://foodsecurity.org>
- Connecticut Food Policy Council. *Food Security in Connecticut: The 2002 Indicators and Annual Report of the Connecticut Food Policy Council*. Prepared by the Parisky Group, Hartford, CT: 2003
- Edwards, Mark and Bruce Weber. *Food Insecurity and Hunger in Oregon: A New Look*. Department of Agricultural and Resource Economics, Oregon State University, Working Paper No. AREC 03-104, November 2003.
- El-Hamdouchi, A. and P. Willet. "Hierarchic Document Clustering Using Ward's Method." In *Proceedings of the Ninth International Conference on Research and Development in Information Retrieval*, 1986, 149-156.
- Everitt, Brian S. *Cluster analysis*. London: Arnold Publishers, 2001
- Food Action Network. *Thunder Bay: A Closer Look at our Local Food System*. Thunder Bay, Ontario, Canada: September 2004.
- Foster, Phillips and Howard D. Leathers. *The World Food Problem*. Boulder, Colorado: Lynne Rienner Publishers, Inc., 1999.
- Gorsuch, Richard L., *Factor Analysis*, Hillsdale, NJ: Lawrence Erlbaum, 1983.
- Hair, Joseph F. *et.al. Multivariate Data Analysis*. 5/e, Princeton, NJ: Prentice Hall, 1998.
- Johnson, Dallas E. *Applied Multivariate Methods for Data Analysts*. CA: Duxbury Press, 1998.
- Kantor, Linda S. "Community Food Security Programs Improve Food Access." *Food Review* 24(2001): 20-26.
- Kaufman, Leonard, Peter J. Rousseeuw. *Finding Group in Data: An Introduction to Cluster Analysis*. NY: Wiley Interscience, 1990.

- Lehmann, E.L. and H.J. D'Abbrera. *Nonparametrics: Statistical Methods Based on Ranks*. Englewood Cliffs, NJ: Prentice-Hall, 1998.
- Nord, Mark, Margaret Andrews, and Steven Carlson. *Household Food Security in the United States, 2002*. U.S. Department of Agriculture, Economic Research Service, Food Assistance and Nutrition Report No. 35, 2003.
- Nord, Mark, Kyle Jemison, and Gary Bickel. *Measuring Food Security in the United States: Prevalence of Food Insecurity and Hunger, by State, 1996-1998*. U.S. Department of Agriculture, Economic Research Service, Food and Rural Economics Division, 1999.
- Stevens, James P. *Applied Multivariate Statistics for the Social Sciences*. Hillsdale, NJ: LEA, 1986.
- Ward, J. H. *Hierarchical Grouping to Optimize an Objective Function*. Journal of the American Statistical Association, 1963.
- Winne, Mark, Hugh Joseph, and Andy Fisher. *Community Food Security: A Guide to Concept, Design and Implementation*. Venice, CA: Community Food Security Coalition, 1997.
- World Bank. *Poverty and Hunger: Issues and Options for Food Security in Developing Countries*. Washington, D.C.: The World Bank, 1986.

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