



ROOM AT THE TABLE
FOOD SYSTEM ASSESSMENT OF ERIE COUNTY

UNIVERSITY AT BUFFALO
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EXECUTIVE SUMMARY

Eating is an agricultural act, writes noted author Wendell Berry, yet few recognize it as such. Too often the food that sustains people is consumed with little thought to its origins or means of delivery to the family kitchen or restaurant table. Food is delivered to our table via a complex food system. A food system is a network of activities, actors, and resources that enables the production, processing, wholesaling, distribution, consumption, and disposal of food. Thriving food systems ensure food security, agricultural vitality, and economic vitality in communities. County governments can do much to strengthen food systems through innovative policies and plans.

This report is a plan for strengthening Erie County's food system. The report was prepared by graduate students in Urban and Regional Planning at the University at Buffalo for the Department of Erie County Department of Environment and Planning. The Department of Environment and Planning is in the process of preparing a new farmland preservation plan - this report is intended to inform their effort.

The plan contains an assessment of Erie County's food system, the challenges and opportunities it offers to Erie County

PLAN GOALS

1. Ensure economically viable and sustainable agriculture in Erie County
2. Promote access to local food in the county
3. Ensure lasting food security in the county
4. Promote overall health and wellness of Erie County residents
5. Educate the general public about the Erie County food system

farmers, residents, and businesses, and recommends action for strengthening the county's food system.

Erie County is home to 919,040 residents, a majority of whom live in urban areas. While the median household income in Erie County (\$46,609) grew 22 % from 2000 to 2010, more people are living in poverty. Only about a quarter of adults in Erie County consume five or more servings of fruits and vegetables each day. Compared to the state of New York, rates of adult obesity (26.9%) and adult diabetes (9.8%) are higher among county residents (Ch. 1).

Despite being an urban county, Erie County is home to about 1,200 farms that cover about 150,000 acres (19%) of county lands. Despite their presence, under current land use conditions, Erie County farms do not produce enough food to meet the needs of Erie County residents. A significant majority (68%) of farmland is used to grow hay, soybeans, and corn while only 9% is used for production of fruits and vegetables. Moreover, a majority of the county's prime soils are currently not used to grow food (Ch. 2). If the county's self-reliance in food were to be measured as a proportion of the amount of food needed to fulfill dietary requirements of county residents to the amount of food that could be produced on county farmland, Erie County would be only about 10% self-reliant (Ch. 7).

Once produce and livestock leaves the farms, food processors add value by creating food products. Erie County has a rich legacy of food processing dating back to the 1800s as a hub in the wheat industry. Recent data shows that the county has 91 food processing businesses, but that the industry is experiencing a decline. Efforts to connect Erie County food processors directly to local farmers are a win-win strategy for economic development and agricultural development in the county (Ch. 3).



Fresh and processed foods reach consumers via a complex distribution network that includes supermarkets, restaurants, and other retail businesses. On average, there are 35 food retail destinations per 10,000 residents in the county. Not everyone in Erie County has similar access to food. Inner-city neighborhoods, for example, have fewer supermarkets and are mainly served by smaller food stores that do not carry healthy foods. Inhabitants of five percent of all county residences are especially disadvantaged as they have extremely low vehicular access and their homes are located farther than a 10-minute driving distance from fresh food sources such as supermarkets and grocery stores. Strategies to bring locally grown and healthy produce to the most vulnerable Erie County consumers will promote food security and create markets for farmers (Ch. 4).

The food disposal component of the county's food system offers great challenges and opportunities. We estimate that in 2009 alone Erie County's food system generated about 101,816 tons of food waste (equivalent in weight to 20,000 Hummer Sport Utility Vehicles). Efforts to reclaim food waste through composting or other methods can help replenish soil and be an energy source in the county (Ch. 5).

The food system in its entirety is one of significant economic consequence to the county. Our analysis shows that Erie County's food system generated about \$9.9 billion in sales and supported more than 82,000 jobs in 2009. Increasing the demand for local (and healthy) foods can have an even greater positive impact on the local economy. A 20 percent increase in demand for fruits and vegetables, for example, generates \$984,023 in sales and 9 jobs in Erie County. If, along with the 20 percent increase in demand for fruits and vegetables, consumers were to buy a higher proportion of locally-grown fruits and vegetables, the county would experience a positive economic impact of \$1.9 million in sales and 19 jobs.

Value-added businesses such as food processing are a significant economic development opportunity as well. A 20 percent increase in the number of food processing units would create \$1.2 million in sales and 63 jobs in Erie County (Ch. 8).

By attending to the food system, Erie County government has an opportunity to simultaneously rejuvenate the farming sector, promote health of residents and foster economic development. Based on our assessment as well as best practices from around the nation (Ch. 11), we outline 20 recommendations to strengthen Erie County's food system (Ch. 12). Key recommendations outlined in the plan include the creation of a Food Policy Council, establishment of a regional food hub in Erie County, creation of a county website on agricultural resources, development of a master Erie County food system contact directory, and reorganization of public procurement policies to clearly express a preference for foods grown and processed in Erie County. Although this plan is primarily intended for implementation by the county government, other stakeholders in Erie County can use our assessment to guide their actions to strengthen agriculture and the food system in Erie County.

ERIE COUNTY KEY FACTS AND FIGURES

Residents: 919,040 people

Acres of Cropland: 99,445 acres of cropland

Average farmer age: 57 years

Adult obesity rate: 26.9 percent

Adult diabetes rate: 9.8 percent

Annual food system sales: \$9.9 billion in sales





INTRODUCTION

EATING IS AN AGRICULTURAL ACT.

–WENDELL BERRY

If eating is indeed an agricultural act, few recognize it as such. Too often, the food that sustains humanity's daily living is shoveled in without thought to its origins or delivery to the family kitchen, cafeteria tray, or restaurant table. Our modern fast-paced society demands fast food to keep up with today's lifestyle, and in that rush, consumers fail to recognize the hand that feeds them. Directly related to forgetting about the source of the food we eat, our health has, on the whole, deteriorated. These conditions have impacted and are impacted by the food system, the focus of this report.

A food system is a chain of activities connecting food production, processing, wholesaling, distribution, consumption, and waste management (See Figure I.1).¹ Each activity or phase is comprised of different actors, both large

and small, public and private, that individually and collectively influence the food system. Thriving food systems provide access to food, ensure food security², ensure health and wellness of a community, safeguard economic viability and sustainability of farming, and where consumers make informed healthy food choices. A thriving food system might be one that provides all the safe, healthy, and affordable food needed for a community. It also allows for reasonable economic returns to producers and laborers, encourages food business growth, connects the actors within to each other, and does so in an environmentally sustainable way. A thriving food system is synonymous with a high level of food security. Counties can provide policies and plans to support food systems.³

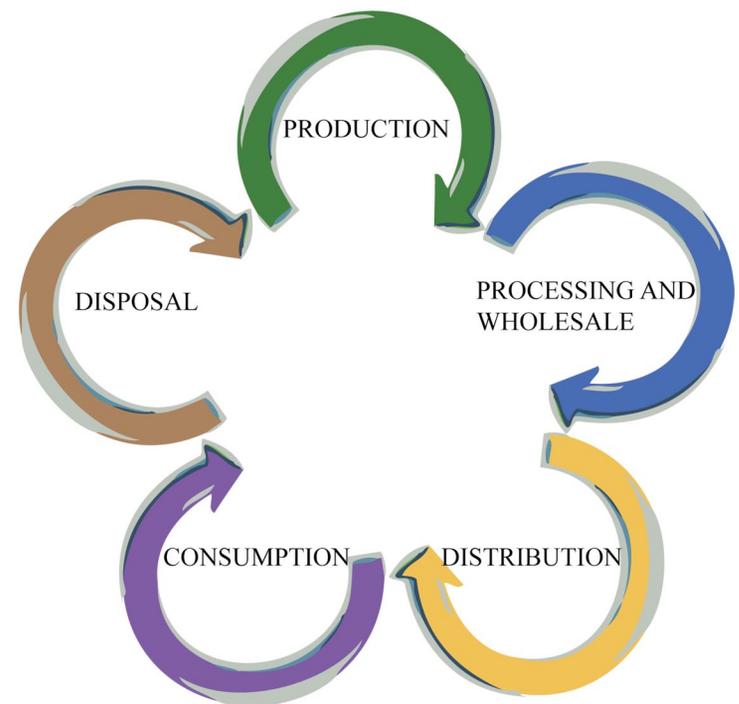
This report provides a plan for strengthening Erie county's food system. Our planning process entailed assessing, describing, analyzing supply and demand, identifying stakeholders, isolating strengths and weaknesses of the food system, and synthesizing this information into needed action steps.

This report is prepared for the Erie County Department of Environment and Planning. Presently, American Farmland Trust is working with the Department to update Erie County's Agriculture and Farmland Protection Plan from its original 1996 edition. The process of updating the original plan was underway prior to the commencement of this report. To this end, however, this report will inform both the Department of Environment and Planning and American Farmland Trust by describing the county's food system and providing recommendations to strengthening it as they create the County's new farmland protection plan.

The goals that serve as the organizing principles for this plan are to:

1. Ensure economically viable and sustainable agriculture
2. Promote access to local food
3. Ensure lasting food security
4. Promote overall health and wellness of Erie County residents
5. Educate the general public

Food System Components



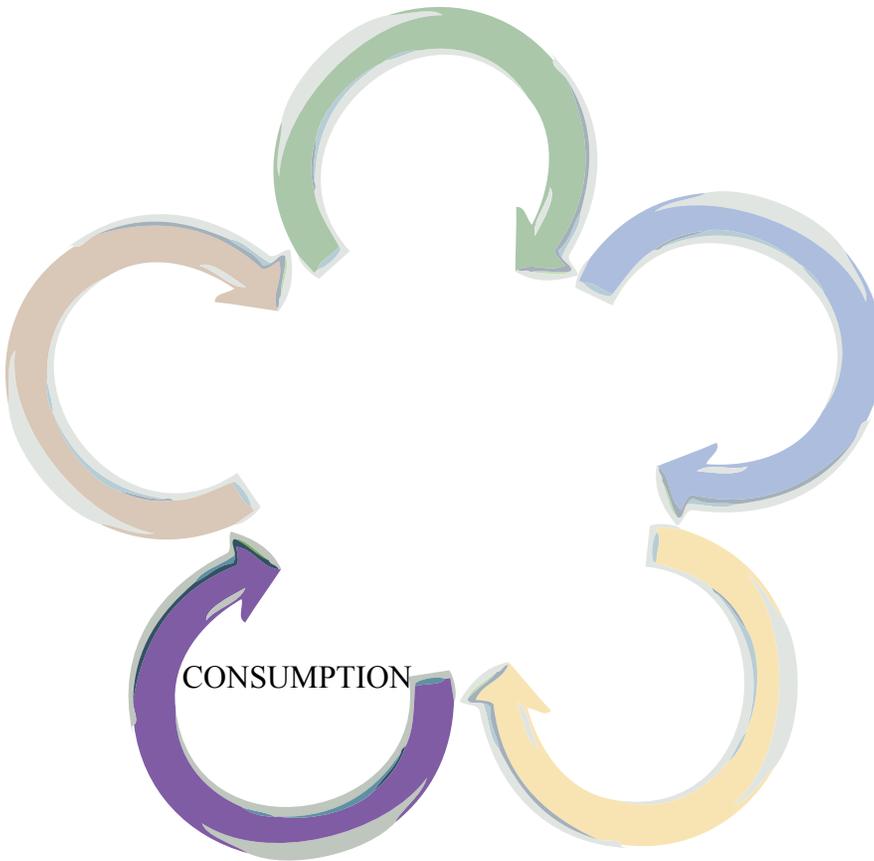
(Source: Authors)

The geographic scope of this plan is Erie County, New York. The description and analysis of Erie County's food system herein employs various qualitative, quantitative, and spatial methods. Appendix A details every method used for each section, including the sources from which various data were used.

The report is comprised of four major sections, each of which include several chapters. Section I outlines the present characteristics of Erie County food consumers, farmers and producers, businesses participating in processing, wholesale, distribution, marketing and disposal of food. Additionally, the report details the legal framework in which the food system operates. Section II presents findings of two key analyses of the food system. First, an analysis determining Erie County's self-reliance to grow its own food is measured. An economic analysis of the food system follows. Section III combines the assessment and analysis by highlighting key findings, and detailing the strengths, weaknesses, opportunities, and threats to Erie County's food system. The section also highlights best practices of promoting the food system from other counties across the country. The complete findings inform the recommendations that follow and conclude the report.



ASSESSMENT OF CURRENT CONDITIONS



- 1 -

CONSUMPTION

Erie County residents are “food citizens” who play a central role in our food system. Residents not only eat the food generated in the food system, but also participate in other phases of the food system (namely the production, processing, distribution, and disposal of food) as farmers, business owners, and employees. This chapter provides information on Erie County residents. The chapter describes A) demographic characteristics, B) trends in food security, C) diet-related behaviors, and D) diet-related health outcomes in Erie County.

A. Demographic Characteristics of Erie County

POPULATION

Erie County is home to 919,040 residents.¹ Between 2000 and 2010, the population declined by 3.3 percent, a loss of 31,225 residents. The majority of the residents live in

the county’s urban area. The latest data suggests that 91 percent of residents (864,632 people) live in urban areas and the remaining 9 percent (85,644 people) in rural areas.² Despite being relatively urban, the county is home to an active farming sector.

AGE AND SEX

Erie County’s population is aging. Between 2000 and 2010, the median age increased from 38 to 40.³ Most residents belong to the age groups of 15-25 years or 45-60 years (See Figure 1.1).

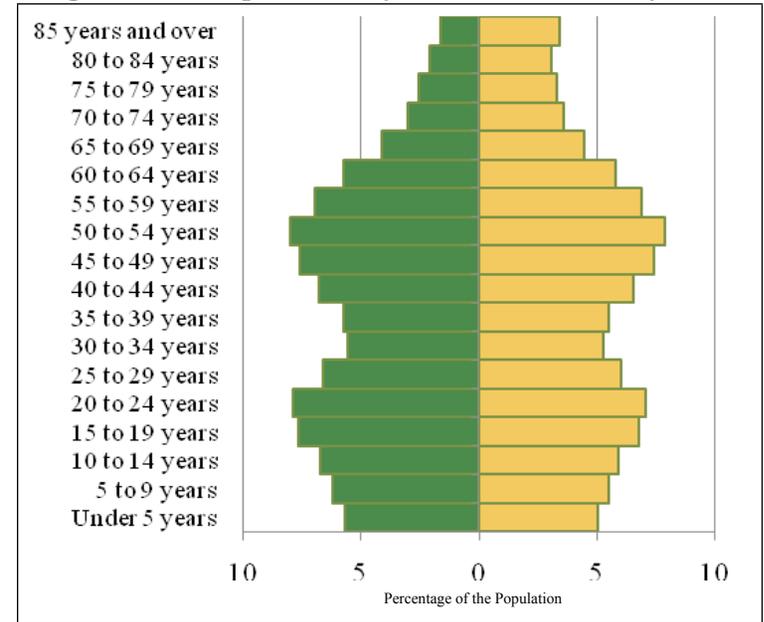
Female and male populations comprise relatively equal shares of the population in Erie County, with women slightly outnumbering men. About 52 percent of the county’s population is female (476,069), while 48 percent is male (442,971).⁴

DIVERSITY

Whites constitute a majority of the population in Erie County (80%). African-Americans comprise the second largest group (13%).⁵ The county as a whole is becoming more diverse, with the percentage of Whites residents decline during the recent decade. In 2000, 82 percent of the population was White, while in 2010, their proportion dropped to 80 percent. In part, this drop is attributable to an increase in the county’s Asian population from 1 percent to 3 percent between 2000 and 2010 (See Figure 1.2).⁶

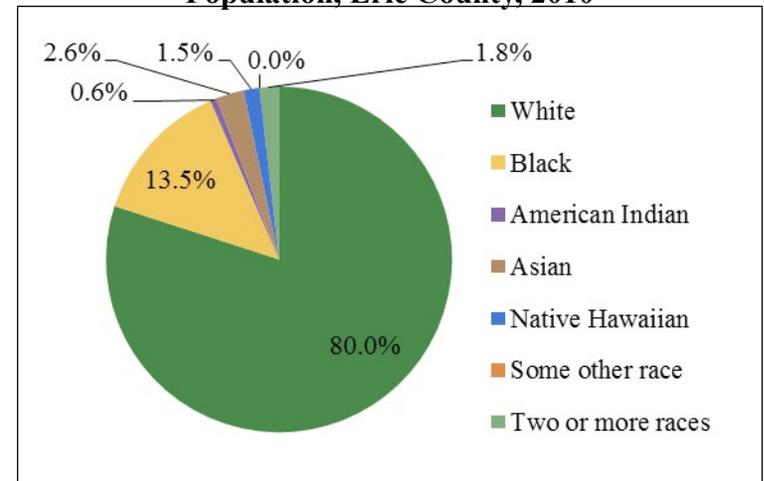
Erie County’s growing diversity further derives from the increase of its foreign-born residents. From 2000 to 2010, the foreign-born population in the county increased by 2.2 percentage points (from 4.5% to 6.7%).⁷ Among foreign-born residents, the proportion of those born in Asia shows the most rapid increase in the last decade. Asians comprised 28 percent of the county’s foreign-born population in 2000, and 43 percent in 2010, representing an increase of 15 percentage points.

Figure 1.1 – Population Pyramid, Erie County, 2010



(Source: U.S. Census 2010, Summary File 1)

Figure 1.2 – Racial Composition of the Total Population, Erie County, 2010



(Source: U.S. Census 2010, Summary File 1)

HOUSEHOLD STRUCTURE

Among the 383,164 households in Erie County, there are various household structures with the most common one being ‘family.’ In recent years, however, ‘non-family households’ are becoming increasingly common in Erie County. Between 2000 and 2010, the proportion of non-family households grew from 36 percent to 40 percent (See Table 1.1).

Among family households, the majority is comprised of married couples (70%).⁸ Families headed by a single mother comprise 23 percent of all family households.

INCOME AND POVERTY

The median household income is increasing in Erie County. It was \$46,609 in 2009,⁹ an increase of 22 percent from the \$38,211 income reported in 2000.¹⁰ This increase is slightly smaller than New York State’s, where household income increased by 27 percent over the same time period from \$43,393 to \$55,233.¹¹

The distribution of household incomes is also changing. More than half of households in Erie County (52.8%) has income less than \$49,999.¹² The proportion of this group decreased from 61.9 percent to 52.8 percent from 2000 to 2009, while households in other income groups increased in proportion (See Figure 1.3).¹³

Simultaneously, however, more people are living under poverty in Erie County. In 2009, 123,150 people lived below poverty level (13.9% of total), an increase from 112,358 (12.2% of total) since 2000 (See Figure 1.4). Thus, with a decreasing overall population, the absolute number of individuals and the percentage of the population in Erie County living below poverty level increased during the past decade (See Figure 1.5).

ECONOMY AND EMPLOYMENT

Erie County’s economy has shifted from a manufacturing-based economy to a service-oriented economy. Of the 746,427 residents over the age of 16, 57.3 percent (427,523) are employed.¹⁴ The “educational,

Table 1.1 – Family & Non-family Household, Erie County

	2000		2010	
	No.	%	No.	%
Family household	243,359	63.90	230,009	60.00
Non-family household	137,514	36.10	153,155	40.00
Total	380,873	100	383,164	100

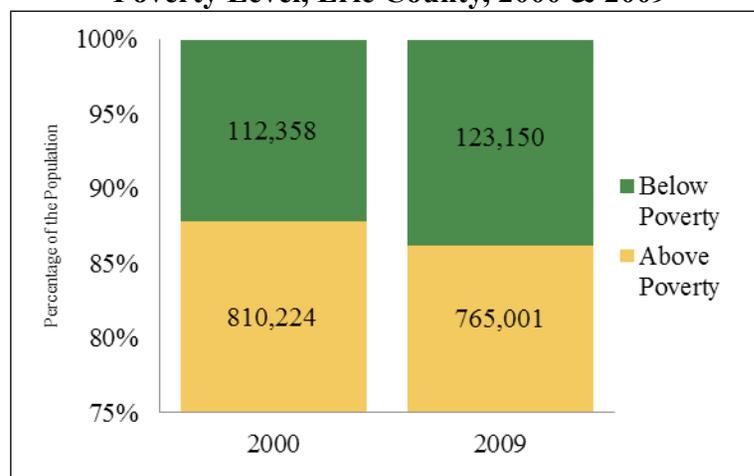
(Source: U.S. Census 2000, 2010, Summary File 1)

Figure 1.3 – Distribution of Household by Income Level, Erie County, 2000 & 2009



(Source: U.S. Census 2000, Summary File 3 and American Community Survey 2009)

Figure 1.4 – Population with Income Below or Above Poverty Level, Erie County, 2000 & 2009



(Source: U.S. Census 2000, Summary File 3 and American Community Survey 2009)

health and social services” sector employs the largest number of people, comprising 28.3 percent of the jobs in Erie County. Retail trade provides 12.0 percent of the county’s jobs, while manufacturing, a historically important sector of the region, employs 10.6 percent. The population employed in the manufacturing sector decreased by 3.8 percentage points between 2000 and 2010 (See Figure 1.6).¹⁵ Furthermore, only 0.3 percent of the labor force is employed in the “agriculture, forestry, fishing, hunting, and mining” sector, although agriculture has the potential to play a prominent role in the economy.

B. Food Security

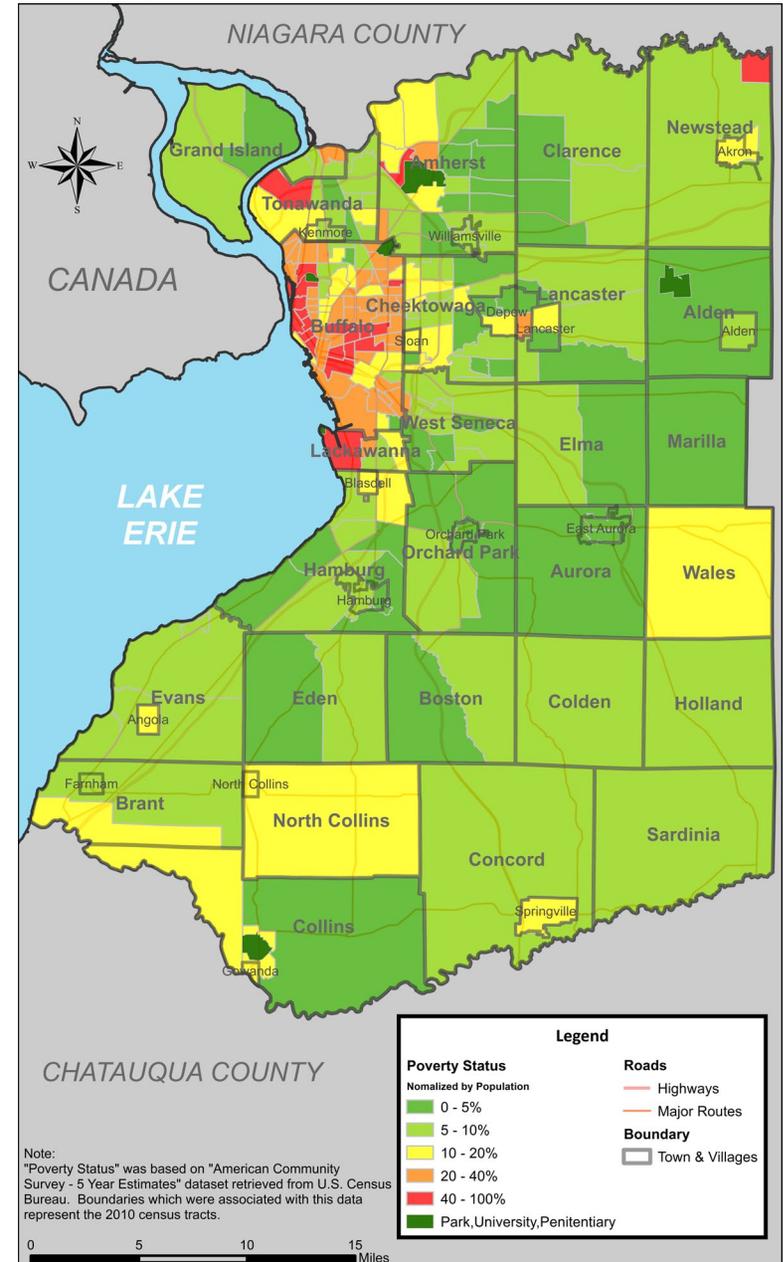
A food secure community is one with access to affordable, nutritious, and culturally appropriate food for all people at all times.¹⁶ Food security varies across place and by type of household.¹⁷ Typically, households in principal cities (such as the City of Buffalo) tend to be less food secure than other parts of metropolitan areas (See Appendix G, Table 1).¹⁸

Nationally, the levels of food security are also affected by the types of households. For example, households with children are less food secure (70.8%) than those without children (88.3%). Households headed by single mothers are less food secure (64.9%) than those with married parents (86.2%) and those headed by single fathers (74.6%). Moreover, White households are the most food secure (89.2%) compared to African American (74.9%) and Hispanic households (73.8%). Among those living below the poverty level, only 59.8 percent are food secure in the United States.¹⁹ To understand whether Erie County’s food citizens are susceptible to food insecurity, we use residents’ access to food, food quality, food affordability, and participation in public food assistance programs as measures.

ACCESS TO FOOD

A 2008 study by University at Buffalo suggests there are 35 food destinations available per 10,000 residents in Erie County, including supermarkets, grocery stores, convenience stores, bakeries, meat and fish

Figure 1.5 – Poverty Status in Erie County



(Map: Authors.
 DataSource: US Census Bureau, American Community Survey, 2010
 US Census Bureau, TIGERLine Data, 2011)

stores, candy and nut stores, fruit and vegetable stores, and restaurants.²⁰ The county’s most prevalent food destination is restaurants, which constitute 71 percent of all food retailing establishments.²¹ The next significant shares are convenience stores, bakeries, and grocery stores, each with 6 percent of all food destinations.²² These varied food destinations are not evenly distributed among neighborhoods. While restaurants can be found throughout the county, the other types of food destinations are available in a limited number of neighborhoods.

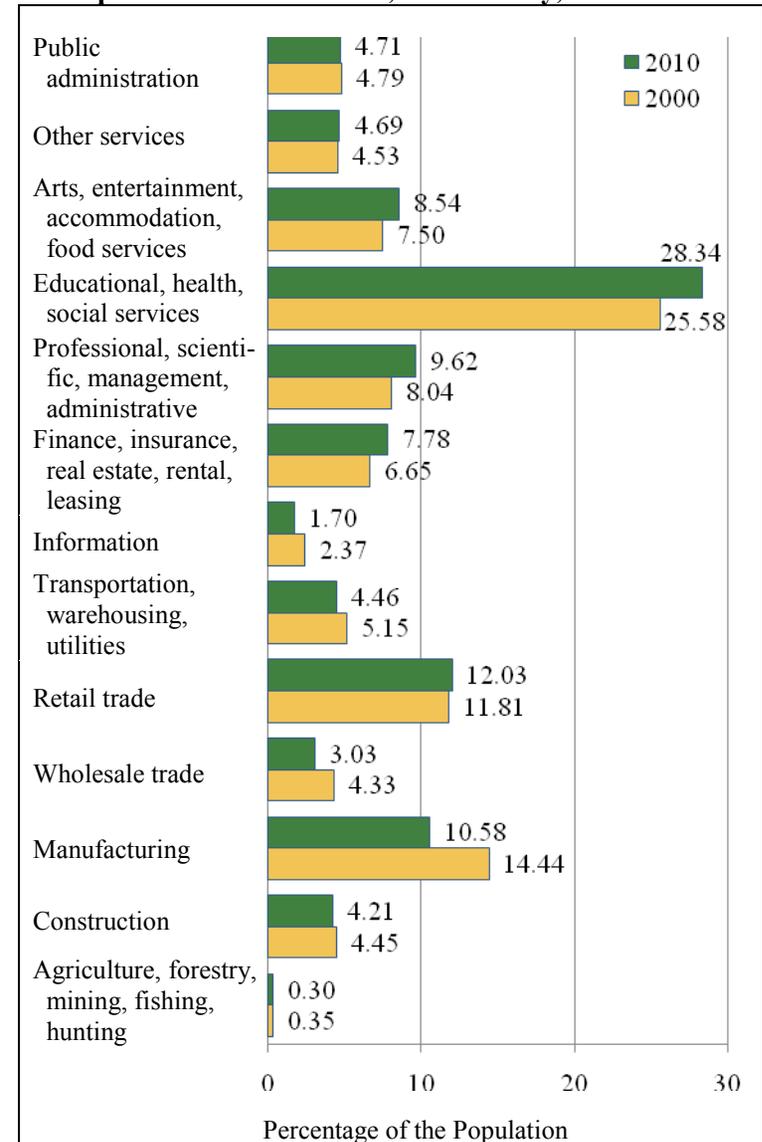
Neighborhoods with different racial profiles have different levels of food access. In Erie County, predominantly African-American neighborhoods have fewer supermarkets than predominantly White neighborhoods. The case is opposite for other types of food destinations such as grocery stores and convenience stores. Such gaps in availability of food destinations are more significant when we compare neighborhoods at smaller scale (e.g., areas determined by 5-minute walking distance as opposed to 5-minute driving distance).²³

Inner-city neighborhoods have less access to supermarkets, which are generally considered to be the most reliable food destination for healthy food choices, such as fruits and vegetables. Inner-city neighborhoods, instead, are mainly served by smaller food stores. Although small stores carry fruits and vegetables, they tend to be poorer in quality and higher in price than those carried in larger supermarkets.²⁴ Accordingly, inner-city residents have less incentive to purchase healthier food.

FOOD QUALITY

Previous studies suggest uneven quality of food in Erie County. For instance, a previous community food system assessment conducted within Erie County²⁵ demonstrates that food items sold in inner-city small stores are closer to the expiration dates than the same items sold in larger chain stores in a suburban area.

Figure 1.6 – Employment Percentage by Industry, Population Over 16 Years, Erie County, 2000 & 2010



(Source: U.S. Census 2000, Summary File 3; American Community Survey 2010)

FOOD AFFORDABILITY

Food is not evenly affordable in different parts of Erie County.²⁶ For example, food items sold in the west side of the City of Buffalo cost more, which is mainly explained by the trend that inner-city neighborhoods are often served by small independent stores and convenience and pharmacy chains, rather than supermarkets and grocery stores.

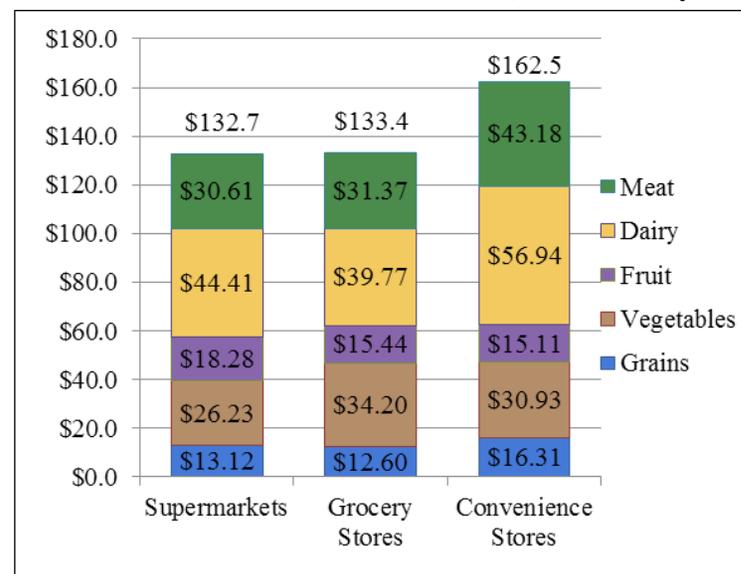
Convenience stores charge more for food than supermarkets and grocery stores.²⁷ Buying the exact same foods at different types of stores, the estimated weekly costs for purchasing food per household of four (two adults and two children) in Erie County is estimated to be \$132.70 for purchases made at supermarkets, \$133.40 for grocery stores, and \$162.50 for convenience stores (See Figure 1.7).²⁸ While supermarket and grocery stores cost are almost equal, convenience stores charge an extra \$30 for the same food purchased.

Nationally, a household of four spends, on average, \$133.20 on food per week (See Appendix G, Table 2).²⁹ This number almost equals the cost of food at supermarkets and grocery stores in Erie County.³⁰ This suggests that if a household earning median wages were to purchase food at supermarkets and grocery stores, it would spend 15 percent of its income on food.

PUBLIC FOOD ASSISTANCE PROGRAMS

Public food assistance programs provide a safety net to curb food insecurity within the low-income population. The size of these programs indicates the state of food security within a community. The size of these programs indicates the state of food security within a community. A sizable proportion of Erie County residents depend on public assistance to meet their food and nutritional needs. Four major food assistance programs are available for Erie County residents: the Supplemental Nutrition Assistance Program (SNAP), the Women, Infants, Children program (WIC), Senior Farmers' Market Nutrition Program (SFMNP), and the National School Lunch Program (NSLP).

Figure 1.7 – Estimated Weekly Cost of Food Purchase for Household of Four, Erie County



(Source: Raja, Ma, and Yadav. 2008)

LOCAL HIGHLIGHT

Erie County is home to a diverse population. Each person has his or her own relationship with food and eating. One local mother's perspective is that food is a cultural and sensory experience closely linked to cherished memories. When interviewed, she said she values access to nutritious food for her children and aims to eat in moderation, with an emphasis on whole and organic foods. She says one way to achieve this is to purchase locally.

Whether eating in or dining out, she strives to purchase locally but is sometimes constrained by the relatively higher costs. She sees challenges to eating healthy in Western New York are that many restaurants don't offer items that are tasty and also healthy. Citing other places her family has lived, Erie County, by comparison, lacks a variety of affordable healthy food destinations. She expresses a desire for healthier food destinations to feed her family at a reasonable cost.

Supplemental Nutrition Assistance Program (SNAP)

In Erie County, SNAP, commonly known as the food stamp program, is operated by Erie County's Department of Social Services. The eligibility criteria for the SNAP participation is that the gross income of one's household should be below 130 percent of the U.S. poverty income guideline.³¹

Currently, 15 percent of 376,954 households in Erie County (55,994 households) use SNAP.³² Among the households using food stamps, 55.1 percent live below poverty level. There is a vast income gap between households using and those not using food stamps. In 2010, the median income of households using food stamps was \$14,471 and that of households not using food stamps was \$53,401. The total value of foods purchased by SNAP participants in Erie County in 2009 was about \$200 million.³³ This amount suggests that SNAP recipients could wield large economic power through their food purchases.

Women, Infants, Children (WIC)

Similar to SNAP, the WIC program provides participants with vouchers redeemable at approved retail locations to purchase food. WIC targets pregnant women, mothers and their children under the age of five. To be eligible, a participant's gross household-income must be under 185 percent of the U.S. poverty income guideline.³⁴

In 2007, WIC revised its system to improve WIC participants' access to fruits and vegetables in two ways. First, they increased the options of fruits and vegetables by allowing the purchase of canned and packaged fruits and vegetables (in addition to fresh produce). Second, WIC expanded the participants' access to fresh fruits and vegetables at WIC-authorized vendors, especially farmers' markets that participate in Farmers' Market Nutrition Program (FMNP), operated by the New York State Department of Agriculture and Markets.



Clinton Bailey Farmers' Market, Buffalo NY



Williamsville Mill Farmers' Market, Williamsville NY

In Erie County, WIC has been operated by a non-profit organization, Catholic Charities of Buffalo since 2009, when the county ended its WIC administration.³⁵ The total value of foods purchased by WIC participants with the vouchers in Erie County in 2009 was about \$13 million.³⁶

Senior Farmers’ Market Nutrition Program (SFMNP)

SFMNP provides low-income seniors over 60 years of age with vouchers to purchase fresh fruits and vegetables at farmers’ market through FMNP, which runs during harvest seasons, generally from May to October.³⁷ To be eligible for SFMNP in Erie County, a participant have a monthly income less than \$1,670 (or less than \$2,246 for a senior couple) and receiving benefits through Social Security, public assistance, SNAP, Home Energy Assistance Program, or Section 8 Housing vouchers.³⁸

National School Lunch Program (NSLP)

NSLP provides free or low-cost, nutritionally balanced lunches to children from low-income families at school. In Erie County, NSLP is operated by Erie County’s Department of Social Services. To be eligible for NSLP, a child must qualify for SNAP benefits.³⁹

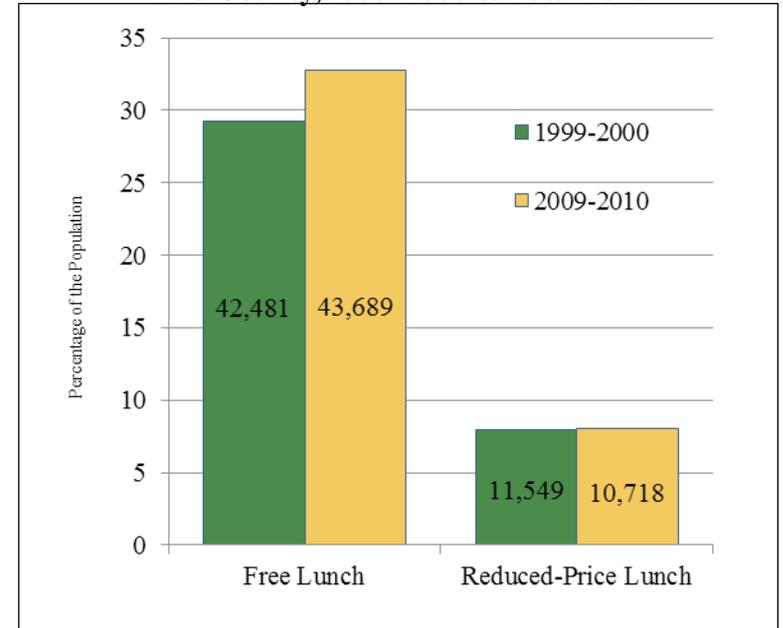
An increasingly larger proportion of students are eligible for the NSLP in Erie County. In the 2009-2010 school year, 33 percent of students in Erie County (43,689 students) were eligible for free lunch at school, an increase by 3.5 percent from a decade ago. The proportion of those eligible for reduced-price stayed at 8.0 percent (10,718 students) (See Figure 1.8).

C. Diet-Related Behaviors

FRUIT AND VEGETABLE CONSUMPTION

The USDA recommends adults eat five or more servings of fruits and vegetables per day. Only about a quarter of adults in Erie County (26.3%) consumed this recommended healthy food intake between 2006 and 2008, representing a slightly lower rate than the New York State average (27.1%).⁴⁰

Figure 1.8 – Percentage of Student Eligible for NSLP, Erie County, 1999-2000 & 2009-2010



(Source: The National Center for Education Statistics)

SPENDING ON FOOD

Erie County residents spent \$2.1 billion on food in 2010. The estimates of expenditures on food at home and away from home in Erie County are, respectively, \$1.3 billion and \$813 million.⁴¹ The estimated expenditures on “meat, poultry, fish, and eggs” and “fruits and vegetables” in Erie County as a whole are \$295 million and \$226 million, respectively, in 2010. In total, these two categories of food constitute 40 percent of food expenditures for food consumed at home.

These estimates suggest that each family in Erie County annually spends \$5,515 for eating at home (61.5% of the total food expenditure) and \$2,122 for dining out (38.5%) (See Figure 1.9). Among food eaten at home, Erie County households tend to spend more on meat and fish than fruits and vegetables. “Meat, poultry, fish, and eggs” comprise the largest share (\$769 annually, or 22.7%) and “fruits and vegetables” comprises the next largest share (\$589 annually, or 17.4%) among the expenditures on food eaten at home.

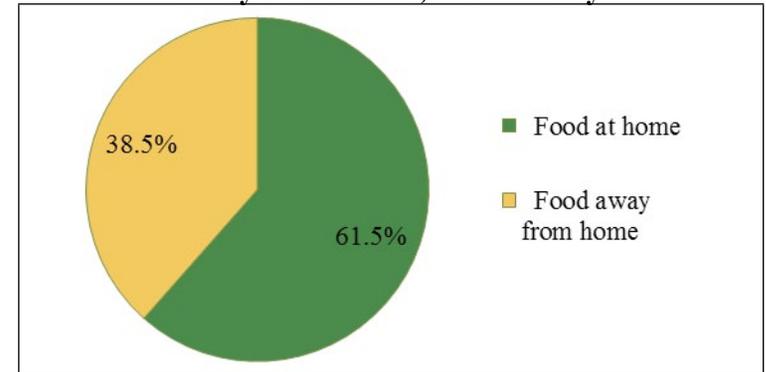
D. Diet-Related Health Outcomes

Many Erie County residents experience diet-related health diseases such as diabetes and obesity. Erie County has a higher rate of adult diabetes (9.8%) than New York State (8.3%) and also a higher rate of adult obesity (26.9%) than the State (25.6%) (See Figure 1.10).⁴²

Furthermore, Erie County has a higher diabetes mortality rate (age-adjusted) than New York State. Between 2006 and 2008, in Erie County, 19.7 out of 100,000 people died from diabetes, while the rate was 17.4 in New York State.⁴³

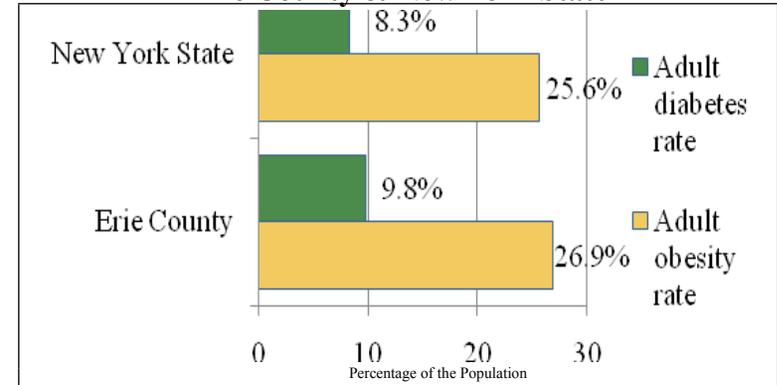
Diet-related diseases impact people of color disproportionately in Erie County. Among those who have died as a result of diabetes, 40.1 percent are African Americans, while only 17.1 percent are White (See Figure 1.11).⁴⁴ This is especially stark because African Americans constitute only 13 percent of the county’s population, while Whites constitute 80 percent.

Figure 1.9 – Expenditure on Food at Home & Food Away from Home, Erie County



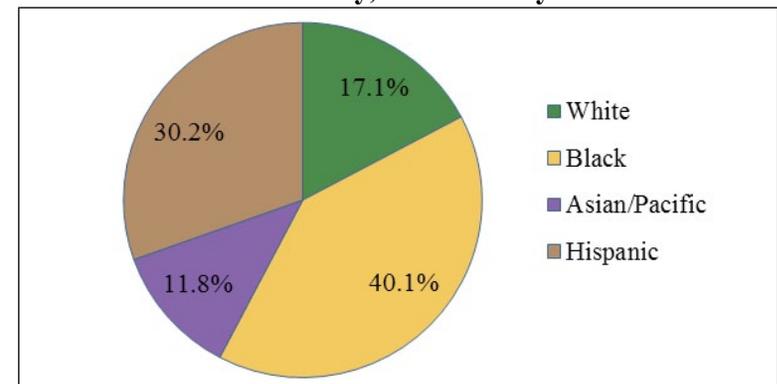
(Source: U.S. Bureau of Labor Statistics, Consumer Expenditure Survey 2010)

Figure 1.10 – Adult Diabetes & Obesity Rate, Erie County & New York State



(Source: Food Environment Atlas, U.S. Department of Agriculture, 2007)

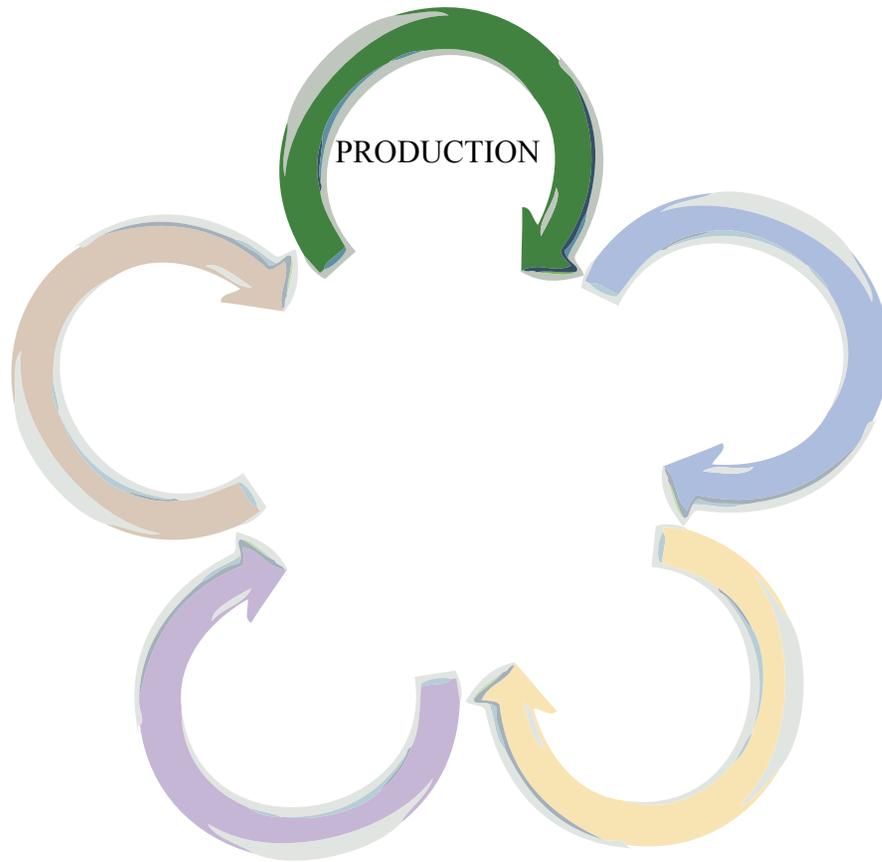
Figure 1.11 – Diabetes Related Deaths by Race and Ethnicity, Erie County



(Source: New York State Department of Health, 2006-2008)



Clinton Bailey Farmers' Market, Buffalo NY



- 2 -

PRODUCTION

Food production is the core of the food system. Without farmers who work the land or raise livestock, Erie County's food system would not exist. This chapter describes Erie County's food production through A) number of farms, B) farm size, C) land characteristics, D) agricultural production, E) farmer characteristics, F) farm ownership, G) farm income, H) farm product sales, and I) farm expenditures.

A. Number of farms

The farms in Erie County covers more than 149,356 acres of land, or 19 percent of the entire county. The portion of county land in agriculture has increased by more than 4.3 percent since 1997. By comparison, farm land in New York State has decreased by 1.1 percent during the same

time period (See Table 2.1). The state has over 7.1 million acres in farms, comprising 23 percent of the entire land area for the state.¹

Erie County is home to about 1,215 farms. The overall number of farms has grown by 24.8 percent in a decade, from 973 farms in 1997 to 1,215 in 2007. This growth in the number of farms in Erie County considerably outpaces statewide growth; farms in the state grew from 31,757 in 1997 to 36,352 by 2007, or a 14 percent increase in the number of farms (See Table 2.1). Erie County is gaining farms at a faster rate than the entire state.²

In Erie County, 13 farms (1.0% of all farms) used certified organic growing methods. While there is a larger percentage of organic farms in New York (3.1%), the proportion of farmland devoted to organic production is greater in the county than in the state. In Erie County, approximately 4,563 acres are used for organic food production, an average of 351 acres per organic farm. As a percentage, 3.1 percent of Erie County’s farmland is used for organic food production. Compared to 1.8 percent in the state, Erie County’s organic farms are, on average, larger than organic farms in New York.

B. Farm Size

The average farm in Erie County is 123 acres. The average size of farm has decreased by approximately 16 percent from 147 acres in 1997 to 122 acres in 2007.³ Erie County’s average farm size is smaller than the average New York farm and is shrinking at a faster rate. The state average is 197 acres. However, the average New York farm has also decreased by 13 percent from a high of 228 acres in 1997.

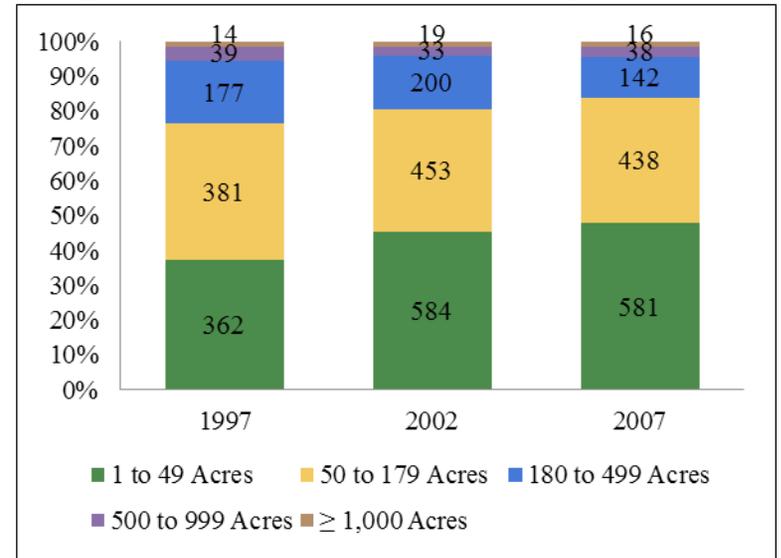
Farms in Erie County vary in size. They range between under 50 acres to more than a thousand acres, with the majority of farms being less than 50 acres. There are 581 farms of this size (See Figure 2.1).⁴ These small number of farms grew by 60.5 percent from only 362 farms in 1997. This helps to explain why the average farm size in Erie County has declined over

Table 2.1 – Farm Characteristics, Erie County & New York State

	1997	2002	2007	% Change 97-07
Number of Farms				
Erie County	973	1,289	1,215	24.87
New York	31,757	37,255	36,352	14.47
Acres in Farms				
Erie County	143,234	161,747	149,356	4.27
New York	7,254,470	7,660,969	7,174,743	-1.10
Average Farm Size				
Erie County	147.21	125.48	122.93	-16.49
New York	228.44	205.64	197.37	-13.60

(Source: USDA Agricultural Census 1997, 2002, 2007)

Figure 2.1 – Size of Farms Erie County, 1997-2007



(Source: USDA Agricultural Census, 1997, 2002, 2007)

the last decade. Over 47 percent of all 1,215 farms are now less than fifty acres in size.

Farms with land area of 50 to 179 acres comprised the largest share of farms in 1997, but became the second most common farm size in 2002. These farms comprise a lower proportion of farms than they did in 1997 (there are 438 farms, or 36 percent of farms compared to 39 percent in 1997). Large farms, with 180 acres or more, comprise 16 percent of Erie County farms. This group of large farms has declined by 14 percent since 1997 when there were over 230 farms in this category. The loss of these larger farms and the increase in the number of smaller farms help to explain the declining average size of farm in Erie County since 1997.

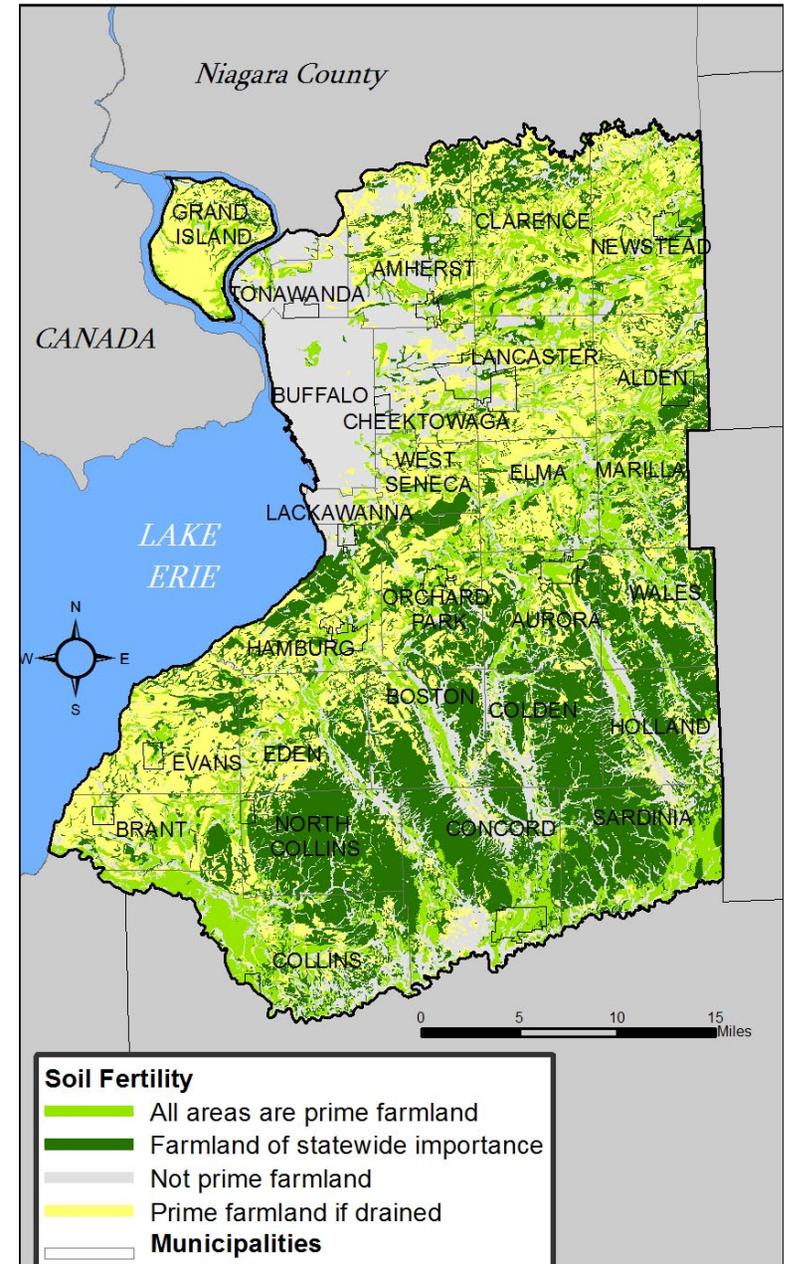
By comparison, in New York State, more farms tend to be in the size range of 50 to 179 acres than any other size. In 2007, there were 13,847 farms in this size category, or 38 percent of all farms.⁵ Farms with less than 50 acres comprise 32 percent of all farms in New York State. Lastly, the remaining 30 percent are comprised of farms with 180 acres or more of land. There are only 16 percent of farms of this size in Erie County.

New York State also has a higher proportion of medium-sized farms of 50 to 179 acres. In 2007 there were 13,847 farms of this size, constituting 38.1 percent of all farms in the state.⁶ There are 11,713 farms with less than 50 acres of land, or 32.2 percent of the total farms. Large farms over 180 acres in size number 10,792, or 29.7 percent of all farms (See Appendix G, Table 3).

C. Land Characteristics

With its rich and diverse soils, farmers throughout Erie County have historically been able to grow many varieties of crops. According to the designations set by the USDA Natural Resource Conservation Service (NRCS), over 30 percent of soil types in Erie County are classified as high quality farmland* of statewide significance, more than any other class of farmland is all land currently set aside for agricultural purposes, whether or not it is currently used to produce food.

Figure 2.2 – Erie County Soil Fertility



(Map: Authors
Data Source: USDA Natural Resource Conservation Service Soil Survey, SSURGO Database, 2011)

soil fertility.⁷ Over 48 percent of land in the county is considered prime farmland (See Figure 2.2). More than 95 percent of current cropland* in Erie County is regarded as prime farmland, including that which requires proper drainage.** More than 62 percent of the area within the current boundaries of agricultural districts is prime farmland that requires no drainage. Although 23 percent of all land in agricultural districts is not prime farmland (See Appendix G, Table 4).

Over 325,000 acres of the county land which is classified as prime land is not used exclusively for agriculture (See Figure 2.3). Most of this prime land is used for residential land uses (35%), while 16 percent of land classified as being vacant is the second most prevalent use of prime land. About 15 percent of this land with prime soils is used for agriculture, which represents the third most prevalent use of the county’s most fertile land. Overall, nearly 85 percent of land in the county containing prime soils is not currently used for agricultural production. This is both a short-term weakness of, as well as an opportunity for, agriculture in Erie County (See Appendix G, Table 5).

D. Agricultural Products

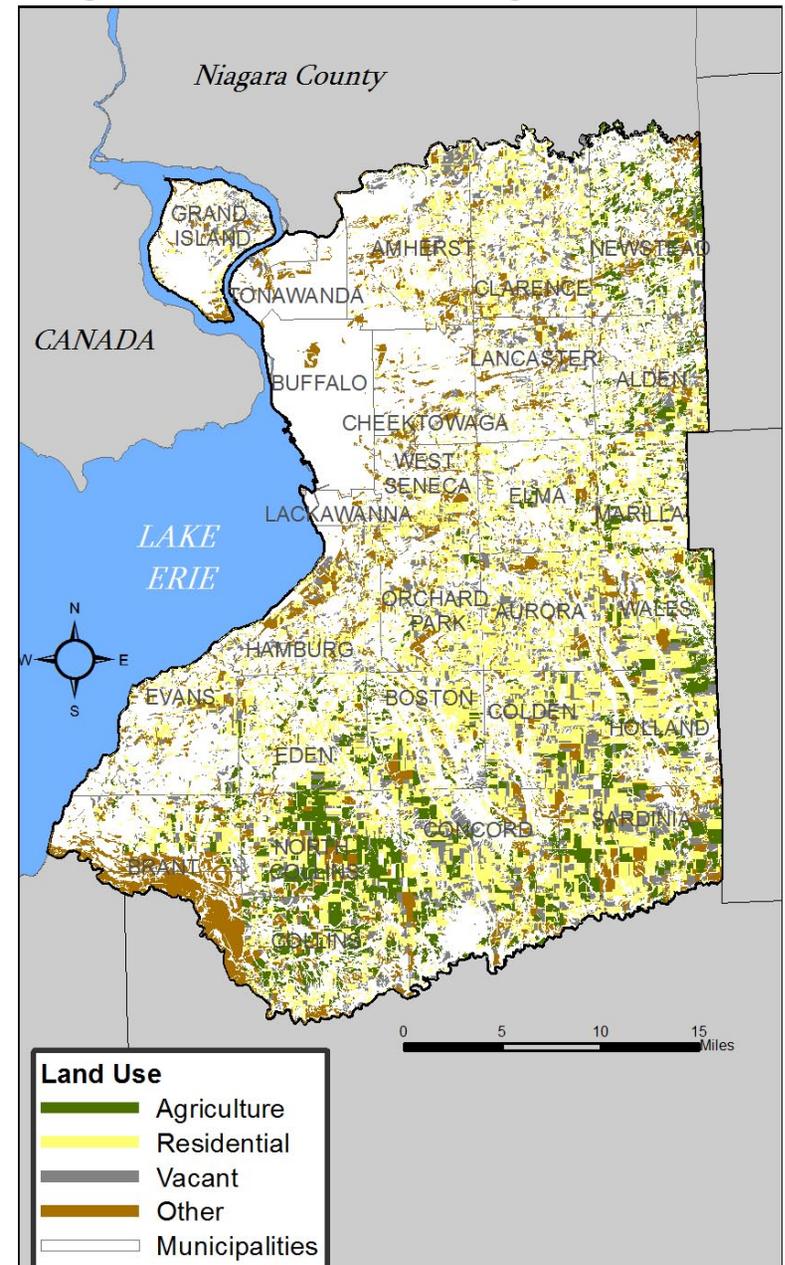
Erie County is home to a variety of agricultural products. Food is grown for human consumption and for animal consumption, or feed. Additionally, non-food crops, such as horticulture, flowers and garden plants, and seasonal items like Christmas trees and pumpkins are grown. In Erie County, grain and corn comprise the majority of crops cultivated. Over 72,972 farm acres, or about 68 percent of farmland, are used to produce hay and corn, both for food and silage (See Figure 2.4).

The amount of land used for cultivating corn for silage has grown by three percentage points since 1997, a signal of farmers responding to increased demands for animal feed.⁹ By comparison, in New York State, hay

*Cropland is a subcategory of farmland, and is comprised of all agricultural land currently used to produce food.

**A designation made by the USDA NRCS

Figure 2.3 – Land Use in Prime Agricultural Lands



(Map: Authors
Data Source: USDA Natural Resource Conservation Service Soil Survey, SSURGO Database, 2011; Erie County Dept. of Environment and Planning, 2010)

and corn also total 24 percent of cropland, covering more than 1 million of the 4,314,954 acres of cropland.

Food products are grown on 12 percent of farmland. Fruit and vegetable production is a relatively small amount of harvested farmland. Fruits and nuts are cultivated on 4,204 acres of cropland (4.3%). The acreage devoted to fruits and nuts grew from 2,495 in 1997 to a total of 4,204 in 2007, representing an 84 percent increase in land devoted to fruit and nuts production since 1997. Vegetables and melons grow on 4,591 acres of cropland, or 4.66 percent of the county’s cropland. This cropland category grew by more than 41 percent over the same decade from 3,256 acres in 1997. Corn for feed accounts for almost 14 percent of all cropland in Erie County, greater than all land used for fruits and vegetables combined (4.2% and 4.7%, respectively).

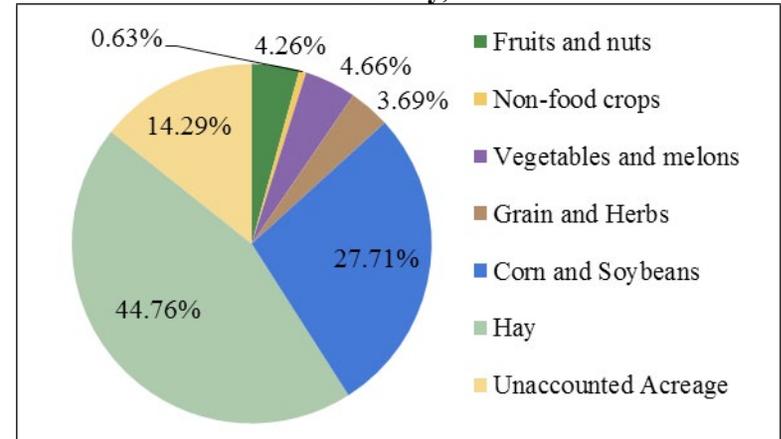
In addition to growing grains and produce, farmers in Erie County also raise animals for human consumption. Animal breeding occurs on 495 farms, comprising approximately 40 percent of all county farming operations. These farms are involved in the housing and selling of livestock (and their products), including cattle, beef and dairy cows, hogs, sheep, chickens and others. Food production involving animals, including dairy products, is a very important revenue source for Erie County and New York’s economy as a whole. For example, \$75 million of farm income for farmers, or more than 64 percent, came from animal sales and dairy products in 2007.

E. Farmer Characteristics

There are approximately 1,898 Erie County farm operators, 36 percent of whom are women. Although female operators are still the minority, the number of women farmers in the county grew by 4 percentage points from 2002 to 2007. Almost 97 percent of all farms are operated by Whites.

Of the principal farm operators in Erie County, almost 48 percent, or 579 operators, report another occupation as their primary employment. This

Figure 2.4 – Cropland Distribution by Crop Type, Erie County, 2007



(Source: USDA Agricultural Census, 2007)

LOCAL HIGHLIGHT

Amos Zittel and Sons, Inc. is an example of a local farm that has effectively produced and marketed its local, farm-fresh products to consumers throughout Western New York. They promise to “offer the highest quality homegrown fruits, vegetables and plants while providing the best possible customer service.”

The Zittel farm dates back over 100 years to when George Zittel began farming in 1899. His son, Amos, carried on the tradition and four generations of sons and grandsons have carried on this business.

Currently, the Zittel Family has a permanent retail market on Route 20 in Hamburg, plus wholesale sales of vegetables and fruits. They harvest over 300 acres of fresh vegetables, including cabbage, eggplant, lettuce, peppers, tomatoes, squash, strawberries, sweet corn, pumpkins and gourds. They also manage three acres of Eden Valley Greenhouses, selling varieties of floriculture and items for home gardens, and more.

Over the last few years, Zittels has been recognized by the NYS Department of Agriculture & Markets and by the USDA for “Good Agricultural Practices and Good Handling Practices.” More recently this fall, Bill Zittel, great-grandson of founder George Zittel, was nominated for an advocacy role on the NYS Agricultural Health and Safety Advisory Board by State Senator Tim Kennedy (D-58th). The Board is part of the New York Center for Agricultural Medicine and Health (NYCAMH), focusing on enhancing agricultural and rural health by preventing and treating occupational injury and illness.

percentage has stayed near or above forty percent for the decade 1997-2007. This implies that income from farming is not enough to sustain farmers year round and almost a majority of farmers turn to other employment to meet their financial obligations (See Table 2.2).

The average age of an Erie County farmer is 57 years, and this is about 17 years older than the county’s median age of 40. The largest cohort of farmers is 65 years or older, comprising 30 percent of all operators, a 7 percent increase from 2002. The second largest farm operator cohort is the 45-54 year old range, or 27 percent of the farmer population. The age group that showed the greatest rate of decline was 35-44 years at a rate of 49 percent. The smallest percentage of farmers is those younger than 34 years, suggesting that as farmers age, there are increasingly fewer young farm operators replacing them (See Figure 2.5).

F. Farm Ownership

The overwhelming majority of farms in Erie County are owned by an individual or a family. In 2007, 1,020 (84%) farms were owned by an individual or family, while 95 farms (7.8%) were listed as partnerships. Two categories of corporate farms (family held or other) also had the same total of 95 farms, even in 2007. Farms owned by corporations have grown by over 69 percent from an aggregate total of 56 operations in 1997 (See Figure 2.6).

G. Farm Income and Farm Revenues

The average income per farm was \$23,081 in 2007. Farm income grew by 144 percent from \$9,452 in 1997. Still, it represents only about half of the median household income (\$46,739) in Erie County.

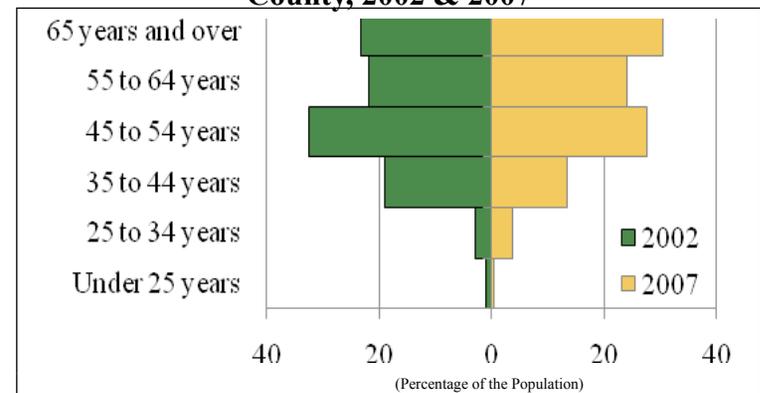
Farm income is derived from a variety of sources (See Table 2.3). Animal sales constituted the largest source of receipts to farms in 2007 (59%). Combined, animal and crop sales account for more than 90 percent of all receipts. Revenues from Commodity Credit Corporation (CCC) loans more than doubled in amount from \$209 million 1997 to \$501 million in

Table 2.2 – Farmer Characteristics, Erie County & New York State

	Erie County		New York	
	No.	%	No.	%
Gender				
Male	1200	63.22	38,651	66.66
Female	698	36.78	19,333	33.34
Race				
White	1,828	96.31	56,334	97.15
Non-white	70	3.69	1,650	2.85
American Indian or Alaska Native	9	0.47	260	0.45
Asian or Pacific Islander	0	0.00	154	0.27
Black or African-American	6	0.32	129	0.22
More than one race	15	0.79	214	0.37
Spanish, Hispanic or Latino	13	0.68	387	0.67
Farmers Total	1,898	100	57,984	100
Primary Occupation				
Farming	636	52.35	28,791	51.30
Other	579	47.65	27,336	48.70
Principal Farmers Total	1,215	100	56,127	100

(Source: USDA Agricultural Census 1997, 2002, 2007)

Figure 2.5 – Farmer Population Pyramid, Erie County, 2002 & 2007



(Source: USDA Agricultural Census, 2002, 2007)

2007. Monetary receipts from patronage and cooperative operations grew by \$62,000 from 2002 to 2007. Additionally, annual payments from the federal, state and local governments nearly tripled during the decade from 1997-2007. Total government payments increased by more than \$1.5 million dollars, or 222 percent, from \$712,000 in 1997 (See Table 2.3).

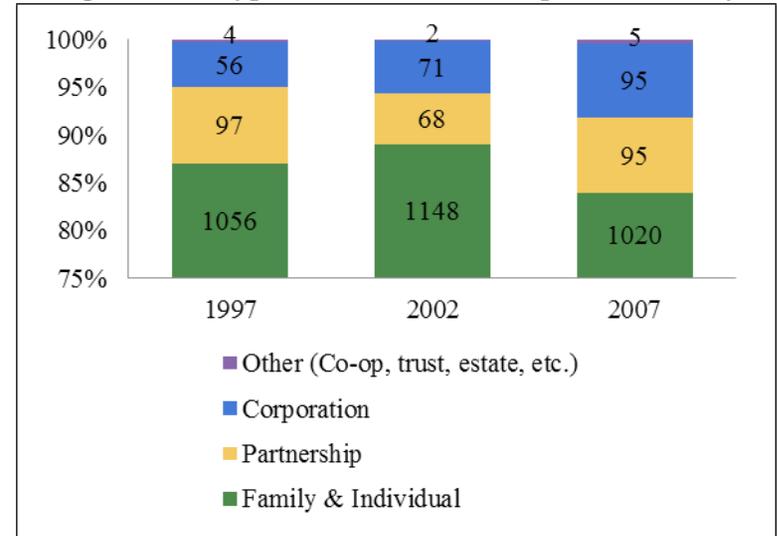
H. Farm Product Sales

Farm product, or agricultural sales, in Erie County for 2007 totaled over \$117 million. The largest individual category of total farm product sales came from animal sales, totaling \$75.4 million, which includes \$51.45 million dollars in dairy product sales (See Table 2.4).

Within Erie County, dairy production has the largest volume of any farm product sales at \$51.4 million, more than all crop product sales. The entire state of New York has \$2.28 billion dollars of dairy production (51.6% of all agricultural sales).¹⁰ The second largest category of farm product sales in Erie County is crops, generating over \$41.6 million in sales for 2007.

Vegetable and fruit sales are a very profitable use of farm land, but they are grown on a very small proportion, or only 10 percent of Erie County’s cropland. Vegetable sales (\$9.59 million) and fruit sales (\$6.32 million) combined account for 38 percent of the total \$41.6 million in crop sales in 2007 (See Table 2.4). The average sales per acre were \$2,088 for vegetables and \$1,502 for fruits. Land used to grow fruits and vegetables accounts for 10 percent of all cropland use and 13.5 percent of all farm product sales in Erie County. Vegetable and fruit farming is very profitable when compared to more prevalent uses like corn, with sales totaling only \$3.43 million or \$144 per acre. Corn is grown on 24 percent of cropland and produces only 2.9 percent of annual farm sales in the county. This disparity highlights that Erie County’s food production does not parallel its most profitable uses. The average farm’s sales continue to rise, but so do its production expenses, as is explained below.

Figure 2.6 - Type of Farm Ownership, Erie County



(Source: USDA Agricultural Census 1997, 2002, 2007)

Table 2.3 – Receipt to Farm by Source, Erie County

	1997		2002		2007	
	\$1,000	%	\$1,000	%	\$1,000	%
Animal sales	47,854	57.11	49,981	49.70	75,404	59.65
Crop sales	32,522	38.81	42,381	42.14	41,627	32.93
Farm sources	2,344	2.80	4,772	4.75	5,132	4.06
All gov't payments (Insurance)	712	0.85	1,923	1.91	2,295	1.82
Patronage & co-ops			1,075	1.07	1,137	0.90
CCC loans	209	0.25	281	0.28	501	0.40
Rent	147	0.18	148	0.15	305	0.24
Total Receipts Prior to Expenses	83,788	100	100,561	100	126,401	100

(Source: USDA Agricultural Census 1997, 2002, 2007)

I. Farm Expenditures

In 2007, the average production expenses were \$78,618 per farm. Aggregate expenses for all farms totaled \$95.52 million in 2007. The four categories where farmers spent the most were, respectively, (1) hired labor, (2) animal feed, (3) supplies and maintenance repair, and (4) depreciation of assets (See Table 2.5).

Erie County farmers spend the most on hired and contract labor. A hired worker is closer to a full-time employee, versus a contract worker that may only work on a seasonal or project basis. Hired workers are used more frequently by Erie County farmers, and farmers spend 15 times more on hired than contract labor in 2007. The number of farms with “hired labor” has decreased since 1997, yet there were still increases in expense amounts for hired labor. For example, the combined total of contract and hired labor since 1997 has grown by 38 percent to a total of \$18.65 million in 2007. There are 277 farms (23%) that use hired labor, 37 percent fewer farms than the 441 farms in 1997. Furthermore, 60 percent of hired workers are employed for 150 days or less during a given year (See Table 2.5).

Contract labor, as measured by the amount of dollars expended, has grown by \$822 million since 1997. In 2007, Erie County farmers spent over \$1.14 million, higher than \$319,000 spent by farmers in 1997. The state average during the same time frame grew by more than 46 percent to a total of \$18 million in 2007. Likewise, the number of farms utilizing migrant laborers jumped from 18 to 31 farms (over 72%) during the period from 2002-2007.

Table 2.4 – Farm Product Sales, Erie County

	Erie County		New York	
	\$1,000	% of Total	\$1,000	% of Total
Livestock & poultry	75,404	64.43	2,856,706	64.65
Milk & dairy*	51,451	43.96	2,280,218	51.60
Cattle & calves*	6,302	5.38	318,080	7.20
Other animals & products*	968	0.83	25,101	0.57
Hogs & pigs*	210	0.18	28,302	0.64
Sheep, goats & products*	84	0.07	10,246	0.23
Aquaculture*	23	0.02	20,417	0.46
Crops, including nursery & greenhouse	41,627	35.57	1,561,927	35.35
Nursery, greenhouse, floriculture & sod*	17,690	15.12	389,117	8.81
Vegetables & melons*	9,590	8.19	338,037	7.65
Fruits, tree nuts & berries*	6,317	5.40	363,295	8.22
Grains, seeds, dry beans & dry peas*	5,322	4.55	329,626	7.46
Corn*	3,434	2.93	210,169	4.76
Total Sales	117,031	100	4,418,634	100
Products sold directly to individuals	1,703	1.46	77,464	1.75

(Source: USDA Agricultural Census, 2007)

*Due to data suppression, not all sales figures are represented



Clinton Bailey Farmers' Market, Buffalo NY

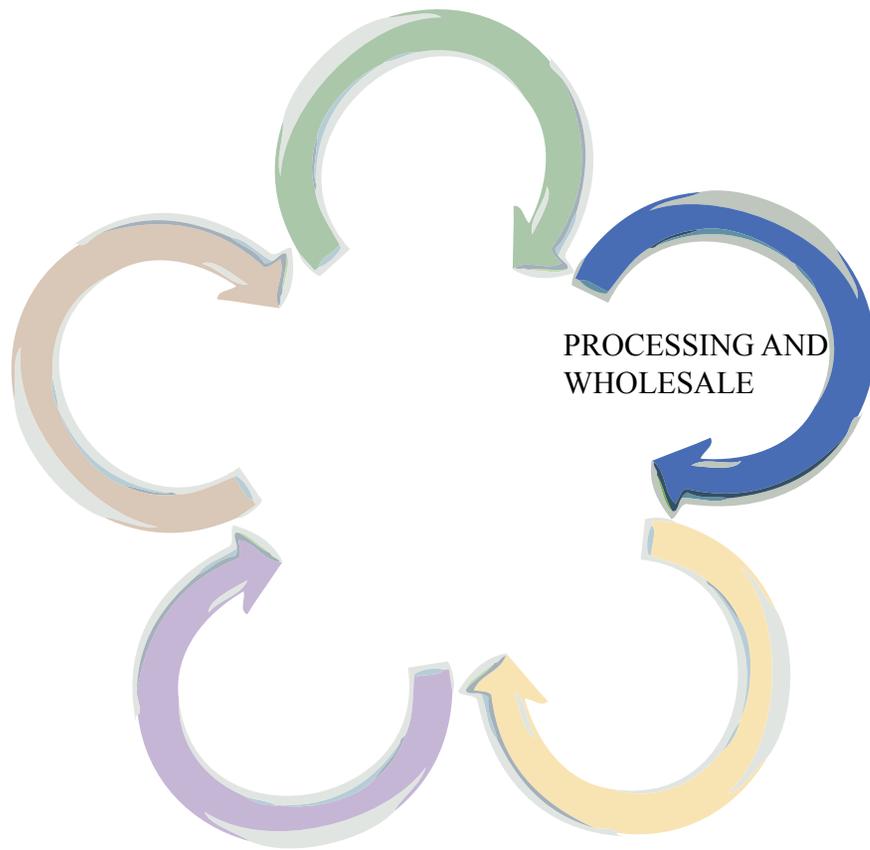


Elmwood-Bidwell Farmers' Market, Buffalo NY

Table 2.5 – Farm Expenditures, Erie County

	1997		2002		2007	
	\$1,000	%	\$1,000	%	\$1,000	%
Hired labor	13,472	17.78	18,486	22.25	17,515	18.34
Animal feed	15,930	21.02	14,680	17.67	15,787	16.53
Supplies & repairs	5,702	7.53	10,542	12.69	11,316	11.85
Depreciation			7,195	8.66	9,878	10.34
Seeds & plants	2,778	3.67	3,008	3.62	5,794	6.07
Fuels	4,145	5.47	2,994	3.60	5,593	5.86
Real estate & property taxes	4,496	5.93	5,253	6.32	4,797	5.02
Utilities			3,027	3.64	4,415	4.62
Interest			3,366	4.05	4,370	4.57
Fertilizers	2,867	3.78	2,819	3.39	4,106	4.30
Rent, cash, buildings, etc.	1,740	2.30	2,500	3.01	3,031	3.17
Chemicals	1,824	2.41	1,972	2.37	1,731	1.81
Animal expenditures (excluding breeding)			356	0.43	1,345	1.41
Breeding			1,663	2.00	1,179	1.23
Contract labor	319	0.42	798	0.96	1,141	1.19
Unspecified costs	22,494	29.69	4,409	5.31	3,523	3.69
Total Expenses	75,767	100	83,068	100	95,521	100

(Source: USDA Agricultural Census, 1997, 2002, 2007)



- 3 -

PROCESSING AND WHOLESALE

Simply described, food processing is the process of transforming raw vegetable and animal materials into edible food products. The City of Buffalo and Erie County have a rich history in food processing dating back to the opening of the Erie Canal in 1825. The Erie Canal, a central waterway that ran from eastern New York to Lake Erie, positioned Buffalo as a significant point of entry for the transport of grain from Midwestern United States toward the eastern states and beyond.¹ The creation of the Erie Canal carried much significance, as it was viewed as one of America's greatest public works project in the 19th Century. It spurred a flash of creativity and investment, as it created a linkage between the Midwestern states and the Eastern seaboard.² With continuous wars in Europe and increasing farmer sophistication in finding new markets, demand for American

wheat increased quickly, especially between the years of 1839 and 1859 and the Civil War of the 1860s.³ Also, as the location of America's "bread basket" shifted from the eastern part of the country towards the Midwestern states, such as Ohio, Illinois, Wisconsin, and Indiana, there was a need for an efficient transport route that would support the vast amounts of grain produced for American and foreign markets.

Even though the Erie Canal was a useful corridor for shipping grain by lake boats to Buffalo and through the State of New York, the man-made waterway was narrow and lacked depth. The smallest lake boats were unable to pass through the canal, and the canal boats that were pulled by horses could not travel by water.⁴ Laborers unloaded grain from the lake boats, subsequently loading onto canal boats, an inefficient process that led to delays and increased congestion of people and boats in the Buffalo Harbor.⁵ Between 1835 and 1841, at a time when grain was literally unloaded on the workers' backs, the amount of grain that passed through Buffalo's harbor increased from 112,000 bushels to over 2 million bushels.⁶ With the increase in grain volume, the location was ripe for a business opportunity that would bring efficiency to the food system.

In 1842, an Erie County entrepreneur, Mr. Joseph Dart, and his engineer, Robert Dunbar, constructed the first grain elevator.⁷ The grain elevator was comprised of a steam-driven belt with buckets that would be lowered into a ship's hold to gather the grain, lift it into a wooden structure, and place it within storage bins, until the grain was lowered for shipment or milling purposes.⁸ This process allowed ships to unload approximately 1,000 bushels per hour, permitting ships to unload and leave the harbor on the same day. By 1863, the City of Buffalo had twenty-seven (27) operating elevators, with a total capacity of 5,835,000 bushels and a transfer capacity of 2,700,000 bushels per hour.⁹

By the 1920s, more than three million bushels passed through Buffalo a year.¹⁰ Mills for other related products, such as animal feed, flour, cereal

LOCAL HIGHLIGHT

Steuben Foods, Inc., is a food products manufacturer headquartered in Elma, New York, with offices and research and development facilities in Jamaica, New York. Steuben specializes in aseptic low acid and extended shelf life beverages and foods. Located on an 150 acre site in Elma, Steuben has invested more than \$200 million in the facility since it moved into the nearly 800,000 square feet facility in 1985. Some of the services Steuben offer includes contract packing, private label products for large national retailer and wholesalers, food service packaging for frozen and refrigerated products, and specialty services for branded products. Their partners include major national brand companies, nutraceutical firms, food service operators, and retailers with private label operators.

Last year, the Erie County Industrial Development Agency approved \$1.82 million in tax breaks for Steuben Foods. The tax breaks, a combination of property, sales and mortgage tax breaks, is expected to produce an additional 100 jobs at the Elma location. Before the passage of the tax breaks package, the company employed 466 workers in Elma. The company planned to add 70,000 square feet of manufacturing space by adding an aseptic plastic bottling line that will increase their capacity by fifty percent. Steuben Foods also sought low-cost hydropower from the New York Power Authority, at an annual allotment of 8.75 megawatts, and a \$5 million grant from Empire State Development.

Recently, in October 2011, Steuben Foods announced the launch of three new products designed to appeal to the consumer. The products are a refrigerated pudding with whipped topping, sugar-free mousse, and aseptic rBST-free milk. Some of the benefits of rBST-free aseptic milk include the benefit of hormone-free milk, four separate flavor offerings, and 8 ounce containers requiring no refrigeration. Steuben Foods expects to start shipping sugar free mousse and aseptic rBST-milk within the first quarter of 2012. The pudding with the whipped topping will arrive during the second quarter of 2012.

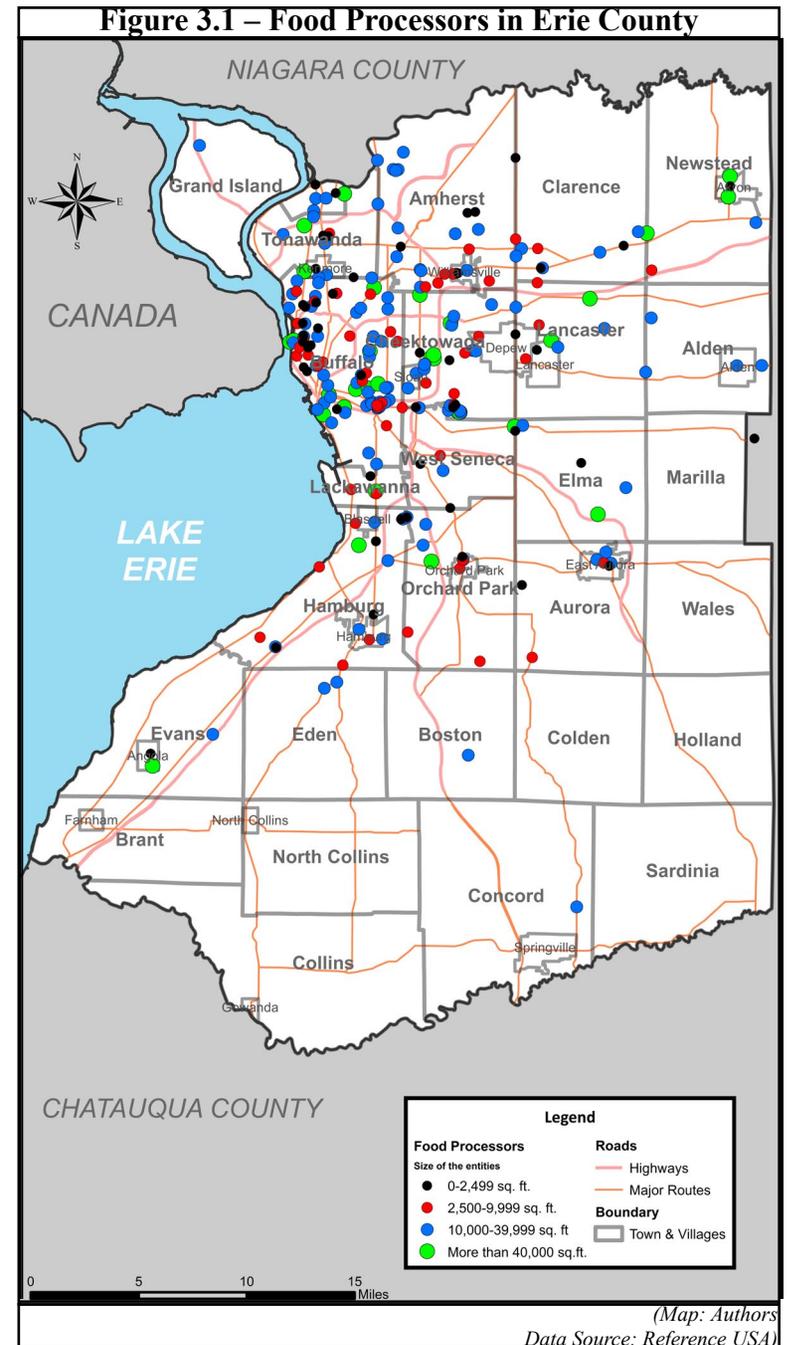
and oil seed crushers, were constructed. Located north of Buffalo, the City of Niagara Falls had access to cheap electrical power, which contributed to the creation of electric grain elevators in the 1890s and the introduction of grain and flour processing, as well.¹¹

The region and its food processing sector continued to thrive until other advances in transportation began to render this infrastructure in Buffalo obsolete. In 1932, the opening of the Welland Canal in nearby Ontario Canada, posed a direct threat to Buffalo’s dominance as a food shipment hub, as its route could accommodate grain boats and provide a direct route past Buffalo. In 1959, with the opening of the St. Lawrence Seaway, a shared American-Canadian waterway project which created a series of locks, canals, and waterways between the Great Lakes and the Atlantic Ocean, effectively eliminated the Erie Canal as a commonly-used shipping route for grain and food products.¹² The resulting loss of industry was a direct cause of decline in population and jobs in the area. The waterfront is still scattered with several grain elevators, serving as a reminder of the strength of this industry in Western New York.

Today, food processing in Erie County occurs at varying scales: at homes of residents, in small-scale businesses, as well in large-scale industries—such as a General Mills cereal manufacturing plant—a remnant of Erie County’s historic food processing legacy.

A. Current State of Commercial Food Processing

United States Environmental Protection Agency describes commercial food processing as “the commercial manufacturing that begins with raw animal and vegetable materials and transforms them into edible food products such as dairy, meat, vegetable, bakery, grain and cereals.” Food processing businesses convert raw materials into edible food products sold by grocers, wholesalers, restaurants, and institutional food services.¹³ Food processing industries include a variety of occupations. Some of the occupations include: bakers, slaughterers, meat packers, butchers,



meat cutters, poultry cutters and trimmers, fish cleaners, fish cutters and trimmers, food batchmakers, and food cooking machine operators and tenders. Food processors' scope of work has changed over time to reflect changing consumer needs and preferences and changes in technology. For instance, meat, poultry and fish cutters may prepare ready-to-cook food at food processing plants, but they may also be found at grocery and specialty stores performing special tasks such as adding sauces or flavorings to various products.¹⁴

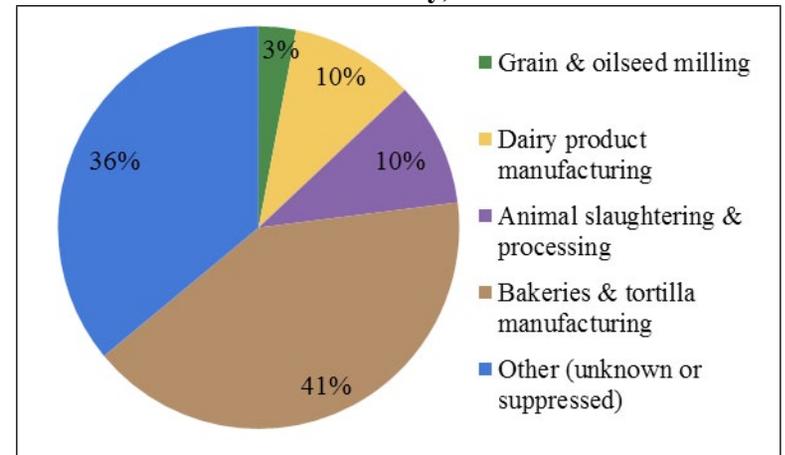
Erie County's food processing industry is described by the number of food processors, the size of food processors, and credit ratings of food processors. Below, we describe food processors by both number and type of food processor, the size of food processing establishments, and the credit worthiness of food processors.

NUMBER AND TYPE OF FOOD PROCESSORS

In 2007, there were 91 food processing businesses in Erie County (See Figure 3.1 for a spatial distribution of processors within the county). Businesses classified as bakeries and tortilla manufacturing places represented the biggest subset of 37 businesses (41%). The other remaining subcategories, such as animal slaughtering and processing, dairy manufacturing, and grain and oilseed manufacturing, each contained less than ten total establishments, respectively (See Figure 3.2).¹⁵

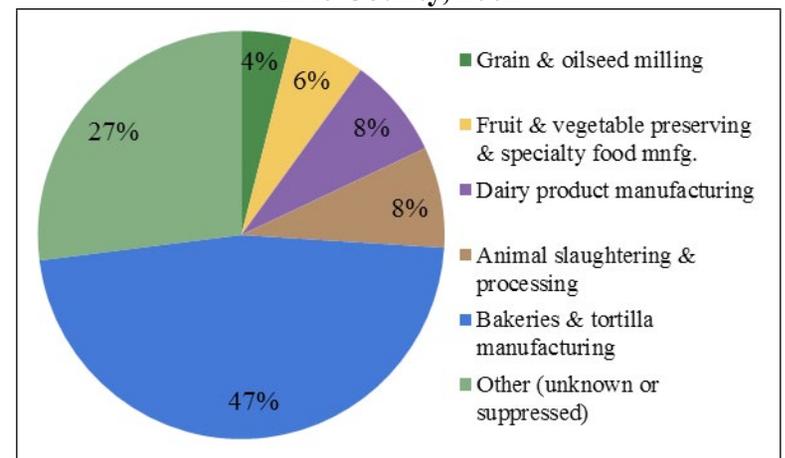
The number of food processing establishments has declined over the last decade. Over a five year period from 2002 to 2007, Erie County experienced a 14 percent decrease in the number of food processing establishments, as the number dipped from 106 establishments in 2002 to 91 establishments in 2007. Bakeries and tortilla manufacturing establishments still remain the most abundant food processor at 37 establishments, with animal slaughtering and processing second with only nine establishments (See Figure 3.3). The three remaining types of food processors—dairy product manufacturing, fruit and vegetable preserving and specialty product manufacturing, and grain and oilseed manufacturing, each contained less than ten total establishments, respectively (See Figure 3.2).

Figure 3.2 – Type of Food Processing Establishment, Erie County, 2007



(Source: 2007 Economic Census, United States Census Bureau)

Figure 3.3 – Type of Food Processing Establishment, Erie County, 2002



(Source: 2007 Economic Census, United States Census Bureau)

food manufacturing—constituted less than eight establishments each. Interestingly, in 2002 six establishments within the fruit and preserving and specialty food processing sector were reported, yet five years later no such establishments were reported within Erie County.

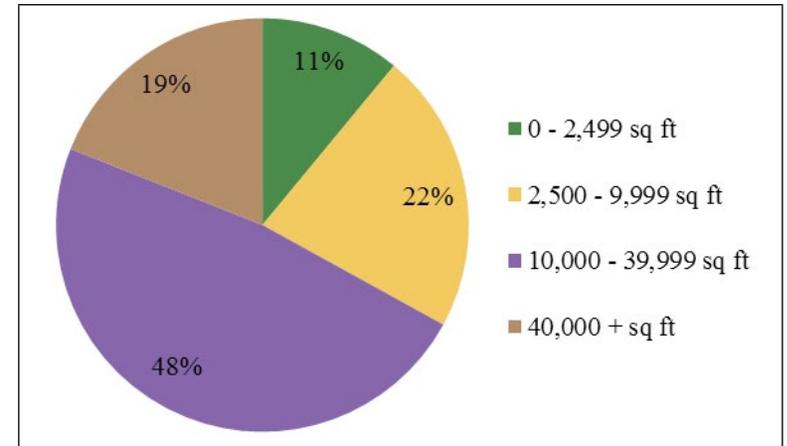
SIZE OF FOOD PROCESSING ESTABLISHMENTS

Food processing businesses are increasingly becoming larger in size through the occupation of larger building footprints. In Erie County, food processors occupy spaces less than 2,499 square feet to spaces more than 40,000 square feet. Almost one fifth (19%) of Erie County’s food processing establishments have a physical footprint in excess of 40,000 square feet. Many of these establishments include large-scale operations such as meat packing businesses, bakeries, bottle and canning manufacturers, and frozen food processors. By comparison, the two smallest space categories (0-2,499 square feet and 2,500-9,999 square feet), combined amount to one third (33%) of the area’s food processing square footage. Close to half of the area’s food processing establishments (47%) are within the 10,000-39,999 square footage range (See Figure 3.4).

CREDIT WORTHINESS

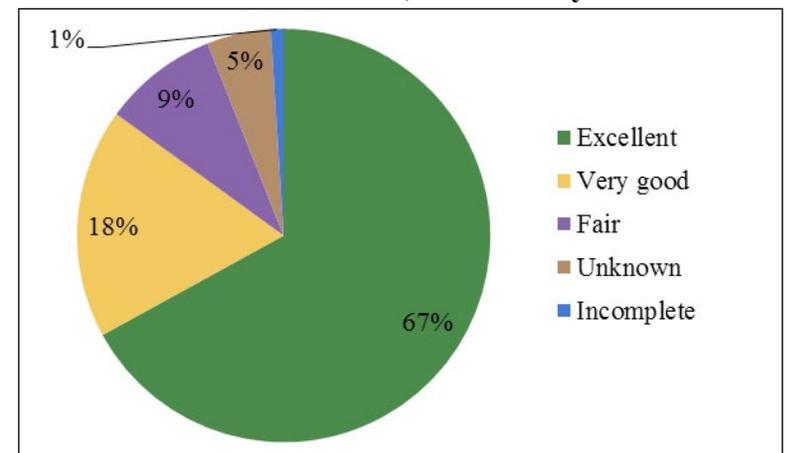
The credit rating of a food businesses can have a tangible effect on its ability to seek and borrow capital for various needs associated with business operations. For example, businesses with higher credit ratings are more likely to secure private financing at favorable interest rates. Credit ratings of A+, A, or A- are considered excellent, with B+ and B are considered very good, and ratings of C+ and C are fair. Within Erie County, 85 percent of the food processing establishments have an excellent or very good credit rating, suggesting that these processors’ access to new credit is not ideal. Only 9 percent of the county’s food processors have a fair credit rating (See Figure 3.5).

Figure 3.4 – Square Footage of Food Processing Establishments, Erie County



(Source: ReferenceUSA)

Figure 3.5 – Credit Rating of Food Processing Establishments, Erie County



(Source: ReferenceUSA, 2011)

B. Small Scale Food Processing

Recently, there has been a resurgence of small scale food processing. Prior to modern technological advances in food processing and preservation, people were solely in charge of their own food preservation.¹⁶ Many of the earlier techniques involved drying, smoking, fermenting and smoking, and some of the more recent methods include canning.¹⁷

Nicholas Appert, a 18th Century French chef and confectioner, is hailed as the “father of canning” because he originally discovered that heating food in vacuum-sealed containers eliminates the microorganisms that cause food to spoil.¹⁸ Appert filled champagne bottles with various fruits, vegetables, and meats, sealed them with corks, and immersed them in baths of hot water.¹⁹ His experimentation led to the modernization of food preservation. Even though Appert published his method in *The Art of Preserving*, he failed to patent his discovery.²⁰ Three months later, an English broker Peter Durand acquired a patent for a sterilization method strikingly similar to Appert’s.²¹ Eventually, cans became the preferred method of choice for food preservation in England.²²

Even though food processing has become highly industrialized, there has been a recent resurgence in small-scale canning, in part because of the recent economic downturn and a trend towards healthier eating.²³ Despite the difficulty of quantifying this increase, Elizabeth Andress, project director of the National Center for Home Food Preservation, says requests for canning classes have increased exponentially. Canning is now viewed as a healthier substitute to the many chemicals and preservatives present in many prepared foods.²⁴ It also allows citizens to adjust the amount of sugar and spices used in preparation of their food and an effective means to save money.²⁵

In the State of New York, any processors of home processed foods who sell or offer for sale goods produced at home may be exempted from Article C-20 of the New York State Agriculture and Markets Law, provided



General Mills Plant, Buffalo NY



Grain Elevators, Buffalo NY

that the following conditions are met: (1) all finished product containers are clean, sanitary, and properly labeled; (2) all home processed foods produced under this exemption are neither adulterated nor misbranded; and (3) glass containers for jams, jellies, marmalades and similar products are provided with suitable rigid metal covers.²⁶ This exemption is restricted to the following non-potentially hazardous home processed foods:

1. Bakery products
2. Traditional fruit jams, jellies, and marmalades
3. Spices or herbs
4. Snack items such as popcorn, caramel corn and peanut brittle
5. Candy (excluding chocolate).

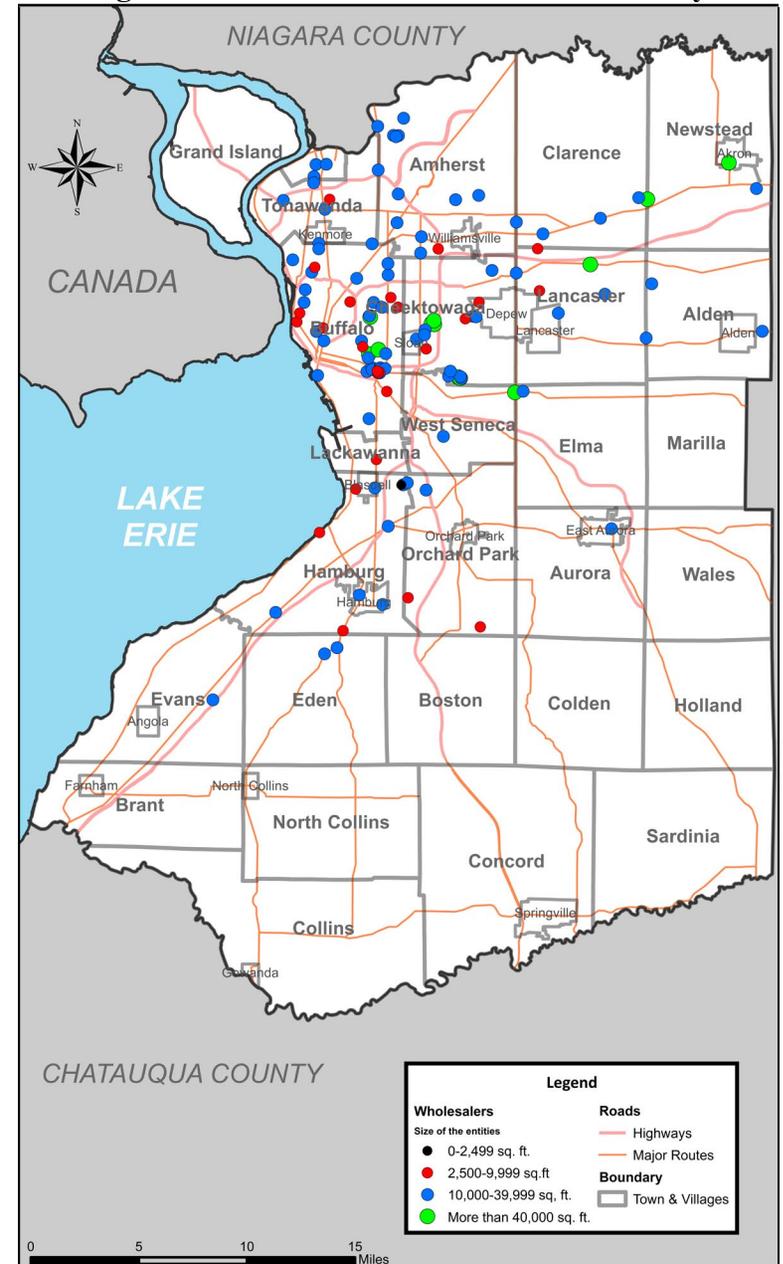
Also, any production of homegrown unprocessed raw produce does not require a home processing exemption.²⁷

C. Food Wholesale in Erie County

Generally, wholesale of food products is the practice of selling non-durable food items to businesses for the purpose of resale to consumers.²⁸ Establishments within this category include large-scale grocery wholesalers, packaged frozen food wholesalers, and dairy product wholesalers, among others. Examples of dairy products from wholesalers include butter, milk, cheese, ice cream and yogurt (See Figure 3.6 for a spatial distribution of wholesalers within the county).

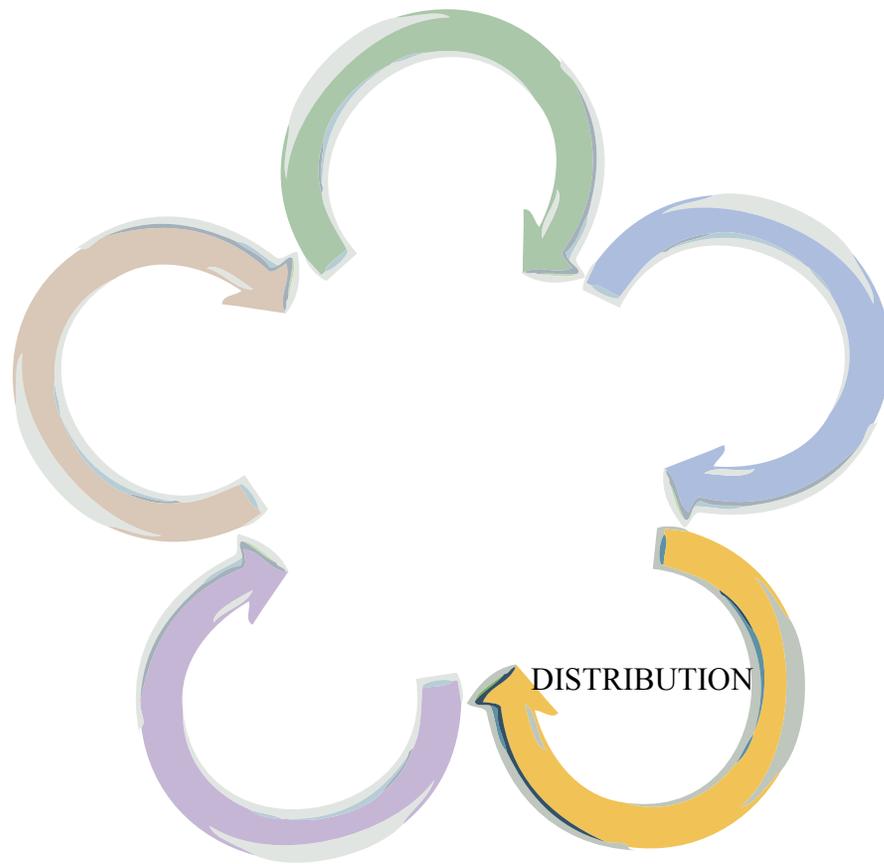
As of 2007, Erie County was home to 80 food wholesale establishments. The majority of these establishments (74.4%) were grocery and other related products merchant wholesalers. The remaining establishments are equally distributed within the confectionery and packaged frozen food wholesalers. This number of establishments reflects a slight decrease from the 2002 level of 93 wholesalers, excluding sales branch offices, a decrease of 14 percent. Furthermore, in 2007, this division employed between 2,500 and 4,999 paid employees, which is the same range of employees from 2002.

Figure 3.6 – Food Wholesalers in Erie County



(Map: Authors
Data Source: Reference USA)

Due to the urban makeup of Erie County, it is likely that many of these wholesalers offer their services to surrounding rural towns and villages. It is highly foreseeable that Erie County wholesalers provide food to more than just Erie County, and could include clients from other parts of Western New York, Northern Pennsylvania, Ontario, Canada or Ohio.²⁹ Additionally, with other urban markets being within a day's drive, there are likely wholesalers from Rochester, Cleveland, Toronto, and Pittsburgh that could provide food to Erie County's stores.



- 4 -

DISTRIBUTION

After food is processed, food is distributed to consumers through several distribution channels. The role of the distributors is to supply food to the consumers. This stage of the food system is largely how food finally gets into the hands (and stomachs) of the residents and consumers of Erie County.¹ By this definition, distributors are the actors who last control the food before it reaches the consumer. They encapsulate many individuals, institutions, and businesses within Erie County and include entities such as supermarkets, grocery stores, food retail cooperatives, convenience stores restaurants and caterers. All businesses where food is sold directly to consumers are part of this stage of the food system. Food distribution also includes institutions—both public and private—that provide food to their members and patrons, such as hospitals or schools.

They also include emergency food providers, such as food banks and soup kitchens, which are intended to provide food to people who experience short-term food needs.²

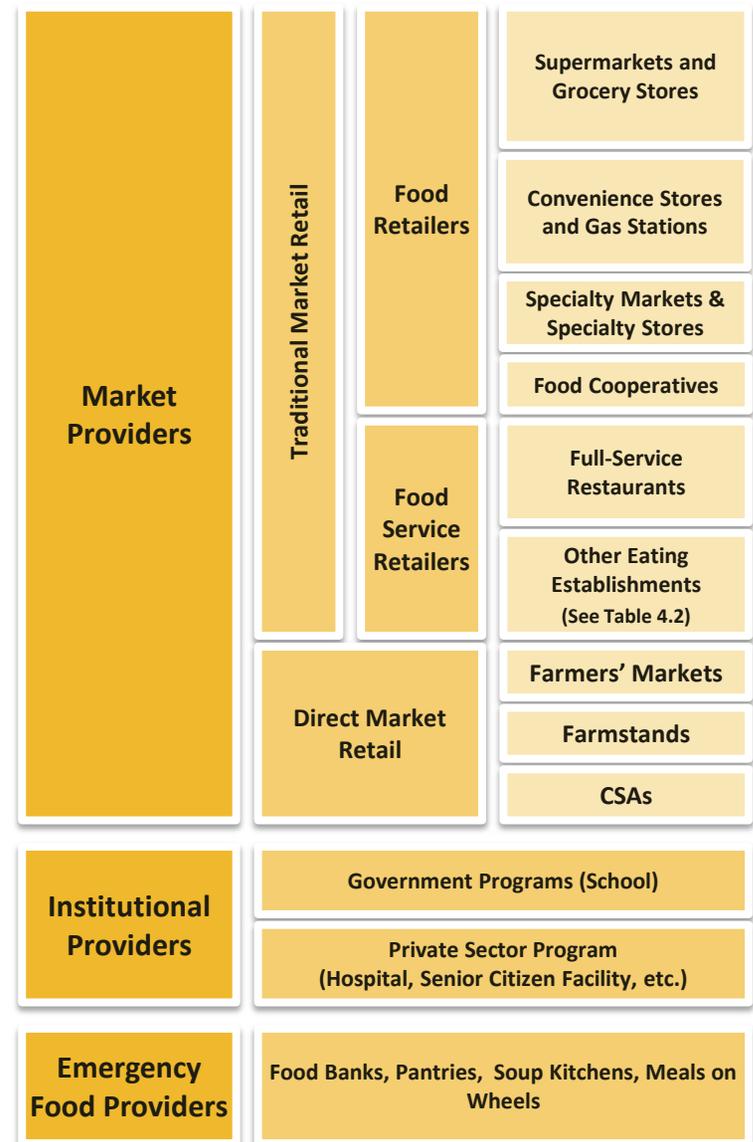
In Erie County, there are three main divisions within the food distribution sector (See Figure 4.1). First, the most significant way that food is distributed to Erie County consumers is in the private market by food retailers and food service businesses.³ The second division is comprised of public and private institutions that distribute food to consumers. Hospitals, schools, correctional facilities, and even sporting or cultural venues provide food to their patrons. The third and final food distribution division occurs by way of emergency food distribution.⁴ Food banks, food pantries, and soup kitchens primarily serve as the primary means for individuals and families to obtain food in an emergency.

A. Market Providers

Business retailing food is the “traditional” method for food to travel from producers to consumers. This commercial division is comprised of two methods of retailing operations. The first is through sales to consumers through non-producers, achieved primarily through supermarkets, grocery stores, both full- and limited-service restaurants, and convenience stores. The second method is through sales directly from producers to consumers (otherwise referred to as direct market retail), comprised primarily of farmers’ markets and Community Supported Agriculture (CSA). Both are means in which farmers and growers sidestep middlemen and sell directly to consumers. These two methods combined constitute a sizeable portion of Erie County’s food distribution system.

Consumers generally obtain their food in two ways: from a food retailer or directly from the producer. After food has been processed and stored, is through sales to consumers. Farmers and ranchers also sell their food to third parties who process, package, and otherwise prepare food for retail. These third party food retailers include establishments where consumers

Figure 4.1 – Food Distribution in Erie County



(Source: Authors)

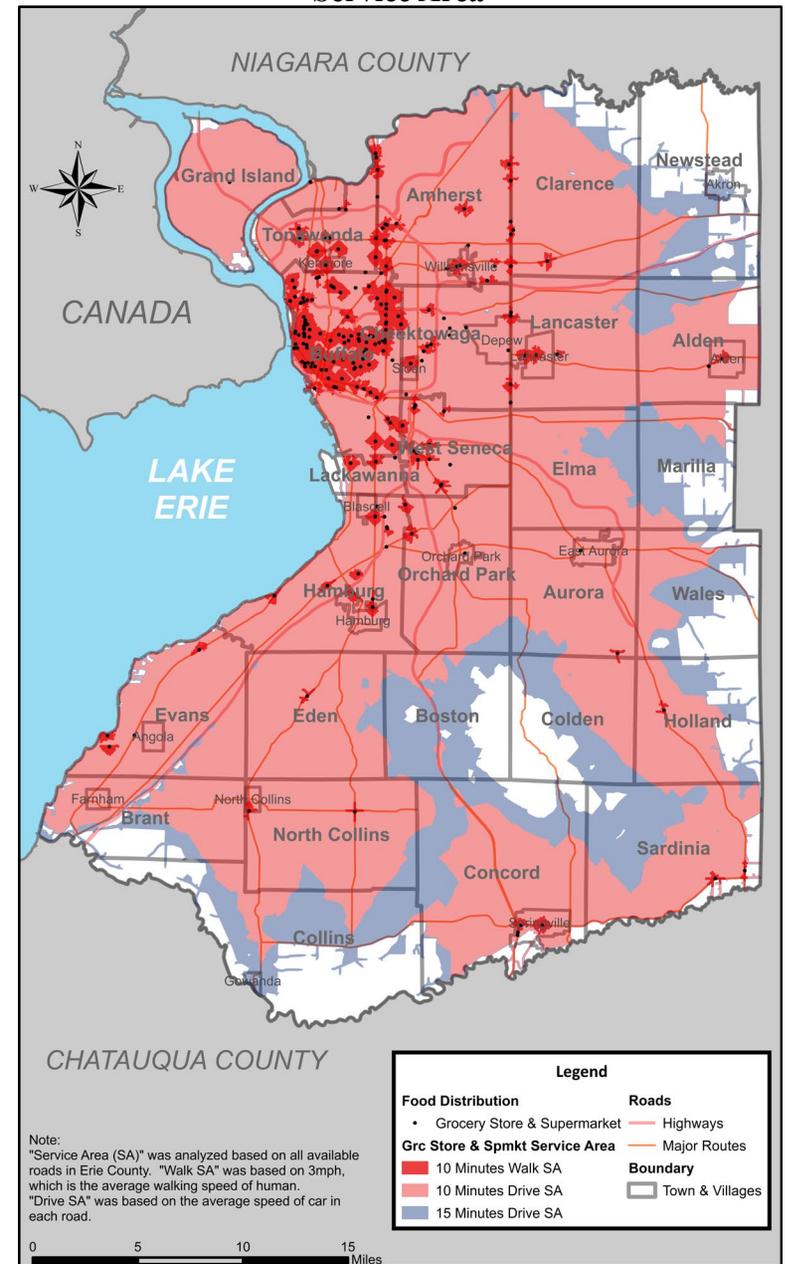
generally purchase food individually, such as grocery stores, supermarkets, and restaurants.

1. Traditional Market Retail

The traditional market retail division is characterized by food sales, in some manner, by food retail and food service businesses. Food retailers include grocery stores, supermarkets, convenience stores, and specialty markets. Food service businesses include restaurants, caterers, and any business specializing in preparing and serving food. Grocery stores and supermarkets are a main source of food for many consumers in the county. Both are engaged in selling a general line of food products, such as canned and frozen foods, fresh fruits and vegetables, and fresh and prepared meats, fish, and poultry to consumers.⁵ Additionally, convenience stores and specialty stores provide another option from which consumers can purchase food. Convenience stores include businesses selling a limited line of goods, usually bread, milk, soda, and snacks.⁶ Specialty stores include meat markets, fish and seafood markets, fruit and vegetable markets, and other specialty markets that distribute certain specialized products.⁷ One final method of food retail is through food cooperatives, a consumer-oriented model of food distribution.⁸ (See local highlight on page 50.) Each of these methods of food retailing currently exists in Erie County.

Food service business are comprised of restaurants and other food service businesses that sell prepared foods that are generally ready for consumption. Food service businesses specialize in the preparation of food for immediate consumption. These businesses include restaurants, food vendors, snack bars, alcoholic drinking establishments, and caterers. These operations offer numerous opportunities for Erie County consumers to consume food on or off business premises. On-premise facilities include full-service restaurants where food is usually provided by servers and is prepared on-site. Additional services, such as provisions of beverages and entertainment may also be present, but the primary purpose of the business is

Figure 4.2 – Supermarket & Grocery Stores Service Area



(Map: Authors.
Data Source: US Census, 2010
US Census Bureau, TIGERLine Data, 2011)

that of preparing and serving food.⁹ Off-premise facilities include fast-food and other limited-service restaurants, cafeterias, snack bars, mobile food services (such as hot dog carts and mobile food carts), alcoholic drinking places, and vending machine operations. Food sold by these businesses is generally prepared for consumption off the premises in which it is prepared, even if it may be consumed there.¹⁰

A. Food Retailers in Erie County

In 2007, Erie County residents were served by 1002 food retail destinations. Of these, 356 were grocery stores and supermarkets (See Table 4.1).^{*} These stores, combined, have an estimated \$1.8 billion in sales and receipts and employ 10,624 individuals in Erie County. Five years prior in 2002, there were 352 supermarket and grocery store establishments. Those stores comprised an estimated \$1.7 billion in sales and receipts and employed 12,300 individuals. During those five years, there was an increase in the number of grocery store establishments, but a decrease in the number of employees and the amount of money spent on those employees’ salaries.

Supermarkets generally have higher volume of goods sold than grocery stores because of their larger selection. Also, supermarkets are larger in average store square-footage and in the number of employees. Erie County is home to numerous supermarkets, including Tops Friendly Markets, Wegmans, Price-Rite, Save-A-Lot, Walmart, Target, Dash’s Market, Budwey’s, Aldi, and Jubilee Foods. Of these ten companies, only four are headquartered in Western New York. Both Budwey’s and Dash’s Market serve consumers exclusively within Erie County, while Tops and Wegmans, with headquarters in Niagara Falls and Rochester, respectively, serve customers outside Erie County as well.

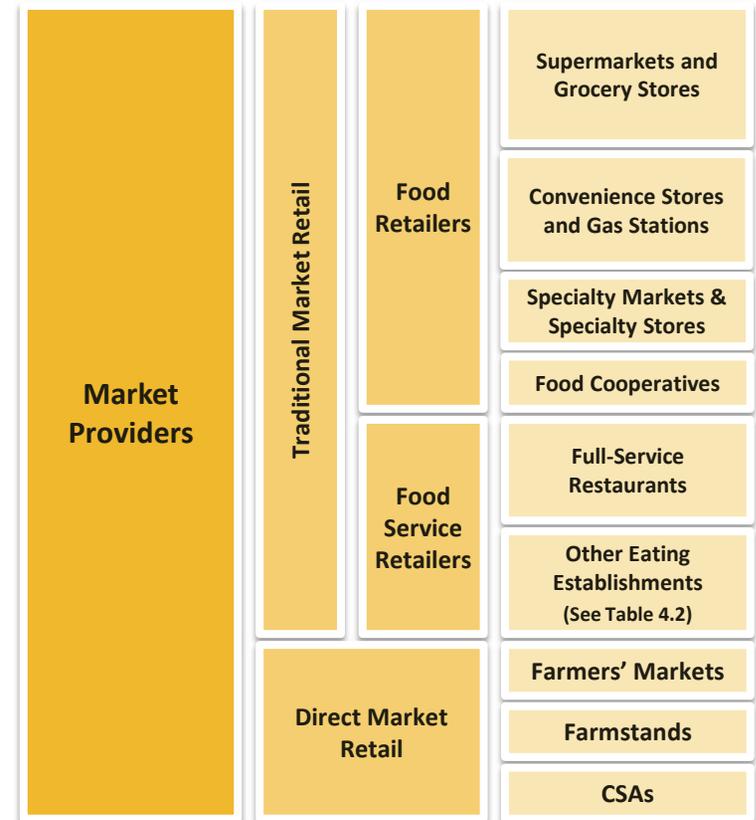
^{*}Though there are quite a few differences between grocery stores and supermarkets, such as product selection, square footage, and available departments, for the purposes of this report, the difference between a grocery store and a supermarket is defined by the number of employees, with supermarkets having more than 50 employees at an individual location. This distinction is made to highlight grocery stores that are generally locally owned and operated.

Table 4.1 – Food Retailer Characteristics, Erie County

	Establishments		Sales		Employees	
	No.	%	\$1,000	%	No.	%
Supermarkets	56	5.61	1,816,496	57.02	10,624	68.92
Grocery stores	300	29.92				
Convenience stores	125	12.48	117,526	3.69	1,104	7.16
Specialty markets	220	21.96	86,991	2.73	949	6.16
Gas stations	301	30.04	1,164,967	36.57	2,737	17.76
Total	1002	100	3,185,980	100	15,414	100

(Source: 2007 Economic Census & Non-Employers Statistics, U.S. Census Bureau)

Figure 4.3 – Food Retail in Erie County



(Source: Authors)

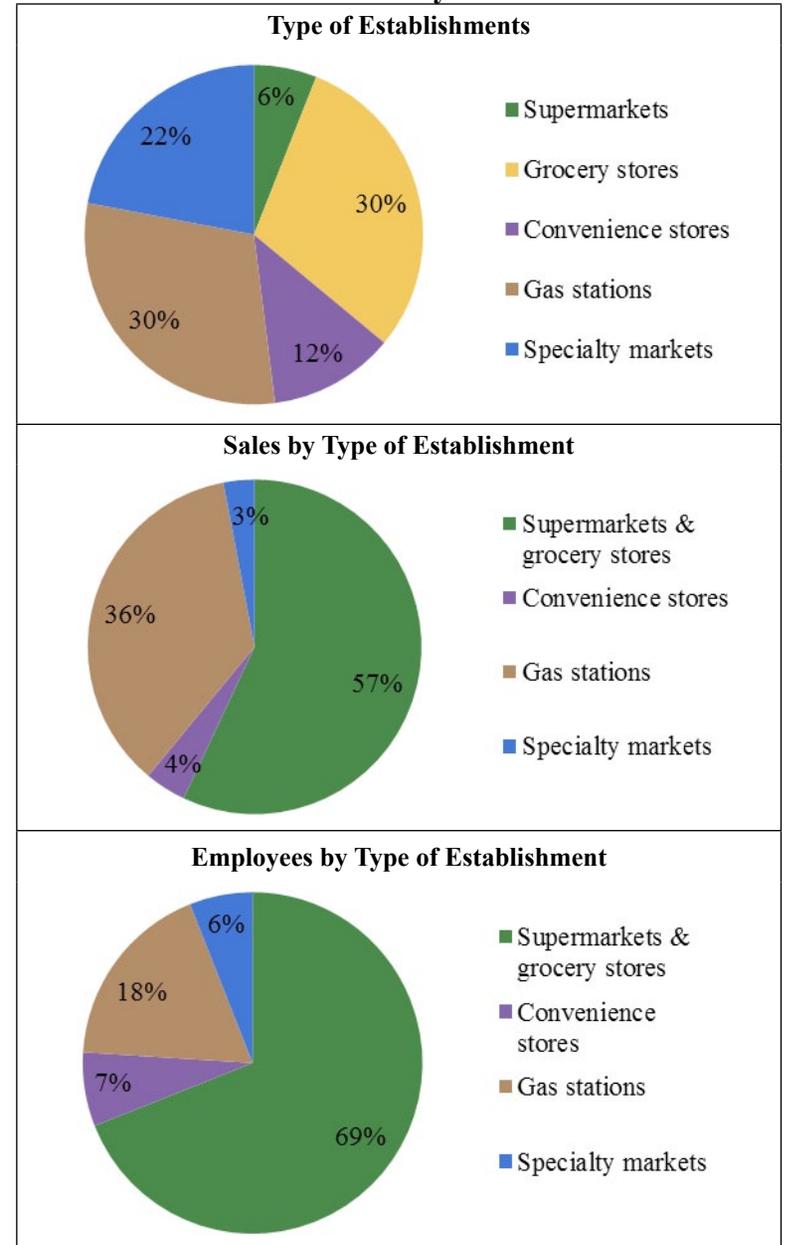
Convenience stores and gas stations have a smaller share of retail sales than the larger food retailers, despite their higher combined number of establishments. In 2007, there were 125 convenience store establishments and 284 gas stations within the county. Convenience stores employed 1,104 individuals and gas stations employed 2,720 individuals. Together, both business types earned \$1.2 billion in revenues.

Specialty stores constitute an even smaller percentage of sales to the food retailing market. In 2007, there were only 97 establishments employing 826 individuals and bringing in approximately \$81 million in receipts. Compared to 2002, there was a slight decrease in the number of establishments from 105 in 2007. The number of employees in 2002 was 722 and there was approximately \$70 million in receipts.

The final business model for food retail in Erie County is the cooperative model. In a food cooperative, member-buyers hold greater decision-making authority than buyers in a traditional retail store. The cooperative model is generally founded upon four principles: 1) open membership, 2) one member, one vote, 3) limited or no interest on investment shares, and 4) savings or profits distributed to members. At one point, Erie County had as many as 5 food cooperatives in operation.¹¹ Since 1971, the Lexington Co-op, the only remaining food cooperative located on Elmwood Avenue in Buffalo, New York, has provided local and organic foods to customers and shareholders. The business model encourages community shareholders to actively participate in the business by giving member shareholders discounts on food purchased at the co-op. As a shareholder, each member receives her share of the co-op's profits at the end of the year. Each share is determined as a percentage of the amount of money spent by each shareholder during the previous year. This system incentivizes members to shop at the cooperative because it will lead to a larger percentage of profits at the end of the year.

In whole, grocery stores and supermarkets constitute the largest portion of traditional market retail sales within food distribution (See Figure

Figure 4.4 – Food Retailer Characteristics, Erie County



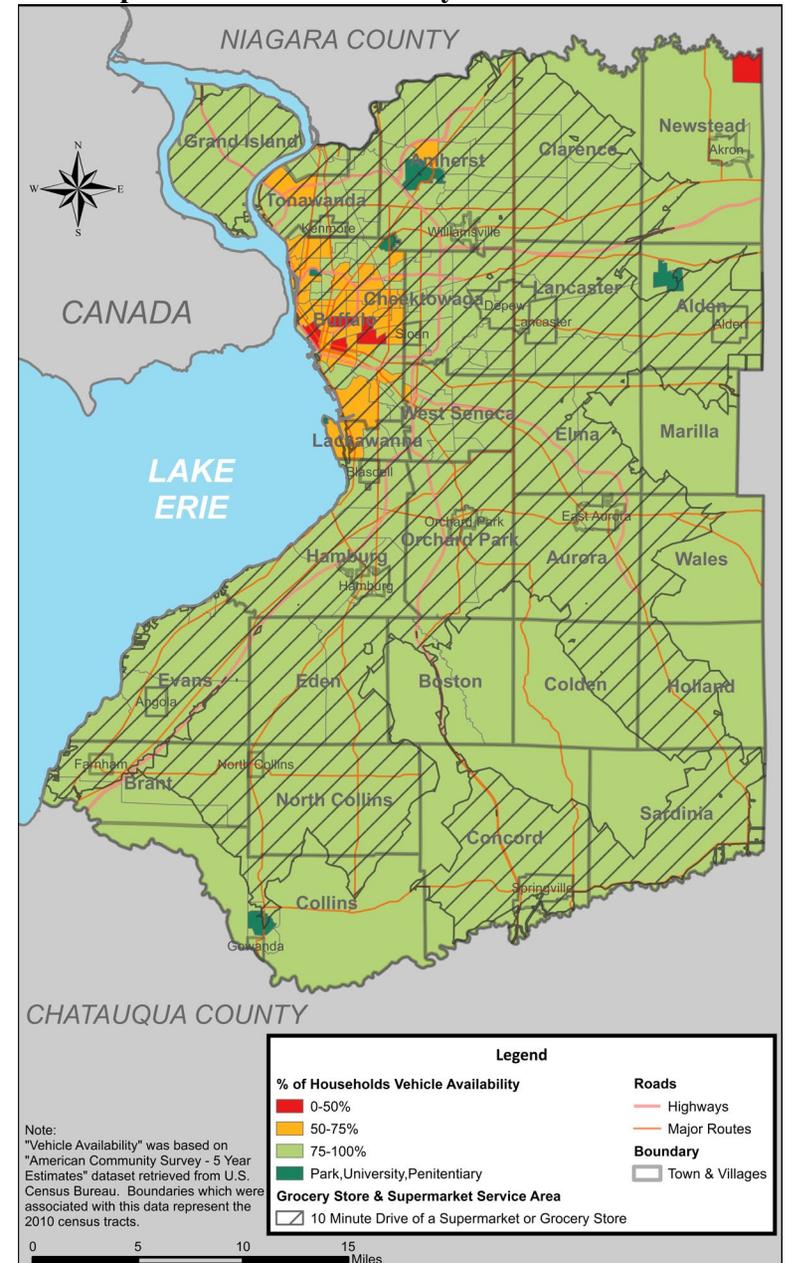
(Source: US Census Bureau)

4.4). Sales and receipts for grocery stores and supermarkets are 57.1 percent of the overall food retail establishments. Gas station sales constitute 36.6 percent, but these sales do not reflect food-exclusive purchases. Specialty stores and convenience stores make up 2.6 percent and 3.7 percent, respectively. The entire food retail division has 15,274 employees. Not taking into account gas stations, and isolating businesses primarily engaged in food sales, grocery stores maintain the largest share of the division in food sales. In 2007, 90.1 percent of sales from these businesses came from grocery stores and supermarkets. Additionally, grocery stores and supermarkets employ 84.3 percent of individuals working in this division. In sum, supermarkets and grocery stores are the largest players in the traditional market retail food distribution division.

Although supermarket and grocery stores hold a large share of market sales, they are not evenly distributed across the county. Were these establishments equally accessible, there would be little need for concern.

In Erie County, there are 281,337 residences.¹² Of those, only 72,475 (25.75%) are located within a 10-minute walk to a supermarket or grocery store. The vast majority of these residences lie within the City of Buffalo. In the City of Buffalo, 64.93 percent of Buffalo's residences are within a 10-minute walk to such food retailers, although the quality of food may be questionable. Besides the City of Buffalo, the Village of Sloan and the Village of Blasdell have a higher percentage of residences within walking distance of a supermarket or grocery store, 75.75 percent and 74.38 percent respectively (See Appendix G, Table 7). Buffalo, Sloan, and Blasdell represent the only three municipalities within the county where more than half of all residences are within a 10-minute walk to a supermarket or grocery store. More drastic, however, is the number of municipalities that have zero residences within that short walking radius. Of the county's 45 municipalities, 11 (24.44%) do not have a single residence within walking distance of a supermarket or grocery store (See Appendix G, Table 7). Even

Figure 4.5 – Vehicle Availability & 10-Minute Supermarkets and Grocery Store Service Area



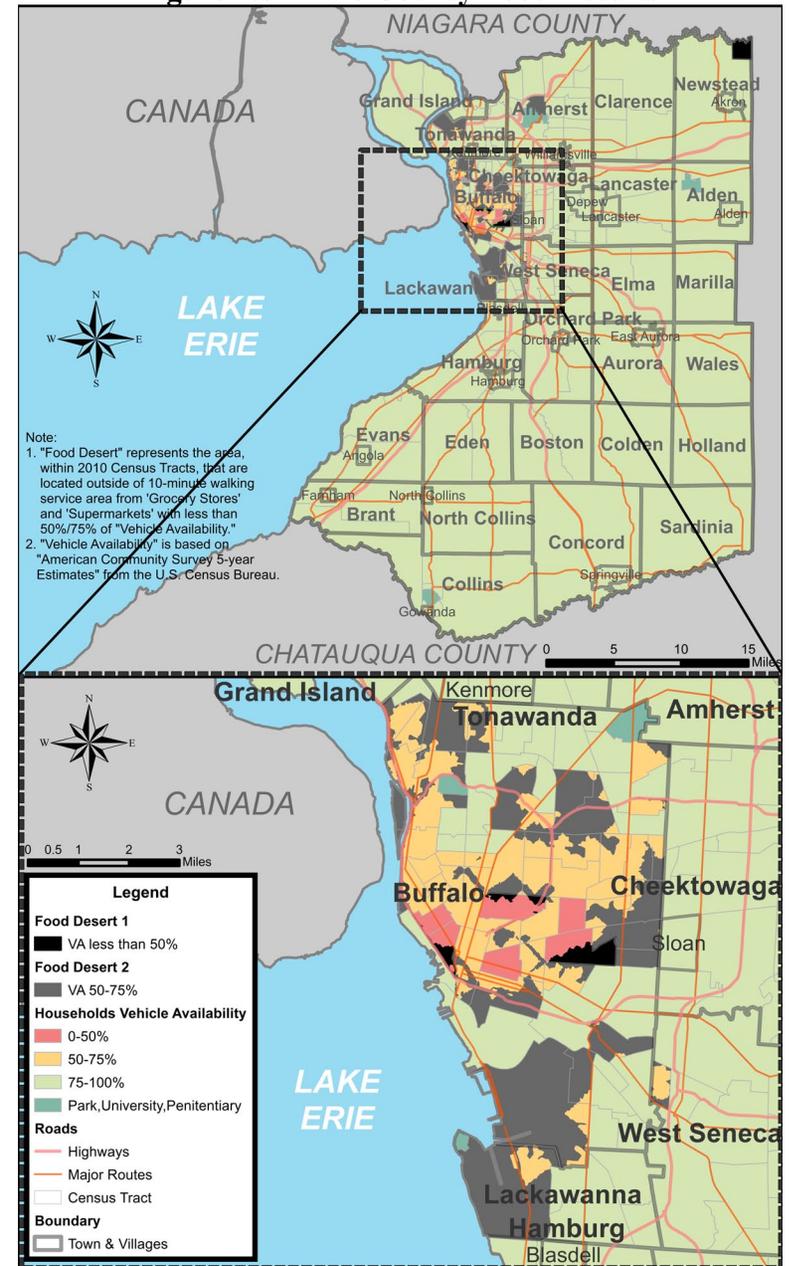
(Map: Authors.
Data Source: US Census, 2010
US Census Bureau, TIGERLine Data, 2011)

more alarming, 21 of the total (46.67%) are home to fewer than 10 percent of residences within such a short walk.

The most problematic issue is the population located outside of a 10-minute drive distance to supermarkets and grocery stores without access to private vehicles (See Figure 4.6). These areas are defined as food deserts. Among the total 281,337 Erie County residences, 14,668 (5.21%) are located outside of the 10-minute drive distance from fresh food sources and have low vehicular access. Almost all of these residences (13,416 of 14,668, or 91.46%) are located within the City of Buffalo. These represent 19.20 percent of all residences in the City of Buffalo. Even in the city, 114 (0.85%) residences with less than 50 percent of vehicle availability, a sign of an even more severe food desert, where fewer people have access to a vehicle while simultaneously living further than a 10-minute walk from a grocery store or supermarket (See Appendix G, Table 8).

These numbers, though stark, are not entirely surprising, due to the high dependence upon automobiles among county residents (See Figure 4.4). With this in mind, the number of residences within a 15-minute drive of supermarkets and grocery stores is understandably higher than those within a 10-minute walk. Virtually all of the 281,337 residences (98.83%) located within the county are located within a 15-minute drive of these traditionally fresh food retailers. However, there are municipalities, likely due to their rural nature and fewer roads, that have comparatively lower access to fresh foods. Newstead (55.17%), the Village of Akron (37.74%), Colden (34.17%), and Wales (23.19%) all have a relatively high number of residences further than a 15-minute drive to a supermarket or grocery store (See Appendix G, Table 9). The reason for this disparity is due to the small number of residences within the municipalities with relatively lower access. However, most of them are likely to benefit from fresh food retailers in adjacent counties; except Boston and Colden because of their central location in Erie County (See Figure 4.2).

Figure 4.6 – Erie County Food Deserts



(Map: Authors.)

Data Source: US Census, 2010
 US Census Bureau, TIGERLine Data, 2011)

Even in the county, there are residences located beyond a 10-minute drive from a grocery store or supermarket (See Figure 4.6). As it relates to accessing fresh food, not all of Erie County's residences, and particularly those in rural parts of the county, have direct access to supermarkets and grocery stores.

B. Food Service Businesses in Erie County

Erie County has 2,316 food service businesses, more than the number of food retailers. These businesses generate over one billion dollars in sales and employ more than 30,000 people. In 2007, there were 798 full-service, on-premise restaurants (See Table 4.2). These full-service restaurants brought in \$535 million in sales receipts, approximately 47 percent of all food service sales. Full-service restaurants also employed 15,502 individuals in 2007, half of the entire employees within the food service sector.

Comparatively, the remainder of the food service sector (snack bars, cafeterias, buffets, limited-service restaurants, and mobile food establishments) had 1,518 establishments. These establishments recorded over \$597 million in sales in 2007. Additionally, there were 15,300 employment positions in the remainder of the food service sector. The majority of the establishments, sales, and jobs are in limited-service restaurants, accounting for almost two-thirds (799) of the establishments, 70 percent of total sales, and 71 percent of employment (See Figure 4.7). Clearly, both full- and limited- service restaurants play a major role in distributing food to consumers. In total, full- and limited- service restaurants alone comprise 69 percent of total food service establishments, 84 percent of sales, and 85 percent employment.¹³

C. Traditional Market Retail in Erie County's Economy

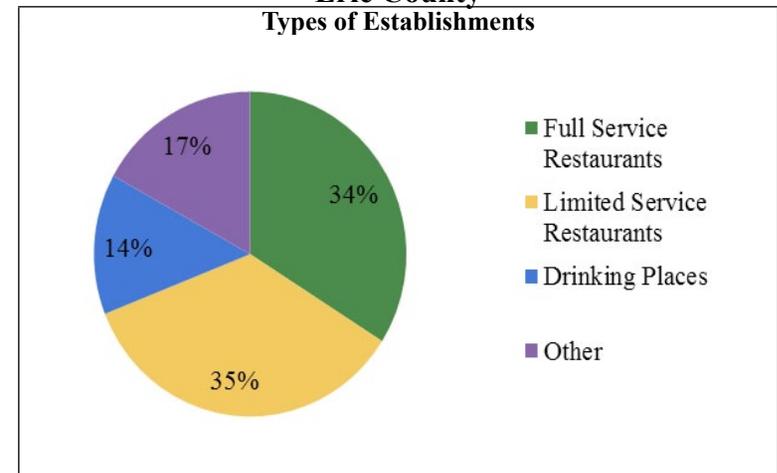
Traditional food retail and food service businesses collectively play a big role in the county's economy. We seek to demonstrate how large of a segment the food system is within these individual parts of the county's economy.

Table 4.2 – Food Service Establishments' Characteristics, Erie County

	Establishments		Sales		Employees	
	No.	%	\$1,000	%	No.	%
Full service restaurants	798	34.46	535,089	47.26	15,502	50.33
Ltd. service restaurants	799	34.50	420,669	37.15	10,824	35.14
Drinking places	330	14.25	53,144	4.69	1,372	4.45
Special food services	199	8.59	4,881	0.43	199	0.65
Snack & non-alcoholic beverage bars	124	5.35	79,090	6.99	1,930	6.27
Cafeterias & buffets	14	0.60	10,545	0.93	204	0.66
Caterers	52	2.25	28,790	2.54	771	2.50
Total	2,316	100	1,132,208	100	30,802	100

(Source: 2007 Economic Census & Non-Employers Statistics, U.S. Census Bureau)

Figure 4.7 – Food Service Retailing Characteristics, Erie County

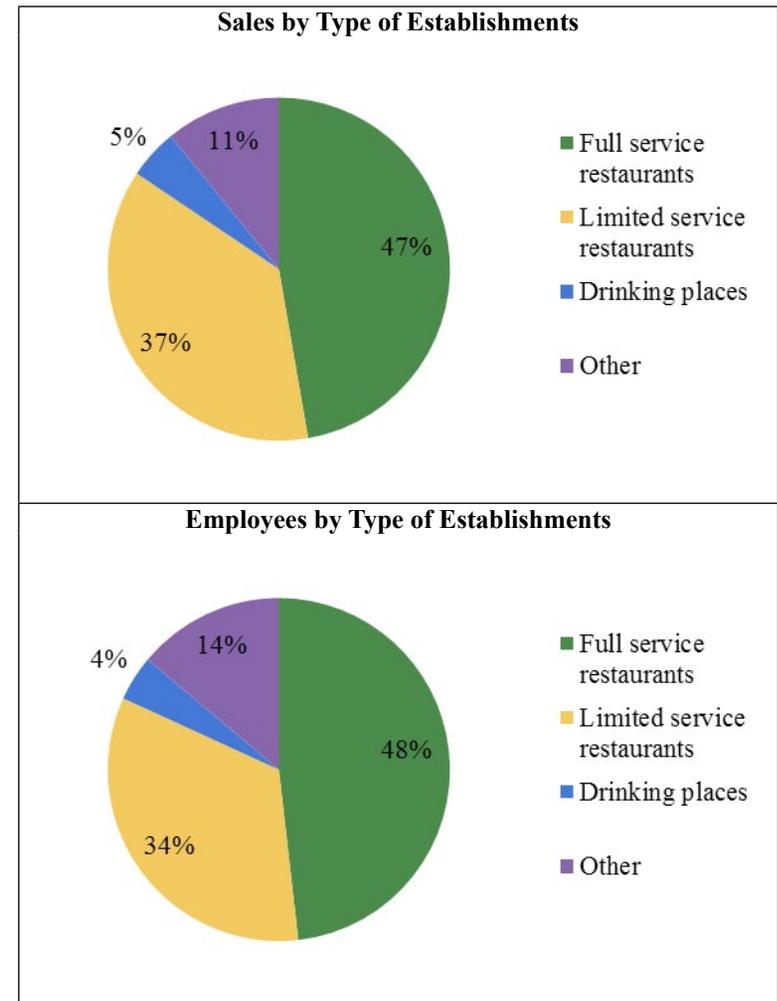


cont.

In 2007, there were 8,662 retail establishments located in Erie County (See Table 4.3). Of these, 1,237 (14.3%) of these establishments were food retail establishments. Food retail constituted 21.0 percent of all retail sales for the year, at \$3.3 billion. All retail stores in Erie County had \$16.1 billion retail sales for the same year. Additionally, food retailers employ 16,690 individuals (28.2%) working in the retail sector. As demonstrated, the retail sector is the second largest employment sector in Erie County and within that sector, food retailers are the largest employers. Looking at the entire picture, for a portion of the retail sector that has a relatively small percentage of establishments, food retailers account for approximately one out of every five retail dollars spent and close to 30 percent of all retail employees.

The service sector in Erie County is also heavily dominated by the food industry. Approximately 25 percent of all service establishments are food service establishments (See Table 4.4). More than \$400 million, which is more than half (51.4%) of gross service sales, is collected from food service retailers. Food service retailers are the largest employers in the service sector as well, employing two out of every three employees (66.7%).

Taken together, the food retail and food service retail constitutes a large portion of both the retail and service sector combined (See Figure 4.8). Food businesses comprise 20.2 percent of all retail and service establishments. With only one in five of the establishments, food businesses comprise close to one-third (32.7%) of all sales and almost one in every two (46.2%) individuals employed in the entire retail and service sectors is employed at a food business. In sum, food businesses comprise a large proportion of both the retailing and service industries within Erie County. In total, both the food retailing and food service businesses located in Erie County make up a large portion of Erie County's entire retailing and service industries (See Appendix G, Table 11).



(Source: US Census Bureau)

Table 4.3 – Role of Food Businesses Among Entire Retailing Industry, Erie County

	Establishments		Sales		Employees	
	No.	%	\$1,000	%	No.	%
Food retail	1237	14.30	3,378,831	21.00	16,690	28.20
Non-food retail	7425	85.70	12,727,473	79.00	42,441	71.80
Total	8,662	100	16,106,304	100	59,131	100

(Source: 2007 Economic Census & Non-Employers Statistics, U.S. Census Bureau)

2. Direct Market

The hallmark of a direct market distribution method is the direct connection between producers and consumers of food. Direct marketing of food can occur through farmers' markets, farm stands, and county supported organizations. In Western New York, consumers can interact directly with farmers through all of these methods.

Community Supported Agriculture (CSA) is a way for consumers of food to be directly connected with farmers who produce food and farms on which the food is produced. In a CSA, at the beginning of a growing season, a farmer directly sell shares of the upcoming harvest to consumers.¹⁴ In return, shareholders receive weekly shares of fresh produce and share in the risks and rewards of farming. Shares of food are given to shareholders either at prearranged drop-off sites or, in some cases, a shareholder can venture to the farm on which her food was grown. Shareholders are generally given a prearranged selection of farm offerings based upon the fruits and vegetables in season.

The presence of CSAs in Erie County is limited in number. The 2007 Agriculture Census listed 10 CSA farms in Erie County.¹⁵ However, review of an internet database reveals 12 CSAs that are accessible to Erie County residents (See Appendix G, Table 12). This is an increase from the three farms reported in 2003.¹⁶

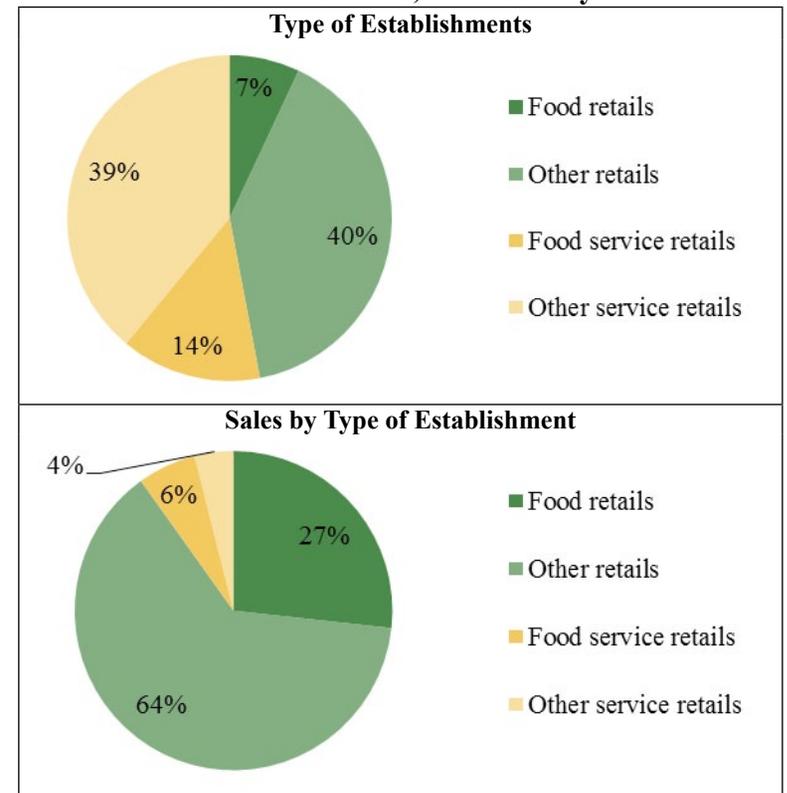
Farmers' markets offer another way for farmers to sell their produce and meats directly to the consumer. Recently, there has been a surge in the number of farmers' markets nationwide.¹⁷ Farmers' markets have a few common factors to distinguish them from grocery stores, road-side stands, and other types of food-marketing outlets: 1) farmers selling produce and food they raise or make 2) to individual customers 3) at a temporary location (often on public property) 4) on a periodic basis 5) for a set period of time 6) during the local growing season 7) and are operated by a government or a non-profit organization.¹⁸ Though most farmers' markets have a majority

Table 4.4 – Role of Food Businesses Among Entire Service Industry, Erie County

	Establishments		Sales		Employees	
	No.	%	\$1,000	%	No.	%
Food services & drinking places	2,488	25.54	414,647	51.39	34,572	66.77
Accommodation	173	1.78	55,216	6.84	3,233	6.24
Repair & maintenance	2,005	20.58	157,206	19.48	4,914	9.49
Personal & laundry services	5,075	52.10	179,810	22.28	9,060	17.50
Total	9,741	100	806,879	100	51,779	100

(Source: 2007 Economic Census & Non-Employers Statistics, U.S. Census Bureau)

Figure 4.8 – Traditional Market Food Retailer Characteristics, Erie County



cont.

of these factors, variations exist among markets from locale to locale. Some markets exclusively sell fresh produce and refuse to sell prepared food products or crafts.

Erie County is dotted with many farmers' markets.* Currently, there are 17 markets within the county (See Figure 4.9). Of these 17, only the Clinton Bailey Farmers' Market in Buffalo is open year round, while the rest are generally open from Spring until Fall, the traditional growing and harvesting season. The Clinton Bailey Market, in addition to being open year round, also operates daily. The remaining markets usually operate only one or two days in the week. Also, only 5 of the 17 markets are located within the City of Buffalo's boundaries, and all but one accept Farmers' Market Nutrition Program checks as a method of payment (See Appendix G, Table 13).¹⁹

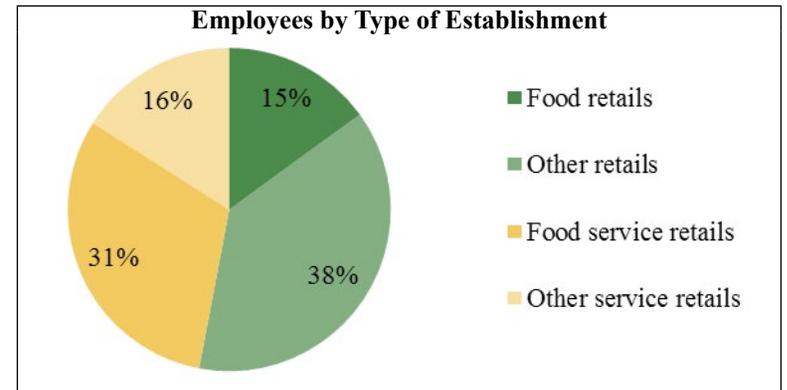
B. Institutional Providers

In addition to direct-to-consumer retailing, Erie County consumers also receive food through institutional providers. Food distributed by institutions goes only to individuals who have some sort of membership or affiliation with the institution. Schools, universities, hospitals, assisted-living facilities, and prisons provide food to consumers as part of their participation with the institution. In the public sector, school children in Erie County receive lunch every day, and with the high number of poor students that qualify for breakfast, there are likely many children who receive breakfast and lunch at school. Erie County has 11 institutions of higher learning,** and though they range in student population and number of employees, there is still a substantial amount of food provided to members. A number of correctional facilities*** are required by law to provide food to inmates

* Any market that sell farmers' produce in Erie County is classified as a "farmers' market" in this report.

** Buffalo State University, Bryant & Stratton College, Canisius College, D'Youville College, Daemen College, Erie County Community College (3 campuses), Hilbert College, Medaille College, Trocaire College, Villa Maria College, and the University at Buffalo.

*** Including Wende Correctional Facility, Erie County Youth Detention Center, Erie



(Source: US Census Bureau)

LOCAL HIGHLIGHT

The Lexington Co-op is the lone remaining food cooperative in Erie County. Started in 1971, the Co-op has moved to a new member-financed building on Elmwood Avenue. As a cooperative, it is member/consumer driven and sets goals that reflect its commitment to its members/consumers. The store aims to provide increased sales of local and organic foods. Last quarter alone, the Co-op purchased over \$250,000 worth of produce from local producers and, in the previous year, generated over \$2.4 million in sales of locally produced items.

Tim Bartlett, General Manager for Lexington Co-op, says his business relationships with local farmers are crucial to the store's vitality and future. "Our local farmers do a really great job. If [the food is] in season, we're able to get it for our customers." Even with access to quality local foods, Bartlett says that there is a large transactional cost in doing business with local producers. To secure local produce, he spends more time and money than he does in acquiring out of season and nonlocal food. "Everything about dealing with local farmers drives up our costs. For us, it is part of our mission, but for other stores, it is a strong impediment to buying from local buyers."

Lexington Co-op also has additional goals to educate its members, impact the local economy, and support green infrastructure. The goals clearly state that the Co-op wants to "be driving \$10 million back to local farmers and producers annually."

as well. Private institutions such as hospitals and assisted living facilities distribute a large number of foods to both their clients and employees.

C. Emergency Food Providers

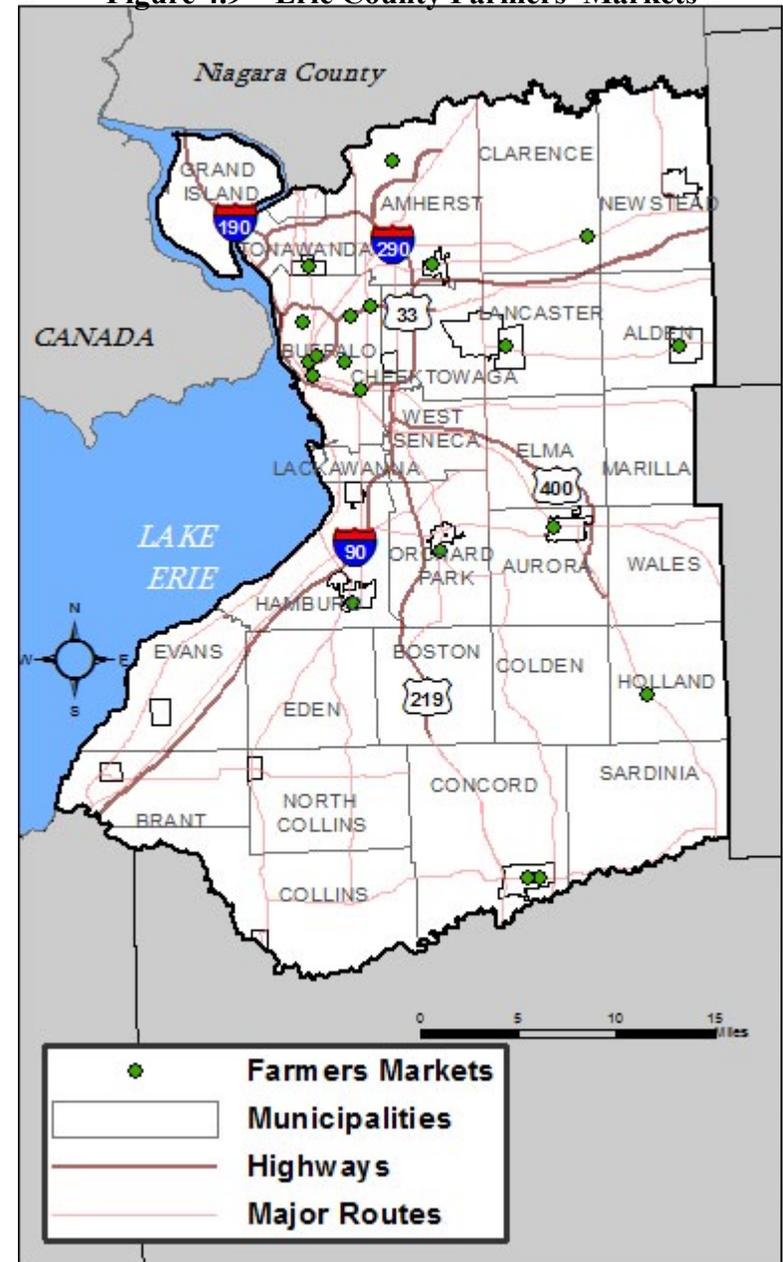
The main purpose of emergency food providers is to alleviate short-term symptoms of hunger. Although these programs may not transform a food system, they are a means to fill hungry stomachs and ensure that Erie County poor are fed at least one daily meal. The poor and elderly are generally the recipients of these services, usually in the form of a hot prepared meal. In Erie County, there are a variety of organizations that make these services available to an estimated 123,150 (13.9% of total population) low-income individuals.

The Food Bank of WNY, located in downtown Buffalo, is a large supplier of food to Erie County's hungry. The Food Bank of WNY acts as both a collector and distributor of food throughout the Western New York region, and distributes food to smaller agencies that subsequently provide food directly to the poor. The Food Bank provides food to 227 food shelters, pantries, and soup kitchens in Erie County alone.²⁰ In 2009, the Food Bank distributed more than 1.2 million meals every month to hungry households in Western New York, 62 percent of which were to Erie County residents.²¹ The Food Bank receives their food donations from two different sources: local donations and food drives sponsored by various businesses and individuals and the rest from the state and federal governments.²²

In 2009, the Food Bank distributed close to \$11.5 million worth of food to WNY.²³ Erie County residents received 62 percent, or \$7.08 million, of this food distributed through agencies such as food pantries and soup kitchens.*

The Food Shuttle of WNY serves a similar purpose as the Food Bank. Located in Williamsville, New York, this organization collects excess and

Figure 4.9 – Erie County Farmers' Markets



(Map: Authors.)

Data Source: NY Dept. of Ag and Markets)

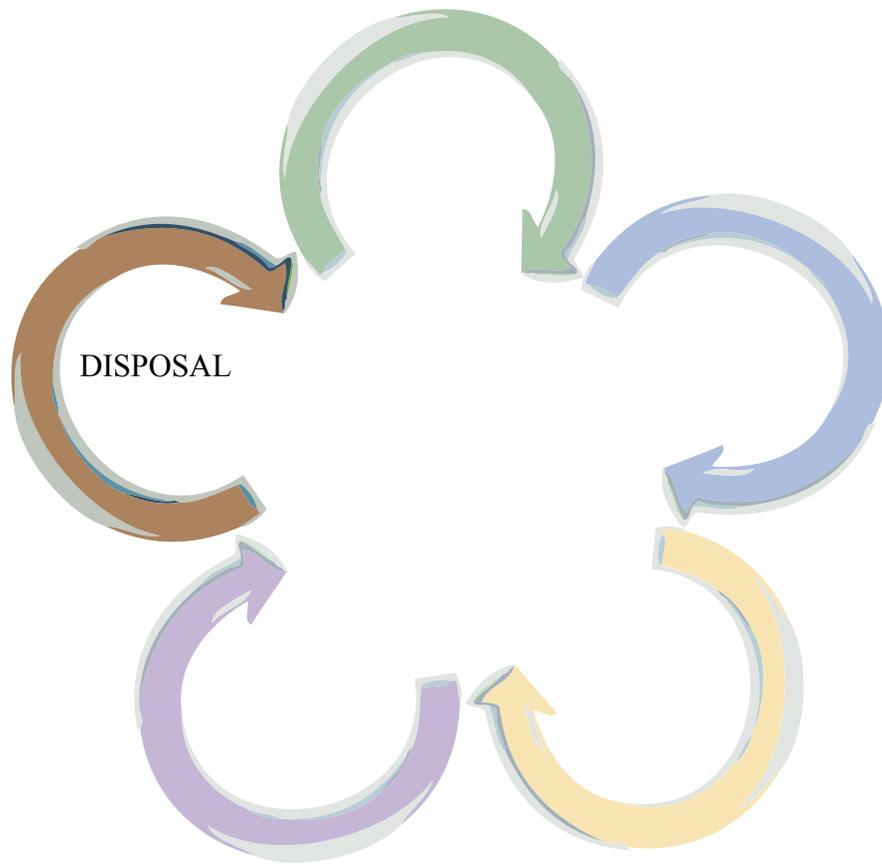
County Holding Center, Erie County Jail, and the Buffalo Correctional Facility.

*The Food Bank converts the weight of their donations to an estimated amount of dollars that would have been spent had the food been directly purchased.

unwanted prepared and perishable food from food retailers and redistributes them to one of 125 soup kitchens, food pantries, and shelters throughout Erie County. The primary goal of this organization is redistributing food from areas of Erie County that have excess to areas of Erie County that are in need of food. This program is entirely reliant upon its 400 volunteers.²⁴ The food and the delivery trucks are volunteered to the organization as well. In 2010, Food Shuttle of WNY transported and redistributed about 75 tons of food throughout Erie County.²⁵



Lexington Co-operative Market, Buffalo NY



- 5 -

DISPOSAL

Food-related waste consists of by-products and waste generated at all stages of the food system. Food waste includes produce left unpicked in the fields, food waste created during processing, and food scraps discarded by consumers. While food waste generated by consumers often draws attention in personal and public conversations, food waste created at other stages of the food cycle is less understood. For example, the United States Environmental Protection Agency defines food waste as “uneaten food and food preparation wastes from residences and commercial establishments such as grocery stores, restaurants, and produce stands, institutional cafeterias and kitchens, and industrial sources like employee lunchrooms.”¹ This

government agency definition too overlooks food waste generated in other stages of the food cycle such as production and processing.

Food waste can be disposed using many different methods. More conventional methods store food waste along with municipal solid waste in landfills. Alternative methods include individual backyard composting, communal composting, and conversion to energy in specialized facilities. In Erie County, food waste is disposed primarily through storage in landfills. Use of landfills to dispose food precludes the possibility of recapturing resources from that waste, such as soil nutrients which can be obtained through composting, or through other methods such as anaerobic digestion.

A. Food Waste in Erie County

In 2009, Erie County produced approximately 101,816.84 tons of food waste, constituting 14.1 percent of all solid waste generated in the county. Erie County’s annual food waste is roughly equivalent in weight to 20,000 GM Hummer Sport Utility Vehicles.² Erie County’s food waste disposal system involves a number of public and private actors, although the primary responsibility rests with the local governments. In 2009, municipal governments in Erie County spent over \$50 million on garbage collection annually (See Table 5.1).

CONVENTIONAL FOOD DISPOSAL

Food waste generated by residents, businesses or institutions is discarded into private or public property garbage bins of varying size depending on municipal regulations. Classified as “municipal solid waste,” this garbage, including food waste, is picked up by privately-owned garbage trucks at a designated collection time. Erie County helps with reporting and facilitating bids for collection companies, which municipalities may use if they choose. Each municipality in the county either carries out its own collection program, contracted with private collection companies, or jointly with neighboring municipalities. Garbage trucks are owned and operated by

Table 5.1 – 2009 Municipal Government Annual Garbage Collection Expenditure, Erie County

Municipality	Refuse & Garbage Expenditures (\$)
Buffalo	19,670,781
Tonawanda	5,102,351
Grand Island	1,215,181
Amherst	8,055,140
Newstead	344,500
Alden	411,943
Lancaster	2,351,909
Cheektowaga	6,654,264
West Seneca	2,047,543
Lackawanna	965,737
Hamburg	173,842
Orchard Park	1,360,528
Aurora	526,756
Elma	445,505
Marilla	245,584
Wales	185,923
Holland	247,077
Colden	183,135
Boston	568,988
Eden	562,446
Evans	961,370
Brant	137,689
North Collins	159,974
Collins	59,966
Concord	23,611
Sardinia	N/A
Clarence	N/A
Tonawanda City	885,958
Village of Aurora	N/A
Village of Alden	125,262
Village of Lancaster	147,311
Village of Hamburg	364,664
Village of Orchard Park	146,615
Total	54,331,553

(Source: New York State Comptroller’s Office, 2009)

these private businesses, including Modern Disposal, Waste Management Inc., and Allied Waste Services/BFI.

WASTE STORAGE

Upon collecting the garbage, trucks operating under either Modern Disposal or Waste Management companies bring Erie County’s waste first to one of five transfer stations. Transfer stations are temporary holding sites for waste processing and packaging. Four transfer stations are located within Erie County, in the municipalities of Buffalo, Hamburg, Cheektowaga and Depew. The Chautauqua County transfer station also services Erie County.³ Municipal solid waste at the Erie County transfer stations is separated for shipment to landfills, incinerators, and other processing facilities.

The dominant final destination for food waste is the landfill. In Erie County, Modern Landfill Corporation sends its garbage to its landfill in Lewiston (Niagara County), and Waste Management sends to its landfill in Chafee (Erie County) (See Figure 5.1). Large collection trucks carry the garbage from transfer stations to landfills, where waste is spread out by bulldozers and compacted as much as possible. In 2009, 61.07 percent of total municipal solid waste (MSW) for Erie County, or 441,000 tons, of garbage went to landfills (See Figure 5.2).⁴

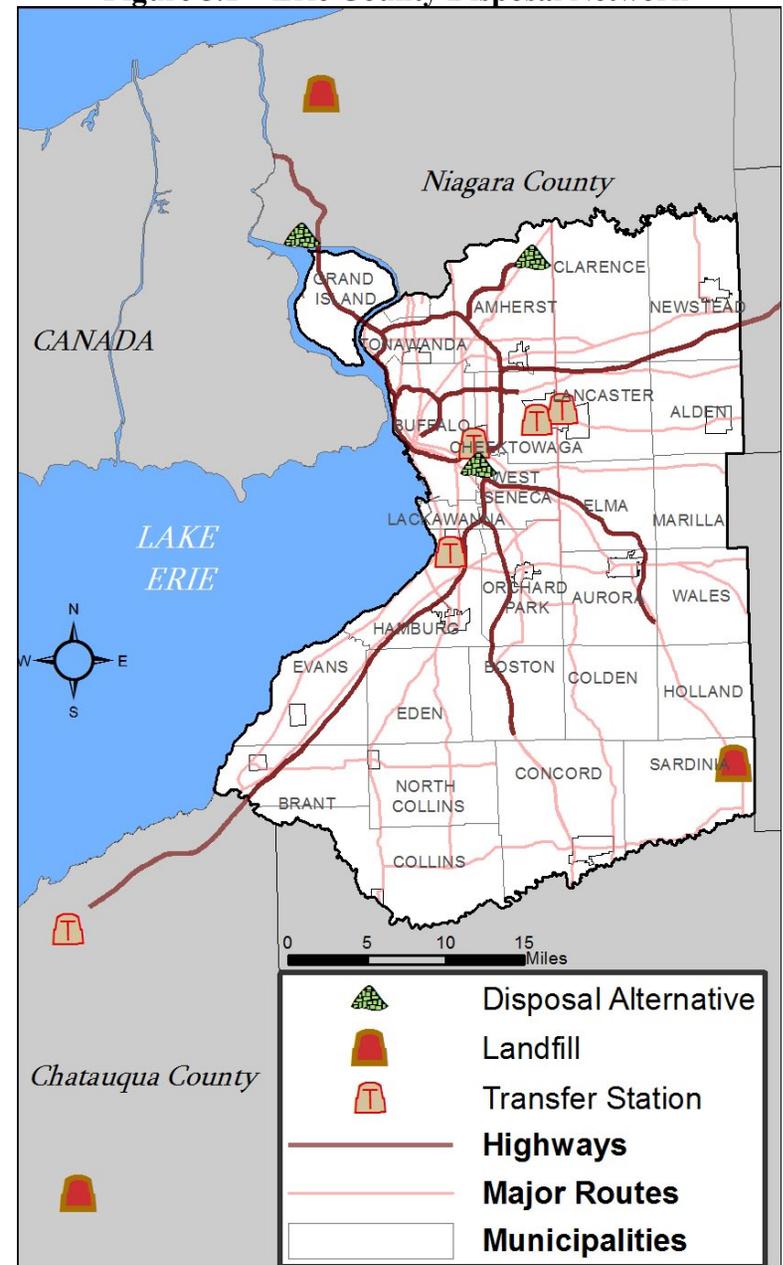
Landfills, the most common waste storage destination, may be seen as an outdated and often dangerous mode of waste storage. Despite engineering advances in landfill creation and maintenance, gasses created by the storage process sometimes explode and degraded waste layers below the garbage have an increasing risk of leaking pollutants into the water table.⁵ Alternative methods create environmentally-superior modes of management, with an economically-advantageous result.

B. Alternative Food Disposal Methods

COMPOSTING

Composting is the biochemical process of converting organic materials into nutrient-rich materials commonly used to fertilize soil. There

Figure 5.1 – Erie County Disposal Network



(Source: Authors)

is currently no comprehensive composting initiative in Erie County. Instead, the County government encourages household backyard composting, and a handful of municipalities, namely the towns of Amherst and West Seneca, have municipal composting operations.⁶ These two town facilities accept raw material including food waste, compost it, and sell the finished compost product.* Compost’s ability to enrich and improve soils makes it highly desirable to farmers and other producers.

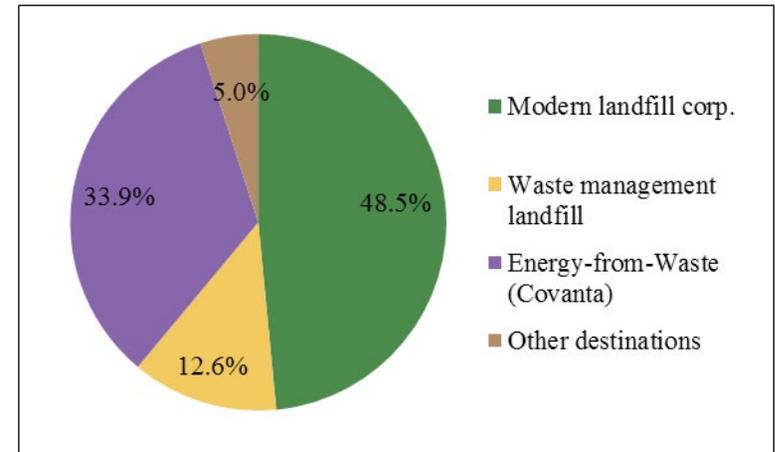
In Erie County, New York State Solid Waste permitting processes are in place to ensure safety. However, the permitting processes also prevent large-scale grassroots community composting efforts from materializing. The state permitting requirement applies to any type of solid waste management facility, except for single family residences or farms composting the solid waste generated on-site.**

The University at Buffalo recently purchased a \$25,000 “decomposer” system in June 2009, used to compost food waste from university dining halls.⁷ The Eco-Smart Company machine replicates the composting process at a much faster rate, breaking down waste in fourteen hours instead of the slower traditional method of composting. The significant element of the project is its large scale: as with any large-scale organized composting service, the university’s program creates financial gains by means of an environmental benefit in avoiding landfill use.

CONVERTED ENERGY FROM WASTE

Limiting delivery of food waste to landfills is crucial as it is an unsustainable practice, and available garbage storage space is finite. A number of communities are experimenting with conversion of food waste to

Figure 5.2 – Municipal Solid Waste Destination, Erie County, 2009



(Source: KaileeNeuner, Food Systems Planning and Healthy Communities Lab)

*In January 2012, C.J. Krantz Topsoil company purchased the Amherst Compost Facility.

** New York State Department of Environmental Conservation functions as the permitting agency governing State Regulation 6 NYCRR Part 617 (available at URL <http://www.dec.ny.gov/regs/4415.html>) under the State Environmental Quality Review Act (SEQRA). The statute defines composting facilities as “a solid waste management facility used to provide aerobic, thermophilic decomposition of solid organic constituents of solid waste to produce a stable, humus-like material.” §360-1.2(b)(34).

energy. Traditional methods include incineration, and more nontraditional methods included anaerobis digestions to generate bio-gas.

Covanta, an international firm operating 44 energy-from-waste facilities, claims to provide “a source of clean energy that reduces overall greenhouse gas emissions” and an environmentally-viable alternative to landfill storage in Erie County.⁸ Covanta’s Niagara Resource Recovery Facility in Niagara Falls, NY, which services Erie County, began operations in 1980 and receives up to 800,000 tons of all Municipal Food Waste annually from participating municipalities and private haulers. Steam created by the energy-to-waste process produces 80 megawatts of electricity hourly, which is exported to the New York State Power Grid.⁹ Covanta operations annually convert 20 million tons of garbage into 9 million megawatt-hours of energy worldwide.¹⁰ About 33 percent of all municipal solid waste generated in the County is sent to Covanta Niagara.

If Erie County’s annual food waste alone stored in landfills could be used to convert to energy using Covanta’s methods, 2009 yields would have amounted to approximately 27,981.45 megawatt-hours of energy.¹¹ Nonetheless, there are concerns about energy from waste methods such as those used by Covanta, due to potential pollution and health risks. Anaerobic digestion and other energy from waste methods remain a potential opportunity.

LOCAL HIGHLIGHT

In the past three years on the campuses of the University at Buffalo, unused food collection services from cafeterias and other food retailers have become a successful example for reusing food waste. Using the same infrastructure as the University’s leading recycling efforts, Campus Dining and Shops conserves food for composting. This program began in individual dining halls to keep food scraps from ending up in landfills. Dining halls competed for the most food saved each day, requesting more food waste bins to maximize efforts with both raw and cooked food, each destined for composting.

Food scraps were used in traditional composting pile method of gradual biochemical degradation into a product suited to enrich soils with nutrients in fertilizers and mulches. This became a money-saving measure for the University’s landscaping budget, as the nutrient-rich materials were produced in-house. However, the popularity of the salvage efforts overburdened the on-campus project for this traditional method of composting.

The University sought new measures to compost more efficiently, and concluded that a mechanized decomposer would be an effective alternative to the traditional composting method. A \$25,000 decomposer system purchased from Eco-Smart Co. Ltd., a South Korean company, now handles most of the food scrap composting; food that cannot be ground by the decomposer is sent to a commercial composter in Lancaster NY. The decomposer machine replicates the composting process, but performs faster: it can break down the same waste in fourteen hours that would have taken months with traditional methods.

PLANS, PUBLIC REGULATIONS AND FISCAL INCENTIVES

Plans and laws from multiple governments regulate the food system in Erie County. Governments institute these plans and laws as a means to oversee various practices and ensure safe food for citizens. Our policy assessment exploring food system governance begins with New York State regulations, continues with Erie County regulations, and examines plans. The assessment then describes fiscal incentive tools available to Erie County farmers and highlights innovative local government efforts in the County.

A. New York State Regulatory Environment

NEW YORK DEPARTMENT OF AGRICULTURE AND MARKETS

In New York State, the agriculture industry is regulated by the Department of Agriculture and Markets (Department). The legal provisions of the Department detail regulations related to food production, processing, licensing

of food processing facilities, manufacturing and distribution of food products, and marketing and inspection standards. Additionally, several other provisions detail the various initiatives and incentives available to local counties and farmers. The following section will describe the purpose of agricultural districts and their importance to the regulatory environment surrounding the conservation of farmland.

Created by the State of New York Legislature, the New York Department of Agriculture and Markets is charged with the regulation of the state's food and agriculture industry. All state retail food establishments (i.e. grocery stores that conduct any type of food preparation, or other ready-to-eat packaged food) ¹ require state approval through the issuance of an Article 20-C license.² The application fee is \$400. However, a food processing establishment can obtain a home processing fee exemption, provided that the following conditions are met: (1) all finished product containers are clean, sanitary, and properly labeled, (2) all home processed foods produced under this exemption are neither adulterated nor misbranded, and (3) glass containers for jams, jellies, marmalades and similar products are provided with suitable rigid metal covers.³ The restriction is limited to the following non-potentially hazardous home processed foods: bakery products; traditional fruit jams, jellies and marmalades; spices and herbs; snack items such as popcorn, caramel corn and peanut brittle; and candy (excluding chocolate).⁴

For small-scale food processing establishments, two different departments provide regulatory oversight, depending on the type of establishment. The New York State Department of Health regulates restaurants, while the New York State Department of Agriculture and Markets regulates food preparation and processing. For example, the Department of Health requires submission of kitchen drawings before construction and quarterly testing for water derived from non-municipal sources.⁵ By comparison, the Department of Agriculture and Markets has

specific kitchen requirements based upon the food item(s) being produced and a review of processing procedures including hand washing, sanitizing, equipment sinks, water potability and food preparation.⁶

AGRICULTURAL DISTRICTS AND FARMLAND PROTECTION BOARDS

Article 25-AA of the New York State Agriculture and Markets Law provides for the creation of agricultural districts. In noting the possible loss of agricultural land for any agricultural purposes, the Constitution of the State of New York provides for the protection of agricultural lands.⁷ Thus, Art. 25-AA provides for a locally initiated mechanism for the protection and enhancement of New York's agricultural land, at the local level.⁸ Each county is permitted to establish a county Agricultural and Farmland Protection Board, as approved by the local county legislative body. The board is composed of eleven members, four of whom must be active farmers.⁹ At least one member must represent agri-business and one member shall represent an organization dedicated to agricultural preservation.¹⁰ These six selected members must reside in the county in which the agricultural board represents. The membership of the board must also include the chairperson of the county's soil and water conservation district's board of directors or an employee of the county's soil and conservation district (as designated by the chairperson), a member of the county legislative body, a county cooperative extension agent, the county planning director and the county director of real property tax services.¹¹ In addition to advising the county legislative body, the board is to work with the county planning board on the proposed establishment, modification, continuation or termination of any agricultural district.¹² The board must also submit expert guidance regarding the nature of farming within any proposed or established area, review "notice of intent" filings to undertake development projects in agricultural districts, and assess and approve county Agricultural and Farmland Protection plans.¹³

The county Agricultural and Farmland Protection Board is also empowered to submit requests to the Commissioner of Agriculture and

Markets to review any state agency and regulations that the board classifies as impacting the agricultural activities within an existing or proposed agricultural district.¹⁴ The Commissioner is required to submit to the board, in writing, any changes in the rule and regulations they deem necessary, any proposed modifications of agencies outside of the Commissioner's authority, and their rationale for declining to modify any rules or regulations.¹⁵

Currently, an Agricultural and Farmland Protection Board exists within Erie County. The board was formed with the goals of bringing together farmers and municipal officials, in addition to broader community goals in regards to the supervision of agricultural districts.¹⁶ Additionally, the board is charged with bringing appreciation of agriculture's needs back to the broader community, while building bridges and bringing together diverse perspectives.¹⁷

CREATION OF AGRICULTURAL DISTRICTS

The Agriculture and Markets Law of the State of New York permits the creation of agricultural districts.¹⁸ Any owner or owners of land may present a proposal to the county legislative body for the creation of an agricultural district, granted that the owner or owners have title at least 500 hundred acres or at least 10 percent of the land proposed to be included in the district, whichever is greater.¹⁹ The proposal must include a description of the proposed district, including a map defining the outer boundaries of the district (which shall coincide with tax parcel boundaries), and the tax map identification numbers for each parcel in the proposed district.²⁰ The approval process includes a public notice period, a 30 day period in which solicitations for modifications to the proposal may be submitted, review and report by the county planning board as to the potential effect of the proposal, and a public hearing held in a place within the proposed district or a place readily accessible to the proposed district.²¹ In evaluating such proposals, the county planning board, Agricultural and Farmland Protection Board and public hearing attendees should consider the following factors: (i) the

viability of active farming within the proposed district and adjacent land that is not now in active farming; (ii) the presence of any viable farm land within the proposed district and adjacent areas; (iii) the nature and extent of land uses other than active farming within the proposed district and adjacent areas; (iv) county developmental patterns and needs; and (v) any other relevant matters.²² In ascertaining viability, any relevant maps shall be considered, in addition to other aspects such as soil, climate, topography, markets for farm products, amongst other relevant factors.²³ Once the plan has withstood local scrutiny by the local county legislature, the proposed district is still subject to approval by the Commissioner of Agriculture and Markets and Environmental Conservation, in addition to the Advisory Council on Agriculture.

Within the original application for creation of an agricultural district, the owner or owners must select a review period of 8, 12 or 20 years, in which the local county legislative body must review the district.²⁴ The review period to determine if the agricultural district should be continued, terminated or modified is similar to the initial review process at the creation of the agricultural district.²⁵ The county Agricultural and Farmland Protection Board must prepare a report including such information such as nature and status of farm resources; the extent to which the district has achieved its original objectives; the extent to which county and comprehensive plans, policies and objectives are consistent with and support the district; the degree of coordination between local laws, ordinances, rules and regulations that apply to farm operations and their influence on farming, and recommendations to continue, modify, or terminate such district.²⁶

Agricultural districts can also be created by the Commissioner, provided the proposed agricultural district covers land in units of 2,000 or more acres not already districted, as per Section 303 of the Agriculture and Markets Law, the land encompassed in a proposed district is predominately unique and irreplaceable, and it is determined that such district would

further state environmental plans, policies and objectives.²⁷ Before the creation of such district, the Commissioner is required to consult with local elected officials, planning bodies, agricultural and agribusiness interests, community leaders, and other interested groups.²⁸

In terms of state taxation, the law provides for a special agricultural assessment values system.²⁹ Based upon soil productivity and capability, the agricultural land classification system is bifurcated between mineral and organic soils. There are 10 primary groups of mineral soils and 4 groups of organic soils. The section then details a complex methodology for assigning values based upon soil type and average capitalized value of production per acre. Additionally, instructions for calculation of adjusted net farm income, mortgage debt attributable to farmland, and farm real estate attributable to land are provided as well.³⁰ Agricultural assessment values are calculated on an annual basis by the Commissioner of Taxation and Finance and furnished to each local assessor and other interested and relevant state agencies.³¹

According to the New York State Agriculture and Markets Law, municipalities can apply for Agricultural District designation. In Erie County, agricultural districts, formed by a petition process of local property owners, undergo review by the Erie County Department of Environment and Planning, the Erie County Agricultural and Farmland Protection Board and the affected towns.³² The agricultural districts are subject to review and recertification every 8 years. There are certain economic benefits to landowners if included within an agricultural district. Such benefits include agricultural exemptions for property owners, special exemption from special charges for water, sewer, lighting, etc. for agricultural land, and a ban against municipal ordinances that might inhibit normal agricultural practices. Also, public agencies must file a notice of intent with the Department of Agriculture and Markets, in the event they wish to exercise eminent domain in the purchase of property for public use.³³

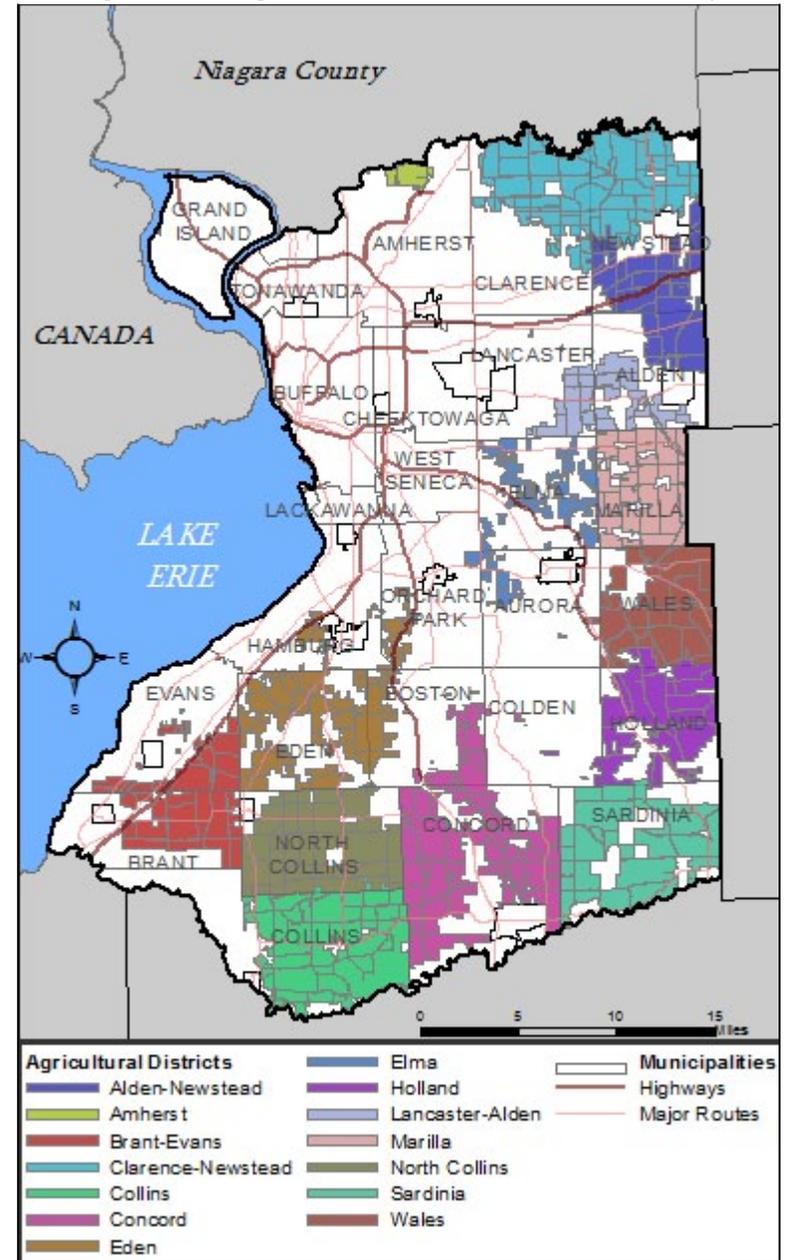
In Erie County, a landowner must petition the county to be included within a particular agricultural district. Such requested information includes classification of the principal farm enterprise, estimated annual gross farm income, and the amount of capital investment over the past 8 years. If the landowner intends to lease the land to a farmer, the landowner must specify the number of acres used for farming purposes, the total amount of land the landowner intends to rent out for farming growing purposes, and the name of the farmer. Lastly, the county requests a very detailed breakdown of agricultural production for the preceding year, which must include an itemized list of rented and owned acres, crops harvested, number of livestock and poultry, and other miscellaneous items. Applications are only accepted during the month of November in the year immediately following the year of agricultural production information submitted. As referenced above, any landowner within an agricultural district can apply for an agricultural assessment.³⁴ All taxing jurisdictions across the State can apply for relief from the State, in an amount equal to half of the tax loss that results from requests for agricultural assessments in the district.³⁵ Stated simply, each taxing jurisdiction can apply to recover half of the total lost revenue attributable to agricultural assessments.

Currently, Erie County has 14 agricultural districts within the county. They are: Alden-Newstead, Amherst, Brant-Evans, Clarence-Newstead, Collins, Concord, Eden, Elma, Holland, Lancaster-Alden, Marilla, North Collins, Sardinia, and Wales (See Figure 6.1). The districts are mostly scattered on the outer edges of the county, especially around the eastern and southern borders.

AGRICULTURAL AND FARMLAND PROTECTION PROGRAM

New York State Agriculture and Markets Law § 323 empowers the Commissioner to establish and maintain a state agricultural and farmland protection program to provide financial and technical assistance (when funds are available) to counties, municipalities, and not-for-profit conservation

Figure 6.1 - Agricultural Districts in Erie County



(Source: Erie County Department of Environment and Planning, 2011)

organizations for their preservation efforts.³⁶ County Agricultural and Farmland Protection Boards may develop plans that must include the location of any land or areas proposed to be protected, an analysis of the following factors concerning the proposed land: value to the agricultural economy of the county; open space value; consequences of possible conversion; and level of conversion pressure on the lands or areas proposed to be protected, and a description of the activities, programs and strategies intended to be used by the county to promote continued agricultural use.³⁷

NEW YORK LEGISLATIVE FUNCTIONS

Within the New York State Legislature, there is a Legislative Commission solely dedicated to rural issues. As a joint bipartisan office of the State Legislature, the Legislative Commission on Rural Resources is charged with “creating a common vision of rural New York; fostering a productive dialogue among stakeholders such as academics, governmental officials, business owners, farmers and other concerned citizens; and strengthening and improving policies that promote vibrant growth in New York’s rural areas.”³⁸ Currently chaired by Senator Catharine Young (R-57th), Young represents a large portion of Southern Erie County, including such municipalities such as Jamestown and Olean, New York.³⁹ As the Commission deals with a myriad of issues facing rural New York, one featured item in a recent newsletter references a newly-formed group, Lake Erie Women in Agriculture. Created in Erie County, the group seeks to help women farmers make connections with, and learn from, other women in agriculture, and provide information about practices that improve farm production and financial viability.⁴⁰

As demonstrated above, there are various legal tools available to both county governments and individual farmers across New York State. In providing an array of incentives, municipalities are able to work collaboratively with local stakeholders to formulate regional agricultural policy, while also creating districts that will retain their rural character.

Farmers are also able to enjoy real property tax relief, in the form of local agricultural tax assessments, which helps to decrease some of the expenses associated with running a business. All of these incentives serve to preserve the agricultural economy across New York State.

B. Erie County Regulations and Laws

In addition to state regulations, Erie County has its own regulations that govern food system participants. Relating to production, in 1999, Erie County has passed a Right to Farm Law. In regards to food processing, the Erie County Department of Health provides guidance, as dictated by the New State Public Health Law. Also, the Department of Environment and Planning has additional guidelines to guide participation in the food system.

In 1999, the Erie County Legislature adopted Local Law No. 1-1999, also known as the “Erie County Right to Farm Law.” Effective January 1, 2000, the law was passed due to the importance of farming to Erie County and the importance of maintaining a viable agricultural economy within the County. The policy rationale guiding this law was the threat of nuisance lawsuits stemming from agricultural operations, especially when non-agricultural land uses extend into agricultural areas.⁴¹ In order to achieve and maintain such viability, farmers are afforded protection allowing them the right to farm.

Section 4 of the law, the “Right to Farm Declaration,” grants farmers the right to lawfully engage in agricultural practices within Erie County at all times and all such locations as are deemed reasonably necessary to conduct the business of agriculture.⁴² In determining the reasonableness of the agricultural practice, considerable weight is given to traditional customs and procedures in the farming industry, as well as advances resulting from increased knowledge and improved technologies.⁴³ All agricultural practices are deemed to be in accordance with the public policy of Erie County if they met the following six criteria. Agricultural practices must first (i) be reasonable and necessary to the particular farm or farm operation and (ii)

conducted in a manner which is not negligent or reckless. These practices must be (iii) conducted in conformity with generally accepted agricultural practices and (iv) all local, state and federal laws, ordinances, and regulations. Lastly, all agricultural practices must be conducted (v) in a manner which does not constitute a threat to public health and safety or cause injury to health and safety of any person and (vi) conducted in a manner which does not unreasonably obstruct the free passage or use of navigable waters or public roadways.

Another provision of the law relates to the sale of real property within Erie County. Upon presenting a purchase and sale contract for the sale, purchase or exchange of property in Erie County, the contract of sale must include a disclosure notice regarding the nature of agriculture within Erie County. The disclosure statement is included to “inform prospective residents that farming activities (e.g. activities that may cause noise, dust, fumes, smoke, insects, etc.) occur in Erie County”, property owners and residents of Erie County should be aware of farmers’ rights to perform such tasks as a part of their occupation and thus, residents should expect to encounter such conditions as a normal and common characteristic of living within an agricultural area.

OTHER COUNTY REGULATIONS AND LAWS

The Erie County Administrative Code sets forth the regulations by which the various county departments are to perform their respective duties. As Article 5 of the Code deals specifically with the Department of Health, no provisions of the Article reference any food production or processing regulations. Section 504 of the Erie County Charter states that any rules, regulations, orders and directions relating to health in the county shall not be inconsistent with the public health law or the state sanitary code.⁴⁴ The state sanitary code is administered by the New York Department of Health, yet the local county is responsible for enforcing all rules and regulations of the state sanitary code.⁴⁵

In terms of regulations promulgated with the Department of Environment and Planning, Article 10 of the Erie County Administrative Code dictates the organization, powers and duties, and divisions within the department. Similar to Article 5, the code does not speak directly, nor indirectly, about food processing or production regulations, even though this department manages the agricultural industry for Erie County.⁴⁶

In terms of post-consumption practices, the Erie County Administrative Code is silent regarding composting; however the Erie County Department of Environment and Planning's website provides residents with detailed guidance as to how to compost in one's backyard. Some of the benefits the county touts for composting include "an easy and practical way to recycle kitchen wastes, means to improve the quality of soil, promotion of healthy plants for the improvement of air quality and recycling of nutrients."⁴⁷

C. Plans

As a county, there have been broad directives from the county and its agencies to promote the sustainability of agriculture. These plans are the *Farms for the Future* plan from the Erie County Agricultural and Farmland Protection Bureau, *Framework for Regional Growth* plan from the county partnered with Niagara County, and *Road to a Brighter Future* from County Executive Chris Collins. Each plan has specific ideas and implementation related to agriculture to ensure agriculture's future in Erie County.

ERIE COUNTY FARMS FOR THE FUTURE

In 1996, Erie County, in conjunction with Erie County Agricultural and Farmland Protection Board and Erie County Farm Bureau, issued a report titled "*Erie County Farms for the Future: An Agricultural and Farmland Protection and Preservation Strategy*." Funded in part by a New York State Department of Agriculture and Markets' Agricultural and Farmland Protection Grant, the plan was intended to "unify, document, and broadcast the agricultural and community goals necessary to stabilize and

transfer the practices and benefits of agriculture to Erie County.”⁴⁸ Approved in 1993, the Agricultural and Farmland Protection Board was comprised of representatives of Erie County farms and agribusiness, the County Legislature, Planning, Real Property Tax, Cornell Cooperative Extension, Soil and Water Conservation District, and the Western New York Land Conservancy.

The framework of the plan centers on five separate points, under which the county would pursue its goals of agriculture and farmland preservation. Those goals include: (1) establishment of a working group extension of the Erie County Agricultural and Farmland Protection Board for execution of the strategy proposed through this plan; (2) identification of agricultural and farm lands, regions, areas, properties; (3) encouragement of the immediate employment of recommendations, concepts and tools to further the strategy goals of farmland protection and preservation; (4) identification of high priority areas and/or opportunities for agricultural and farmland preservation within Erie County; and (5) development of a package of concepts and tools for the preservation and protection of farm and agricultural land to be considered at the town level.⁴⁹ To achieve these goals, concepts and recommendations were grouped around seven main subject areas (policy, land conservation and stewardship, education and public relations, land use planning and implementation, taxation and compensation, economic development of agriculture, and business, retirement and estate planning). Within this framework, all proposed recommendations are organized.

The plan, as a whole, takes great pains to fairly represent the agricultural landscape of Erie County. The plan chronicles the change of the history of agriculture in Erie County over time, the large decrease of farms countywide between 1940 and 1990, representing a 73 percent decline, and the increase of regulations designed to protect the consumer and nation’s food supply, yet has been viewed as an ever complex web for the farmer to contend with. The plan views Erie County as a “metropolitan based county

with a significant rural population.”⁵⁰ In noting the possible conflicts between the urban and rural areas of the county, concerns such as decreasing farmer share of the consumer food dollar, local marketing problems, adverse local farm trends, and urban and suburban relations were all considered major issues during the process of applying for a Farmland Protection Planning grant for Erie County.

ERIE COUNTY’S ROAD TO A BRIGHTER FUTURE

The plan “Erie County’s Road to a Brighter Future” is an economic development agenda designed to restore the county’s economy.⁶⁹ The plan was sponsored by County Executive Christopher Collins, who was elected in 2007 after a campaign to “[run] government like a business.”⁷⁰

The plan highlights ten major economic development priorities that will help propel Erie County forward. One of these priorities areas, “Promoting Our Region’s Agriculture Industry”, asserts agriculture’s vital role with Erie County’s economy, as it employs 1,900 people, generate items exceeding a market value of \$90 million, and occupies close to one quarter of the county’s land area.⁷¹ To help preserve the agriculture industry’s position within the local economy, the Collins administration proposed three separate action items. The first action is to maintain a current Agricultural and Farmland Protection Plan. Second, the county pledges to work with area farmers to execute agribusiness programs that focus on farm-based tourism. Finally, the county will provide a menu of financial incentive programs targeted to the agricultural industry.⁷²

In fostering an atmosphere of accountability, the Collins administration placed a list of action items on the county’s website to allow county residents to track and assess the county’s progress for each theme. The following section will provide information on the county’s progress thus far.

The first action item is to complete a “Farmland Preservation and Economic Development Strategy.” According to the Collins administration,

a contract with American Farmland Trust is expected to be fully executed by January 15, 2011. Currently, the American Farmland Trust is working in concert with the County to execute such strategy. The second action item is the pursuit of a \$10,000 grant from the Northeast Sustainable Agriculture Research and Education (NESARE) Program for economic development in May 2011. According to the NESARE website, the list of 2011 grant recipients has not been published yet.⁷³ However, in 2010, two local projects in Lockport, New York, in conjunction with Cornell University, received over \$27,000 in grant funding, collectively.⁷⁴ Lastly, the Collins administration stated that they provided investment incentives capturing significant investments at local food processors, including Goya in Angola and Steuben Foods in Elma.⁷⁵ In May 2010, the Erie County Industrial Development Agency (ECIDA) approved a \$1.35 million incentive package for Goya Foods to boost “bean soaking” capacity at their Angola plant.⁷⁶ Two months later, in June 2010, the ECIDA approved a blended package for Steuben Foods’ Elma plant, which included a \$1.3 million property tax abatement, \$422,000 in sales tax savings and a \$96,000 mortgage recording tax waiver.⁷⁷

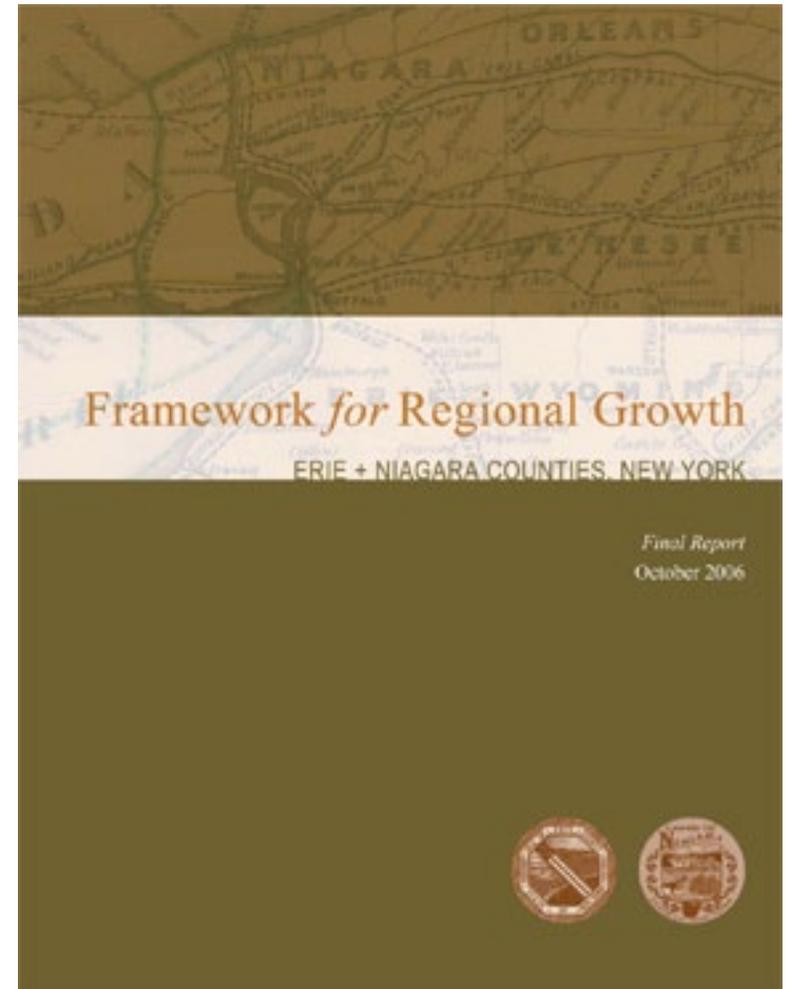
The second action item, which is centered around implementation of an agribusiness program that focuses on farm-based tourism, possesses two accomplishments. The county states that they are serving on a committee exploring a Southtowns Agritourism trail and helping survey and development of retail tourism site map for the Southtowns.⁷⁸ In regards to the survey and development, it appears this occurred or was scheduled to occur during the Third Quarter of 2010.⁷⁹ This work was enhanced by a study “Sowing the Seeds for Southtowns Agribusiness”, conducted by the UB Regional Institute and the Southtowns Community Enhancement Coalition. Also, the county, through the Erie County Industrial Development Agency (ECIDA), provided funding for the publication of the Southtowns Agritourism brochure.⁸⁰

The third and final action item further develops financial incentive programs for the agriculture industry. In conjunction with the ECIDA, the Erie County Department of Environment and Planning has developed a Micro-Enterprise loan fund available to agricultural businesses in the amount of \$200,000.⁸¹ In January 2010, the first agricultural loan was completed and funds were given to Gabel's Syrup, Weber's Greenhouse and Daniel Boldt Logging and Firewood.

ERIE COUNTY FRAMEWORK FOR REGIONAL GROWTH

In 2006, Erie County and its adjacent neighbor to the north, Niagara County, collaborated together to produce the "Erie-Niagara Framework for Regional Growth." The document was intended to serve as a blueprint for the area's physical and economic development, while also informing state and local governments, private developers and non-profits organizations about the possible processes and actions Erie County can undertake when making decisions regarding the region's development.⁵¹ From the onset, the Report is cognizant of the differences between the two counties. Erie County is governed by an Executive and Legislature model of government, whereas Niagara County employs a county manager style of government. Additionally, home rule powers, granted by New York State to each individual municipality, allow local governments much discretion in regulation of land use, zoning ordinances and land subdivision.⁵²

Chapter 2 of the Plan describes several different challenges to coordinated regional development. One of those challenges is threats to natural systems and loss of agricultural lands. Due to the increase of low density development into rural areas, it produces impervious surfaces, less forest cover and increased reliance in septic systems and wells.⁵³ Without increased vigilance of the area's natural resources, many of the region's quality agricultural lands, wetlands, floodplains and forests are at risk.⁵⁴ Coupled with residents' increased willingness to forsake longer commutes for larger lots and newer homes and an erosion of farming as a stable source



of income, the confluence of these factors warranted additional attention in terms of the region's plan for development.

In offering recommendations, the Framework advocates for the formation of a regional planning entity and the creation of a preliminary work program. Some specific aspects of the work program related to agriculture included “conducting workshops/training for local governments in innovative land use control techniques such as cluster development, mixed use zoning and agricultural zoning” and “preparing in-depth studies that advance Framework principles and policies (e.g. farmland preservation).⁵⁵ After the creation of the Erie County Planning Board, Step Four of the Recommendations calls for joint meetings of the County Planning Boards. At these meetings, the members will hear reports on various topics, such as conservation initiatives and state and national best practices in planning and conservation.⁵⁶

The report also delineates action steps that can be taken in the immediate future (Years 1-5) from those in the extended future (Years 6-10). Within the Early Years (Years 1-5), actions include development of capital project review policies and procedures, in an effort to examine proposed capital expenditures against the backdrop of the Framework's principles and policies. For the long term future (Years 5-10), the Framework offers recommendations within four specific areas. One of those areas is “Expanded Assistance for Agricultural Conservation Efforts.” In touting the benefits of agricultural conservation, such as environmental protection, promotion of local sustainability, and importance to the local economy, the Framework proposes eight action items that would support agricultural conservation.

The first action step calls for an update and expansion of both Erie and Niagara Counties' Farmland Protection Plans to include greater explanation regarding priorities and action steps for farmland protection.⁵⁷ In providing for such updates, the two counties can formulate land conservation policies that will receive priority.⁵⁸ The second action step foresees an increased

role for the counties' farmland protection boards. In Niagara County, the Agricultural and Farmland Protection Board has taken a more active role, whereas in Erie County, the Board's efforts have been restricted to evaluation of state-designated agricultural districts.⁵⁹ An increased role between the two boards can help foster greater synchronization between the counties regarding common agricultural issues.⁶⁰ The Framework also envisions the counties taking a more active role in identifying priority agricultural lands, based upon such criterion as agricultural value and open space value, and seeking and securing grant funds.⁶¹

Another initiative the Framework called for is the creation of a Purchase of Development Rights (PDR) program, through the regional planning entity, to protect choice agricultural land from development.⁶² Through the Department of Agriculture and Markets, New York State offers state assistance payments to counties and municipalities to cover up to 75 percent of the total costs for implementation activities.⁶³ Also, the option of the agricultural operation selling the rights at a reduced price would minimize costs and reduce the tax liability for the seller.⁶⁴ The drafters of the Framework also believe that greater coordination with similar organizations would be beneficial for all involved parties.⁶⁵ The next recommendation strikes at the core of local agriculture: the farmers. By improving the viability of local farmers through initiatives such as financial incentives, increased marketing and technical assistance, and favorable legislation, it can bolster the possible economic development benefits of agriculture to the local economy.⁶⁶

The final two recommendations address the unique character of agricultural land. Under a possible "Community Character Initiative", municipalities would be able to charge a surcharge in the form of a transfer in certain real estate transactions to help fund actions in support of "community character preservation." Eligible activities would include conservation and preservation initiatives and increased public access to lands, in addition to

funds directed towards planning, land acquisition, transfer of development rights programs and stewardship programs.⁶⁷ Municipalities would be encouraged to develop local “Community Preservation Project Plans” as a planning mechanism. Lastly, the proposed regional planning group would assist local municipalities in drafting model zoning ordinances for local towns and villages. The zoning ordinances would be crafted with the intent to preserve agricultural sites and unique areas with rural character.⁶⁸

The Framework will be extended through a new sustainability plan to be prepared in the coming two years. This new sustainability plan will explicitly include a “food” element.

D. Fiscal incentive

In 1969, in an effort to spur economic development within the State of New York, Article 18-A of the General Municipal Law was passed, authorizing the creation of Industrial Development Agencies.⁸² As public benefit corporations, industrial development agencies (IDAs) attempt to “attract, retain and expand businesses within their jurisdictions.”⁸³ Within Erie County, the Erie County Industrial Development Agency (ECIDA) is charged with “promot(ing) and assist(ing) private sector industrial/business development” for the well-being of Erie County residents.⁸⁴ These include agriculture or food-related businesses. The ECIDA offers incentive programs, such as local state property tax exemptions and mortgage recording tax exemptions to assist new or expanding businesses, including food businesses, reduce their tax liability.⁸⁵

ECIDA uses a project scoring system to determine whether a new or expanding business is eligible for incentives. The scoring system uses a set of factors including project location, cluster industry, economic impact, facility (LEED) certification and innovations in operations. Agriculture is considered one of the six cluster industries strategic for the region, and an additional 30 points are awarded to agri-business under the seven possible economic impact factors desired by the ECIDA.⁸⁶ In designating agriculture

as one of the seven desired industry clusters and granting additional points for investing in this sector, the ECIDA clearly places an incentive on promoting agriculture in Erie County.

E. Innovative Efforts by Local Governments within Erie County

Municipalities, too, have taken steps to improve the state of agriculture within their jurisdiction. Empowered in New York with home rule, municipalities have leverage in making land use decisions to support foods and agriculture. We highlight actions taken by two of Erie County's municipalities to preserve and even expand the state of food production.

In 2002, residents of the Town of Clarence decisively approved a \$12.5 million dollar bond authorization to fund the protection of open space as a powerful means to retain the town's rural character. As one of two propositions on the 2002 general election ballot, Town of Clarence residents were asked to vote on a bond resolution "authorizing the acquisitions of interests or rights in real property in the Town, including, but not limited to, development rights in agricultural lands, for the preservation of open spaces and area, at the estimated maximum cost of \$12.5 million dollars."⁸⁷ With approximately 10,357 votes cast, approximately 47 percent, (4,832 votes) of the town residents cast a "yes" ballot in favor of the bond authorization, while only 26 percent (2,747 votes) of the population voted against the proposition.⁸⁸

Immediately after the 2002 bond authorization vote, the Clarence Town Board appointed the Western New York Conservancy* as the Town's agent for planning and implementing the Town's "Greenprint" Plan.⁸⁹ The objective of the "Greenprint Plan" is to protect ecologically significant landscapes, valuable agriculture resources, visual beauty and rural character of the town, while sustaining a stable tax base and managing growth.⁹⁰

Through the Conservancy, the town began communicating with land owners

*The Western New York Land Conservancy is a voluntary land-conservation organization that works in conjunction with public and private landowners in the eight Western New York counties. The eight counties are Allegheny, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, and Wyoming.

that met the Greenprint Plan objectives.⁹¹ During the initial stages, land owners of parcels at least 10 acres in size were contacted to see if they were interested in selling development rights or title to their property to the Conservancy.⁹² In working with the Town of Clarence, the Conservancy received funding to assist with long term defense of conservation easements and continual monitoring of conservation easement protected properties.⁹³

Recently, in 2011, the town purchased two farms that are available for a farmer to purchase or lease, with the help of funding from the Conservancy.⁹⁴ Both farms, permanently protected with conservation easements, provide an opportunity to make farmland available to farmers, promote sustainable agricultural practices and retain the rural character and quality of life in the Town of Clarence.⁹⁵

Recently, the Town of Clarence, in conjunction with the Conservancy, issued a Request for Proposals regarding several parcels of municipality-owned farmland available for either purchase or lease to interested farmers.⁹⁶ In seeking to protect the parcels, the Town listed six goals for the parcels: (1) keeping agriculture land actively farmed; (2) supporting sustainable and viable farm operations; (3) creating opportunities for start-up farmers to start or grow their agricultural business; (4) promoting the diversity of farming and farmers in the community; (5) ensuring that these properties stay available and affordable for farmers; and (6) protecting scenic view sheds for public benefit purposes. Interested parties are encouraged to submit a sealed acquisition cost and/or term lease proposal, which will be subject to review by the Farmland Protection Committee and approval by the Town Board.⁹⁷

Another municipality in Western New York that has made farmland preservation a priority is the Town of Marilla. Through funding support from the New York State Purchase of Agricultural Easement Program (PACE), the Town of Marilla has protected 687 acres of farm land from residential and commercial pressure in the years of 2000-2006.⁹⁸ As of January 2010,

the town preserved an additional 86 acres that will be protected from as viable farmland.⁹⁹ PACE is a conservation easement program that protects agricultural land from development by combining Federal, State and town monies to purchase conservation easements from qualified landowners.¹⁰⁰ In soliciting landowners as potential candidates, the landowners retain ownership and continued use of the land, in addition to the ability to sell or transfer ownership to another person/party, yet the purchase of the easement will restrict the land from future development.



ANALYSIS

LOCAL GROWING CAPACITY

From a rudimentary perspective, the effectiveness of any regional food system can be described as the amount of food a region—such as Erie County—is capable of providing for its population. We measure this capability—or self-reliance—in Erie County by estimating both the amount of food that can be produced (i.e., the supply) in Erie County and the food required for consumption by Erie County residents.

The analysis in this chapter is based on a multi-step method (including GIS analysis and soil yield analysis) and multiple data sources (including remote-sensed imagery and published reports of average annual yields per crop type) described in detail in Appendix A. Self-reliance in this report is measured as the proportion of land capacity to grow

a certain type of food, divided by the amount of that food required by the population.

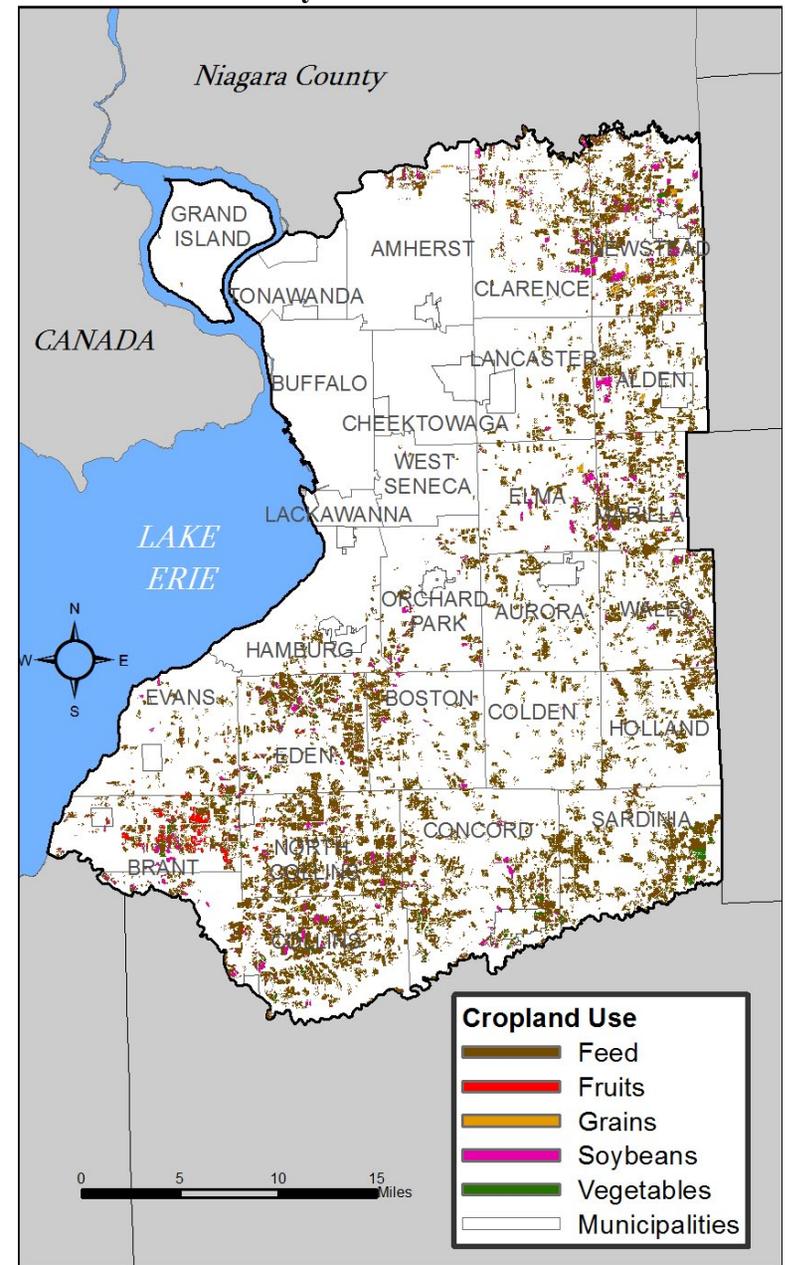
Erie County is home to about 99,445 acres of cropland.* This represents about 15 percent of the county’s total land area (approximately 1,047 square miles). Nearly 88 percent of all cropland in Erie County is devoted to the growing of crops used for animal feed (See Figure 7.1).¹ Existing Erie County cropland currently produces about 23,045 tons of meats and eggs, 60,676 tons of milk, 3,600 tons of grain and 17,550 tons of fruits and vegetables (See Table 7.1). Overall, food grown for human consumption is not a major product of Erie County farms. This is despite the fact that food grown for human consumption offers a greater economic return per acre to farmers. For instance, the profits per acre in Erie County for fruits and vegetables far exceed those from growing corn used for animal feed.

The purpose of this analysis is to determine:

- A) the amount of commercial cropland required to produce enough food to feed all Erie County residents at current consumption levels,
- B) the amount of land required to produce enough food to feed all Erie County residents at government recommended health consumption guidelines, and
- C) how existing cropland could be reallocated to maximize the production of food as recommended by government health consumption standards.

*The total area of cropland, and area under particular crops, reported in this chapter is estimated from remote-sensed imagery that excludes area under pathways, trails, fallow lands, and other areas of farms that are not planted. As such the crop acreage reported in this chapter varies from that reported by the US Census of Agriculture (which we use in Chapter 2). We believe that using this remote-sensed data, which may have its own shortcomings and errors, provides a conservative estimate of self-reliance. Additional methodological details are provided in Chapter 2.

Figure 7.1 – Current Use of Cropland in Erie County by Food Product



(Map: Authors. Data Source: USDA, NRCS, Cropland Data Layer, 2011. USDA, NRCS of Erie County, New York, Common Land Unit, 2011. Erie County Department of Environment and Planning, Parcel Data, 2011)

A. Findings

Under current land use conditions, Erie County farmers would not be able to produce enough food to meet the needs of Erie County residents. In the United States, an average of 1,824 pounds of food is made available for each American annually. If food were made available at a similar rate in our region, Erie County residents would require about 839,093 tons of food per year, including over 135,000 tons of meat and eggs, nearly 89,500 tons of grain, 279,256 tons of dairy and almost 298,000 tons of fruits and vegetables (See Table 7.2). Existing cropland in Erie County does not produce enough food to fulfill this requirement, as currently, Erie County farms are only producing 113,565.40 tons of food.

Self-reliance, as described earlier, under this scenario is highest in dairy foods (21.75%) and lowest in vegetables (4.03%) and grains (4.60%).* On average, Erie County can produce 13.08 percent of all the food its population requires (See Table 7.3).

A considerable gap exists between the amount of food Erie County farmers currently produce and the amount of food that the county's population demands. In fact, in order to make food available to Erie County's residents at the same level as is made available to the average American, the county would have to devote an additional 369,232 acres to agriculture, or a 371 percent increase over the current 99,445 acres of cropland. In other words, the county would need to devote nearly 70 percent (468,678 acres) of its total land area to planted cropland to satisfy this demand. The total land area that would be required for each food category to achieve self-reliance is staggering (See Table 7.4). Over 288,000 acres of land would be required just to grow enough corn and hay to feed the number of cattle necessary to satisfy the county's current demand for beef and dairy products. This total increase would represent approximately 70 percent of all of Erie County's

*Self-reliance_{food(a)} = (weight of food_a produced)/(weight of food_a required);
thus, self-reliance_{fruits} = (9283.39)/(118085.77) x 100

Table 7.1 – Annual Food Production Under Current Land Use, Erie County

Food Group	Acres	Weight (Tons)
Grains	1,793.39	3,602.90
Beef	73,694.31	22,896.21
Fruits	1,881.68	9,283.39
Vegetables	2,242.18	8,267.03
Dairy (milk)	13,702.64	60,676.07
Poultry	16.22	29.49
Eggs	79.85	119.723
Total	99,445.41	113,565.40

(Source: Author Analysis)

Table 7.2 – Food Required in Erie County (per national food availability standards)

Food Group	Amount (tons/year)
Grain	89,386.39
Meats & eggs	135,302.77
Fruits	118,085.64
Vegetables	179,619.52
Dairy	278,983.61
Total	801,377.93

(Source: Author Analysis)

Table 7.3 – Self-Reliance in Food Under Current Land Use, Erie County

Food Group	Self-Reliance (%)
Grain	4.03
Meats & eggs	17.03
Fruits	7.86
Vegetables	4.60
Dairy	21.75
Average	13.08

(Source: Author Analysis)

land, clearly beyond the existing agricultural land footprint. Erie County’s current population would require 70 percent of Erie County’s total land to meet the current eating patterns of its residents.

B. Land Required

Given that there is not enough land to produce food to meet current national standards, and knowing that Erie County’s average consumption of healthy is not in line with government regulations, Erie County would need even more land to provide an increased amount of healthy food to its residents. If food were made available in Erie County such that there would be enough food to meet the Recommended Daily Allowances (RDA) set by the USDA for each food group, the county would require 1,064,857 tons of food per year. To meet the RDA for foods, a much greater amount of fruits (295,105 tons per year), vegetables (344,517 tons per year), and meat and eggs (147,971 tons per year) would be needed while a lower amount of grains and dairy would be necessary (See Table 7.5).

Assuming current land use patterns and food production practices, current cropland in Erie County would only be able to generate 9.85 percent of the RDA required for its population (See Table 7.5).

To reiterate, there is a wide gap between the amount of food Erie County farmland can yield and the amount of food required to fulfill the nutritional requirements of the county’s population (a shortage of nearly 960,000 tons of food per year). To provide this healthier food, the county would need to devote a total of 548,194 acres (nearly 82% of its entire area) to raising crops (See Table 7.6). For example, more than 93,000 acres of land would be required just to produce the amount of vegetables necessary for the county’s population to meet the recommended four daily servings of vegetables. Currently, there are only 2,242 acres in vegetable production. In short, for the population of Erie County to meet the RDA standards with food produced within the county, Erie County would need to allocate 4.5 times more land to growing crops.

Table 7.4 – Cropland Required for 100% Food Self-Reliance (per national standards) in Erie County

Food Group	Required Cropland Area	
	Acreage	% of Total
Grain	44,493	9.49
Beef	225,251	48.06
Fruits	23,935	5.11
Vegetables	48,716	10.39
Dairy	63,004	13.44
Poultry	27,787	5.93
Egg	9,870	2.11
Total Cropland	468,678	100

(Source: Author Analysis)

Table 7.5 – Self-Reliance in Food Under RDA Requirement, Erie County

Food Group	Amount of Food (tons/year)		Current Self-Reliance (%)
	Currently Produced	Required for RDA Consumption	
Grain	3,602.90	70,427.91	5.12
Meats & eggs	23,045.42	147,971.71	15.57
Fruits	9,283.39	295,105.34	3.15
Vegetables	8,267.03	344,517.63	2.40
Dairy	60,676.07	206,834.77	29.34
Average	104,874.81	1,064,857.36	9.85

(Source: Author Analysis)

C. Reallocation

From a practical perspective it is difficult, if not impossible, to imagine converting land use of cropland in Erie County by this great of a degree. The percentages of total cropland area needed to provide the county's population with the RDA of each food group is shown in the far right column of Table 7.6. These ratios can be applied to the present extent of Erie County cropland, thereby reallocating land equally among food groups based on the demands given by RDA guidelines. In doing so, the amount of cropland devoted to raising feed for livestock decreases while the amount of land used to grow fruits and vegetables increases (See Table 7.7). If cropland were used in this manner, the total production on Erie County farms would increase to 199,684 tons of food product per year. This represents nearly a 76 percent increase in the amount of food products produced by county farms by weight.

If the current extent of farmland were used in the manner described above, the food system of Erie County would become significantly more self-reliant. According to this analysis, county farms would be able to provide 18 percent of the food needed for the county's population to meet the RDA guidelines given for each food group. Therefore, by reallocating existing cropland in Erie County to reflect a nutritionally balanced diet, county farms would be able to provide 8 percent more of the food products the population of Erie County nutritionally requires than current conditions.

Conclusion

In order to meet nutritional requirements and support its population healthfully, the county needs to import nearly 90 percent of its food. We have demonstrated that the most effective way for Erie County to improve its self-reliance in food, outside of expanding agricultural land, would be to distribute the use of its agricultural land more equitably to grow healthier crops.

Table 7.6 – Cropland Required for RDA Food Consumption in Erie County (per national standards)

Food Group	Required Cropland Area	
	Acreage	% of Total
Grain	35,056	6.39
Beef (feed for)	246,342	44.90
Fruits	59,816	10.90
Vegetables	93,440	17.03
Dairy (feed for)	46,710	8.51
Poultry (feed for)	30,388	5.54
Egg (feed for)	10,795	1.97
Total Cropland	548,194	100

(Source: Author Analysis)

Table 7.7 – Cropland Area and Annual Production After Reallocating Land for More Healthful Food Production Based on RDA, Erie County

Food Group	Reallocated Cropland (Acreage)	End Product Primary Weight (Tons)
Grain	6,354	12,764
Beef (feed)	44,646	13,871
Fruits	10,841	53,484
Vegetables	16,935	62,439
Dairy (feed)	8,466	37,486
Poultry (feed)	5,507	10,014
Egg (feed)	1,956	2,933
Total Cropland	99,445	199,684

(Source: Author Analysis)

ECONOMIC VIABILITY OF AGRICULTURE

As previously demonstrated, the food system is big business in Erie County. Businesses in agriculture, food processing, food wholesale and retail, and food disposal support Erie County's economy by providing employment, purchasing goods and services from inside and outside of Erie County, and generating sales and income throughout the county. The type of food residents buy and eat, and location from which the food was grown, is important not only for residents' health but also for the county's economic strength and future. With this in mind, this chapter describes the economic impact the food system has on Erie County.

A. Erie County food system and the economy

Erie County’s food system generated about \$9.9 billion in sales and supported more than 82,000 jobs in 2009 alone.¹ The food system’s sales were 14 percent of the county’s total sales.

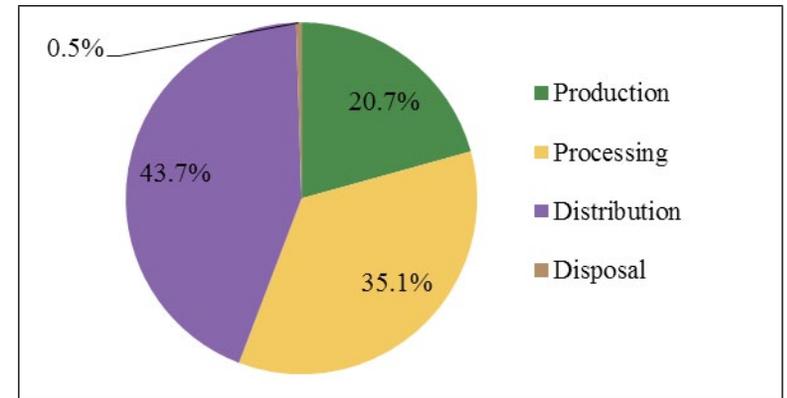
Within the food system, food production-related businesses (i.e. farms and ranches) generated \$89 million of sales (0.9% of the food system’s economy). Food processing businesses generated \$3.48 billion (35.1%) while food distribution (retail) generated \$6.28 billion (63.4%) in sales. Food disposal businesses in Erie County, which are the smallest component of the food economy, generated \$52 million (0.5%) in sales (Figure 8.1).

Food processing and wholesale businesses combined play a key role in Erie County’s economy. Food processing and wholesale businesses employ more than 25,000 individuals, the majority of whom work in food wholesale businesses (See Table 8.1).²

Furthermore, in 2009, food processing and wholesale establishments sold \$6.91 billion in food products alone, representing 70.8 percent of all food system sales and 9.67 percent of all sales in Erie County. Framed another way, for every \$100 worth of goods sold by Erie County businesses, almost \$10 is sold by a food processing or wholesale business. These businesses not only play a driving role with the food system economy, they contribute to Erie County’s total economy.

The entire distribution network of businesses and organizations plays a key role in the food system and Erie County’s economy (See Table 8.1). In 2009, all distribution businesses tallied \$2.8 billion in sales, with just over 10 percent of all food system sales comes from food service and drinking establishments.³ The \$2.8 billion in sales constitutes 14.6 percent of all food system sales and about 4 percent of all sales within Erie County. Combined with food processing and wholesale, these three parts of the food system comprise 50 percent of all food system sales.

Figure 8.1 – Food Sales by Sector



(Source: IMPLAN, Erie County 2009)

Table 8.1 - Economic Characteristics of Food System, Erie County

Industry	Employment	\$1,000 Output	% Sales in Food System	% Sales in Erie County
Production	1,420.67	88,591	0.90	0.12
Processing	25,547	6,912,237	69.88	9.67
Distribution	55,120	2,839,209	28.70	3.97
Disposal	34	51,657	0.52	0.07
Total Food System	82,121	9,891,693	100	13.83
Total Erie County	512,894	71,507,136		100

(Source: IMPLAN, Erie County 2009)

ECONOMIC IMPACT OF VARIOUS FOOD INDUSTRIES

Different parts of the food system have a different economic impact on Erie County. Spending by both consumers and businesses in each sector of the food system ripples throughout the county economy, and generates an impact on the county's entire economy. To measure the economic impact of the Erie County food system, we calculated economic multipliers for each component of the food system. The total effects' economic multiplier measures the economic return for one dollar spent in that sector (see Table 8.2).^{*} For example, the total economic multiplier of 2.03 for fruit farming shows that in Erie County, \$1 spent by consumers on purchase of fruits will generate \$2.03 in the overall economy. Thus, the higher the reported economic multiplier, the greater positive economic effect the individual component has on the overall county economy.

Below, we estimated the economic impact of four different industries within food production and processing sectors. These chosen industries represent promising sectors that can create larger multiplier effects than other food production and processing industries. Among these four industries, fruit farming has the highest multiplier effect, and vegetable farming ranked fourth. Bread and bakery manufacturing ranked second and cookie, cracker, and pasta manufacturing ranked third for multiplier effects among Erie County's food processing industry (See Table 8.2).

DISCONNECTS IN THE LOCAL FOOD SYSTEM

A key economic development concern is the disconnect that exist within Erie County's food system. Instead of being a part of the same "cluster" industries—a geographic concentration of interconnected companies and institutions within a particular field—a majority of food industries in Erie County spend their money on commodities from food businesses located

Table 8.2 – Multiplier Effect by Selected Food

Industry	Industry			
	Direct Effects	Indirect Effects	Induced Effects	Total Effects
Fruit farming	1	0.25	0.78	2.03
Vegetable and melon farming	1	0.31	0.63	1.94
Bread and bakery product manufacturing	1	0.56	0.34	1.90
Cookie, cracker, and pasta manufacturing	1	0.60	0.24	1.84

(Source: IMPLAN, Erie County 2009)

^{*}Three types of input predicted: direct, indirect and induced. Direct impact measures effect on the primary industry responding to demand change. Indirect impact measures effect on sectors other than the primary industry due to an economy's interconnectedness. Induced impact measures all sectors combined.

outside Erie County. This behavior fails to develop and locally reap the rewards of economically beneficial cluster industries. Additionally, clusters are useful not just because of economic linkage, but because of spillover effects.

Of all the produce sold by “vegetable and melon farmers,” local consumption accounts for only 15.53 percent of sales. Put another way, Erie County residents and businesses only purchase 15.53 percent of their vegetables and melons from local producers. Consumers buy only 7.53 percent of fruits from local farmers. Local purchases among food processors are low as well. Consumers buy 19.35 percent of commodities for ‘bread and bakery product manufacturing’ locally and 24.36 percent of commodities for ‘cookie, cracker, and pasta manufacturers’ are purchased locally (See Table 8.3). Interestingly, the one product, fruit, that would have the largest economic impact for Erie County, if purchased locally, suffers from a relatively low local purchase rate.

B. Policy Scenarios and Findings

Although Erie County’s current food system has a positive impact on its economy, the food system and agriculture can play an even greater role in generating wealth in the county with strategic policy and planning. To determine the scenarios under which the food system and agriculture can best support economic development in Erie County, we describe below the results from two different scenarios conducted using an Input Output analysis (see Appendix A for additional information). First, we estimate the economic impact of an increased demand for fruits and vegetables in Erie County. Second, we estimate the economic impact of increased demand in locally-grown fruits and vegetables. Finally, we estimate the economic impact of increased demand for food processing in Erie County. Key findings are reported below.

Table 8.3 – Local Purchase Percentage by Selected Food Industry

	Local Purchase (%)
Vegetable and melon farming	15.53%
Fruit farming	7.53%
Bread and bakery product manufacturing	19.35%
Cookie, cracker, and pasta manufacturing	24.36%

(Source: IMPLAN, Erie County 2009)

SCENARIO 1: INCREASED DEMAND FOR HEALTHIER FOOD

As noted in the opening chapters of this report, Erie County residents consume less than recommended amounts of fruits and vegetables. In this scenario, we simulate the economic benefits of consumers' increased demand for fruits and vegetables. Specifically, we simulate the economic impact of 20 percent increase in consumer demand for fruits and vegetables. We assume under this scenario that consumers would consume fruits and vegetables locally at the same rate as they have done in the past.

Results show that a mere 20 percent increase in demand for fruits (a mere \$3.20 per household annually) and vegetables (also low at \$6.50 per household annually) would generate \$984,023 in additional annual sales and support an additional 9 jobs in Erie County. In other words, increased demand for fruits and vegetables is not only good for resident's health, but also Erie County's economy.

SCENARIO 2: INCREASED DEMAND FOR HEALTHY AND LOCAL FOOD

The prior scenario assumes that Erie County consumers would purchase fruits and vegetables grown locally and elsewhere. In this second scenario, we estimate the economic impact of eating both fruits and vegetables that are grown locally in Erie County. Specifically, we estimate the economic impact if there were a 20 percent increase in total demand for fruits and vegetables, and if consumers were to double the proportion of local purchase for current fruits and vegetables (31% and 15%, respectively).

The results show a significantly higher economic impact. Eating more local fruits and vegetables would generate \$1,962,613 in additional sales and support an additional 19 jobs. This estimation suggests that by doubling the consumption of locally grown fruits and vegetables, Erie County residents can generate \$978,590 in economic impact and 10 more jobs in Erie County (See Table 8.4).

Table 8.4 – Estimated Multiplier Effect of Fruits & Vegetables by Scenario

	Change in Demand	Local Purchase of Fruits & Vegetables (%)	Estimated Result	
			Jobs	Output (\$)
Scenario 1	20% increase	Fruit 7.53	9	984,023
Current local purchase		Veg 15.53		
Scenario 2	20% increase	Fruit 15.06	19	1,962,613
Doubled local purchase		Veg 31.06		
Net benefit			10	978,590

(Source: IMPLAN, Erie County 2009)

SCENARIO 3: INCREASE IN THE NUMBER OF FOOD PROCESSING UNITS

The third and final scenario recognizes that value-added food products tend to have the highest economic impact on Erie County. For this reason, we simulate the economic impact of introducing new food processing units (20% of current processing establishments) into Erie County. Specifically, we simulate a 20 percent increase in the number of food processing units (for baked goods and pasta). We selected these food processing sectors because in 2009, Erie County consumers spent on the goods produced by this sectors from businesses located outside of Erie County, while the multiplier effects for these sectors are relatively high. Locally-owned food processing units are more likely to capture the spending by Erie County residents.

The economic impact result for an increase in food processing is even more significant than the result of an increase in local demand for healthy and local foods. Estimated multiplier effects for this scenario with an increase of manufacturing places (20% of current number) for bakery, cookie and pasta in Erie County, are \$12,132,017 in sales as output with creating 63 jobs in Erie County (See Table 8.5).

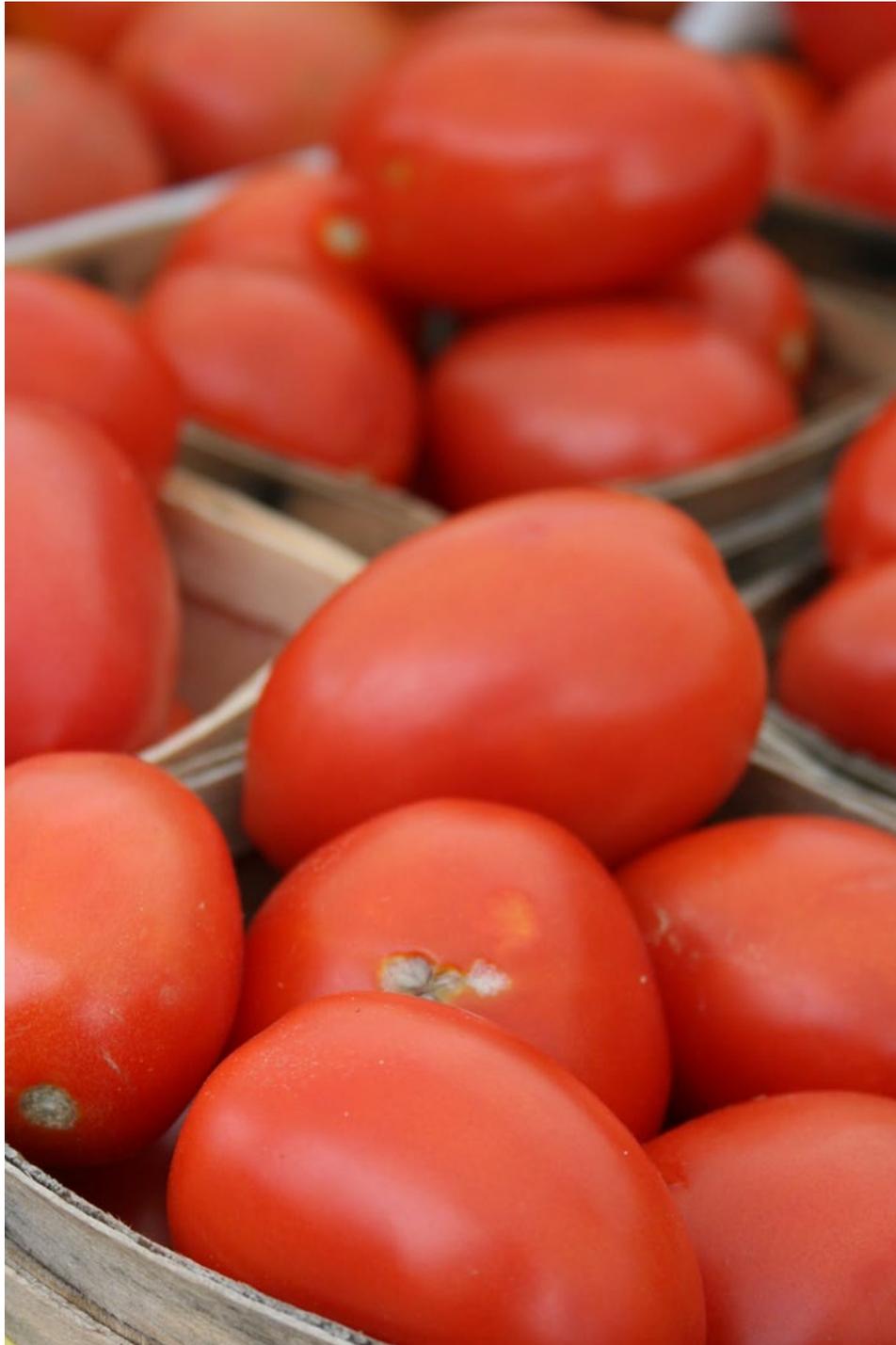
Among these multiplier effects, the biggest rippling effects occurred in labor income, indirect (41.8%) and induced effect (21.8%) and direct effect (36.3%), while sales brings the smallest rippling effect proportions, indirect (31.1%) induced effects (15.4%) and direct effects (53.5%) compared to each other.

These suggested changes can be beneficial for the economy as well within the region by bringing multiplier effects, and positive effects to the economy will become more significant when the proportion of local purchase is increased. Food-related industries may be even more significant contributors to the economic vitality both of residents in Erie County and the County itself with the changes in food system we suggest.

Table 8.5 – Estimated Multiplier Effect of Food Manufacturing (Bakery, Cookie & Pasta)

	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Employment	27.6	20	15.2	62.8
Labor income (\$)	1,065,190	1,225,361	640,079	2,930,630
Output (\$)	6,483,251	3,777,010	1,871,757	12,132,017

(Source: IMPLAN, Erie County 2009)



SYNTHESIS

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KEY FINDINGS

This chapter provides a summary of major findings and related facts and figures found from our assessment and analysis of Erie County's food system.

Consumption	Erie County is home to approximately 919,040 residents
	The population is dominantly White (80%), with a median age of 40 years old
	While the median household income has increased in the past decade, an increasing portion (14% in 2009) of the population lives below the poverty level
	Approximately 15 percent of county households use food stamps, totalling \$200 million in food purchases in 2009
	Total value of food purchased by WIC participants was \$13 million in 2009
	Only about a quarter of adults in Erie County (26%) eat 5 or more servings of fruits and vegetables per day The average rates for obesity and diabetes are higher than the state average
	Erie County is food insecure
Production	Approximately 19 percent of Erie County is agricultural farmland, less than New York's average
	About 98,000 acres of cropland in Erie County; over 12,000 farms in Erie County
	Nearly 85 percent of prime farmland in the county is not currently used for agricultural production
	Approximately 44 percent of all cropland is used to grow hay – the largest use of county agricultural land
	About 24,000 acres are used to grow corn for animals and people
	Comparison: Profit per acre for fruits and vegetables: \$1,500 Profit per acre for corn: \$144
	Top 4 expense categories for farmers: labor, utilities, animal feed and depreciation
	Average expenses per farm: \$78,000
	White farmers constitute 97 percent of all farmers, with an average age of 57 years old
Processing & Wholesale	Average processor income: less than \$100,000
	Recently, there has been a net decrease in the number of food processing establishments
	Bakeries and tortilla manufacturers remains the largest food processors within Erie County, followed by animal slaughtering and grain and oilseed milling
	Food processors and wholesalers sold \$6.91 billion in food products, 70.8% of all sales by food system operations
	Food processors are generally large square footage operations

Distribution	Food retailers earned \$3.3 billion, approximately 21 percent of all retail sales in 2007, the largest collective portion of all retail establishments; they also employ close to 30 percent of all retail employees
	Food service retailers earned over \$400 million in sales, which constitutes more than half of all service sector sales generated in Erie County
	Restaurants are a large employer and a major economic driver in Erie County
	The highest cost in interacting with farmers is the transactional cost, increasing the time the distributor must spend in procuring food for the store
	Almost 15,000 residences are located outside of the 10-minute drive distance from fresh food sources and have low vehicular access; almost all of these are located within the City of Buffalo
Disposal	In 2009, there were approximately 101,816.84 tons of food waste produced in Erie County
	60 percent of municipal solid waste produced in Erie County is sent to 1 of 2 landfills. The remaining 40 percent is shipped to an incinerator (Covanta Niagara) in Niagara County
	Industrial processes represent untapped economic potential in municipal solid waste that would otherwise be diverted to landfills
	Erie County municipalities' annual expenditure on solid waste in 2009: \$54,331,553
	Erie County lacks widespread composting efforts encouraged by each of its municipalities. Only 2 communities have community composting facilities that can convert food waste into nutrient-rich materials
Regulatory Framework	Previous plans and frameworks speak to the importance of agriculture to the region (e.g., 1996 Farms for the Future, 2006 Framework for Regional Growth, 2007 Chris Collins "Road to a Brighter Future")
	All but 3 local municipalities adopted a Local Right to Farm Law
	Fiscal incentives available at the local and state levels
	Agricultural landowners are entitled to agricultural assessment based upon formula created by law
	Local municipalities receive half of the value of agricultural assessment deductions allowed by the State of New York
	Erie County IDA provides tax incentives to different businesses, with additional incentives given to agricultural businesses
	In 2002, Clarence residents approved a \$12.5 million bond authorization to purchase agricultural land for preservation efforts
	Town of Marilla's PACE (Purchase of Agricultural Conservation Easements) Program protects about 800 acres

Local Growing Capacity Analysis	Erie County cropland could produce 113,000 tons of food products
	By national food supply standards, the population of Erie County would require 840,000 tons of food each year; currently, Erie County is 12 percent self-reliant
	Erie County is more self-reliant in particular foods: Most self-reliant food group is dairy (29 percent) Second most self-reliant food group is meat (16 percent) Least self-reliant food groups are grains and fruit (5 and 3 percent, respectively)
	If people ate the federally recommended dietary allowances (RDA), Erie County would also need a larger supply of food; self-reliance would be 10%
	If RDA were met, the county-wide food supply would need to increase to 1.1 million tons of food annually
	If the land currently used for agriculture was reallocated according to RDA yields, Erie County could produce a total of 199,000 tons of food annually. Self-reliance would increase to 18 percent
Economic Impact Analysis	Based on 2009 total sales, food sectors in Erie County sold \$10 billion worth of goods Food distribution: 44% Food processing: 35% Food production: 21% Disposal: 0.5%
	By increasing 20% total demand for fruits and vegetables with current rate of local purchase, the total output equals close to \$1 billion dollars
	By increasing 20% in demand and doubling local purchase for fruits and vegetables, the economic impact would be \$2 million dollars
	If additional food manufacturing businesses were introduced, accounting for 20% of local sales, \$12 million dollars and create 63 new jobs would be generated

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**STRENGTHS, WEAKNESSES,
OPPORTUNITIES, AND THREATS**

STRENGTHS

- **Strong farming tradition** - The development of agriculture coincided with the settlement of New York State (1798) and the City of Buffalo (1832). Agriculture-based industries in the early to mid 19th century included grain milling, meat processing and packing, tanneries and distilleries. The 1820 Census reflected the rich rural character of the region, in terms of the number of family members involved in agriculture, number of mills for various industries, distilleries, asheries and machinery.
- **Strong food processing tradition** - The first grain elevator was constructed in Erie County in 1842.
- **History of innovation** - Erie County is known for its invention of Buffalo Chicken Wings.
- **High quality soil** - Over 75 percent of the county's land area is designated as prime farmland, over half of which does not require substantial preparatory measures (i.e., drainage) to start farming.
- **Stable farmland area** - Overtime, the total area of the county's farmland has been stable.
- **Access to fresh water** - The proximity to Lake Erie provides the county with the access to fresh water.
- **Favorable climate** - The climate is suitable for growing certain types of crops such as grapes.
- **Presence of farmers** - Despite the county's largely metropolitan nature, there are 1,898 farmers.
- **Presence of labor force** - There are 475,502 residents of 16 years and over (63.7% of the total population) as the county's potential labor force.
- **Presence of Agricultural Board** - Erie County Department of Environment and Planning works closely with the County Agricultural and Farmland Protection Board, which bridges farmers, government officials, and other stakeholders in the agricultural industry.
- **Dairy products** - Erie County is the 3rd largest dairy producer in New York.
- **Strong food retail sector** - Erie County has a high employment rate in food distribution sector (14.6%).
- **Variety of food retail options** - Erie County provides various types of sites where people can eat or purchase food, such as restaurants, supermarkets, grocery stores, small corner stores, convenience stores, farmers' markets, etc.
- **Access to markets** - Erie County contains its internal market area, the City of Buffalo. The proximity to Lake Erie and the Erie Canal provide Erie County with shipping routes that connect to external markets. Furthermore, Erie County possesses developed infrastructure for transportation, including a major airport, public transit system, and highways that connect to both internal and external markets to sell agricultural products.
- **Legal support** - Most municipalities in Erie County, including the City of Buffalo, have passed 'Right to Farm' law to support local agricultural businesses.
- **Cultural diversity** - Erie County's increasingly diverse population creates niche markets of cultural food for different ethnicities.
- **Consumers' purchasing power** - As the need for food will never diminish, Erie County residents continue to spend substantial amounts of money on food purchases.

WEAKNESSES

- **Challenges with the climate** - Erie County has a limited amount of sunny days year-round.
- **Disproportionately older farmers** - The existing farmers are aging. At the same time, Erie County lacks a sufficient young population entering the farming profession.
- **Low farming income** - About the half of principal farming operators in Erie County has another occupation as their primary employment. This implies that farming is not enough to sustain the economic well-being of their family.
- **Lack of farmer diversity** - Erie County farmers are predominantly white. As they are aging and other white Erie County residents are not entering the farming industry, potential newcomers to farming industry in Erie County may be limited to immigrants who come here with previous farming experience.
- **Insufficient crops for human consumption** - The majority (90%) of the harvested cropland in Erie County is dedicated to crops for animal feed.
- **Lack of crop diversity** - High percentage of farmland in Erie County is concentrated in producing a single crop type: dairy.
- **Insufficient land dedicated to fruits and vegetables** - Only small proportion of harvested cropland is dedicated to growing fruits and vegetables.
- **Highly divisive political partisanship** - Within Erie County, there are 39 municipal governments that vary in form and political ideology. This diversity and the nature of New York State as a home rule state sometimes hinder the implementation of a plan at larger scales.
- **Lack of awareness among governments and the public** - The county's agricultural industry is not fully provided with governmental support. Also, the public lacks awareness of an existing support system for agriculture, such as 'Right to Farm' law.
- **Lack of resources** - There is no one-stop place for farmers to obtain information about new technologies and opportunities (e.g., support for finding/expanding markets).
- **Lack of time for business development** - When farmers start to seek out business in new markets (e.g., selling at another farmers' market), it requires substantial time, especially considering their farming business is already time intensive. Related to this issue about time, there is no sufficient assistance for farmers with packaging, distributing, and marketing of their products.
- **High cost of managing local products** - It is cost-prohibitive, in terms of both time and money, for retailers to manage local products. This creates an obstacle for Erie County farmers to sell their products locally.
- **Declining population** - Over the last two decades, Erie County's population has declined, causing the populations of consumers and labor force to shrink, as well.
- **High poverty level** - About 14 percent of Erie County's population is living below poverty level. Among K-12 students, about 33 percent is eligible to receive a free lunch at school under the National School Lunch Program (NSLP), as administered by the United States Department of Agriculture.

OPPORTUNITIES

- **Access to urban and rural areas** - Erie County contains both urban and rural areas, which create a desirable setting to connect agricultural production to other stages of food system such as processing, retailing, and consumption.
- **Underutilized farmland** - Some of the land qualified as “prime farmland” in Erie County is not dedicated for agricultural use yet.
- **Labor force availability** - Erie County possesses a workforce population that can potentially enter the farming profession in the future.
- **Presence of an Agricultural Board** - There is potential to increase diversity in the county’s Agricultural and Farmland Protection Board’s membership to recognize the needs of the broadest possible range of constituents.
- **Access to fresh fruits and vegetables** - Erie County provides a variety of places where residents can purchase fresh fruits and vegetables to increase their intake of nutritious food (e.g., supermarkets, grocery stores, farmers’ markets, etc.).
- **Shift in consumers’ preferences** - Increasingly, more consumers are willing to pay more to purchase quality food (e.g., organic food, locally produced food).
- **Food assistance programs** - More people can benefit from food assistance programs such as SNAP, WIC, SFMNP, NSLP, etc.
- **Composting** - There is room for expansion and improvement in the county’s composting system. For example, it can be done through establishing a County-run composting program or encouraging seed grants to individual municipalities to support composting. Such efforts can be economically-viable, since effective composting costs little and creates a very valuable resource that fertilizes soils.
- **Seed bank** - The establishment of a “seed bank” for farmers to donate and obtain seeds (for free or for discounted rates) can help preserve the vitality of produce unique to Erie County and secure the region’s niche in food production.
- **Agritourism** - Tourism for the region is directed by the Buffalo Niagara Convention and Visitors Bureau, under the slogan of “Visit Buffalo Niagara.” As the Bureau receives direct aid from the county budget, there is an opportunity to direct a substantial amount of the budget towards agritourism and related activities.
- **Food business** - Erie County holds the models of good food businesses, many of which are locally owned.

THREATS

- **Presence of a rigid power structure** - The power of government subsidies, strong industrialized food corporations and lobbyists have an impact on food prices and may limit farmers’ choices of crop types.
- **Declining economy** - The trend in declining economy at global and national levels affect the economy at the county’s and regional levels as well, potentially hindering the sustainability and growth of agriculture and other food-related industries.
- **High cost of oil** - While the costs of gasoline are constantly fluctuating, the general trend has been and is estimated to be the increase in the price of fuel. As the cost of fuel currently represents about 5 percent of total farm expenses in Erie County, the increase possibly presents an insurmountable economic burden to county farmers. Moreover, as all other food-related sectors also rely on automotive transportation to carry out their day-to-day operations, higher costs of oil could likely advance to debilitate the food system of Erie County at large.
- **Rural/urban cultural divide** - There is a trend in which the public fails to see the link between rural and urban areas, which may contribute to the disconnect between producers’ and consumers’ viewpoints within the food system.
- **Food-borne diseases** - An outbreak of food-borne disease jeopardizes all food-related industries in the region, as well as residents’ healthy eating.

BEST PRACTICES FROM OTHER COMMUNITIES

As an intermediary level of government between states and municipalities, county governments formulate policies that are tailored to the needs of local food producers, strengthening their ties to local sources of demand, and fostering the economic viability of farming. County governments have done so through adoption of innovative fiscal incentives, regulatory mechanisms and implementation of institutional innovations.

Around the United States, many counties have used these methods to revitalize their local food systems. The following examples of policies creates a menu of possible courses of action for Erie County to continue rebuilding its own food production system.

A. Fiscal Incentive Policies

Counties may provide fiscal incentives for either producers directly, or for third parties who engage in the food production process, which in turn economically benefit the producers. These county policies include tax abatements, food procurement policies, and others.

Dane County, Wisconsin, location of the state capital Madison, has taken advantage of statewide property tax credit opportunities to provide its individual farmers with up to \$4,200 credit per property abated annually.¹ According to the state statute, tax credits may be claimed by individual farmers if the corresponding county has created a certified agricultural preservation plan, and if the property is zoned exclusively within the agricultural district. Dane County has created such districts since 1981 with its Farmland Preservation Plan, and now benefit from the statutory allowance as a result.

Using a more ambitious tax abatement structure, connected to its organic food initiatives, Iowa's Woodbury County has instituted an "Organics Conversion Policy," which grants the entire pool of transitioning participants up to \$50,000 in real property tax rebates annually to incentivize switching to organic farming among "conventional" farming with pesticides, tailored to any sized farm.²

Fiscal incentives may also come in the form of food procurement policies, which use preexisting channels of providing food for county institutions, and modifying them to incorporate as much locally-produced food as possible. An example again comes from Woodbury County, where a resolution passed by the County requires publicly-supported facilities to purchase all local foods "in the usual course of business." Local food is defined in Woodbury County as food that is grown within a 100 mile radius of Sioux City, the county seat.

Finally, other fiscal incentives that aid food producers include scholarships for local students considering becoming farmers. The Macomb

County Farm Bureau in Michigan furnishes two \$1,000 scholarships annually to students in the area of agricultural education with the goal of strengthening the farmer work force locally.³

B. Regulatory Mechanisms

Counties may also preserve farmland by creating policies that help agricultural land remain in their agricultural capacity. For example, affected farmland may be protected by conservation easements, which are agreements between the municipality and the individual landowner, preventing the sale of sections of farmland for other development.

Lancaster County in Pennsylvania has taken advantage of a statewide program to become a leader in state-level programs to protect more agricultural acreage (382,845 acres).⁴ Using a \$25 million bond from a blue ribbon state commission, Lancaster County has been able to fund a program using multiple strategies to preserve farmland. The county efforts include the creation of an urban growth boundary, zoning appropriately for agriculture, creating “agricultural security areas,” and forming conservation easements over existing farmland.

Agricultural security areas in Pennsylvania are set aside to limit governmental eminent domain takings of farmland, and a minimum 500 acre area’s development rights may be sold to the county; land is eligible after meeting size and soil requirements, and then it must be zoned for agricultural use. The selling of the farmland’s development rights is an agricultural conservation easement, providing the farmer with added revenue, resulting in the protection of agricultural land use. Lancaster County also enjoys “effective agricultural zoning,” which limits construction of all structures unrelated to agricultural land uses and activities. Finally, the urban growth boundary limits growth to areas within the boundary, and protects agricultural areas outside the boundary line.⁵

Similarly, Kane County, Illinois has designated “Agricultural Protection Areas,” which supports continued agricultural land use and

prevent “leapfrog” development. Kane County’s Purchase of Development Rights (PDR) program creates a conservation easement in perpetuity. Combined, the Agricultural Protection Areas and PDR protection cover half of the entire county’s land, consisting of about 165,000 acres.⁶

Similarly, Dane County in Wisconsin has implemented Transfer of Development Rights (TDR) programs, which are permanent agreements and conservation easements used to guarantee agricultural or natural resource use in perpetuity. TDR programs differ from PDR programs in that the former only reallocate development, whereas the latter requires local governments to make outright purchases, which is more expensive. These programs are designed “to provide lasting public benefit,” and integrate into prior county agricultural planning. However, Dane County also incentivizes this process through the Purchase of Agriculture Conservation Easements (PACE), which provides up to 50 percent of the cost of purchasing agricultural conservation easements, including transaction costs.

In general, counties use regulatory mechanisms to ensure that farmlands within their boundaries will remain in food production for years to come.

C. Institutional Tools

County governments have the legal authority to establish institutional mechanisms to oversee the functioning of a good food system.

At the forefront of good county-level practices is the formation of a food policy council. Food policy councils achieve a broad range of objectives tailored to local county needs, and perform tasks ranging from issuing reports, analyzing agricultural sustainability, making recommendations on maximizing agricultural economic development opportunities. These coalitions normally include representation from every level of the food system, from farmers to consumer advocates to politicians. The assessments and recommendations they make are thus guided by multiple perspectives and take advantage of otherwise rare interactions among county citizens

and authorities. Food policy councils usually serve an advisory capacity to county governments (and other levels, such as state governments), and vary in terms of weight afforded to their findings, and the form of those findings.

A successful example of a county food council, the Dane County Food Council, was implemented via resolution by the Dane County Board following popular citizen petition. Membership on the council represents backgrounds of “agricultural, business, nutrition, economic development, academia, urban planning, and food security.” All nine positions are appointed by either the county executive (6 members) or the county’s Environment, Agriculture, and Natural Resources committee (3 members).⁷ The resolution passed by the county legislature to implement the Food Policy Council can be found in Appendix E.

Farm bureaus are another type of body of county citizens making a positive influence on local food systems. For example, the Macomb County Farm Bureau works as a watchdog group for “defending the rights and economic interests of its members,” who are defined in their by-laws as those engaged in agricultural production. As mentioned, the Bureau furnishes scholarships for students interested in agricultural careers, but it also puts together local programs like informative legislative seminars, dinners at local farms, and forms community action groups. These farm bureau groups share knowledge at meetings and create awareness of local farmer concerns in Macomb County.

D. Plans

Counties may also adopt plans to articulate their policy goals and implement them. In the food system context, there are comprehensive plans that include provisions for the related food system, or separate stand-alone food system plans. For example, the Transfer of Development Rights and Purchase of Agricultural Conservation Easements in Dane County described above are proposed in the 2007 Comprehensive Plan.⁸ In addition to the legal property restrictions these programs have created, the Plan creates fee

structures serving as disincentives for conversion from agricultural land use. These fees are not purely punitive: the payments are “sufficient to cover the full costs of the rezone process and administration,” a feature most likely implemented because the easements are normally voluntary and may be rescinded.

The Dane County 2007 Comprehensive Plan reflects a thoughtful process accounting for a variety of farmers’ needs. The Plan reflects the County Board’s mindfulness of competing interests involved in agriculture; for example, property regulations on noise and odor are limited when applied to agricultural land in light of their detrimental restrictive effects. Further, the Plan provides for a newly-recognized zoning level, allowing for small acreage farming zones, consisting of less than 35 acres.

As mentioned above, Lancaster County in Pennsylvania proposed its farmland preservation policies as a component of its Comprehensive Plan from 1999.⁹ The first Policy Plan Goal listed in the Plan is agriculturally-based, prioritizing the creation of “a strong, diverse, and sustainable agricultural sector.”¹⁰ The actions needed to realize this goal listed “adopt, implement, and maintain Urban and Village Growth Boundaries; adopt, maintain, and where appropriate, strengthen agricultural zoning ordinances; and purchase or accept conservation easement donations on farmland outside of designated growth areas.”¹¹ The plan further recognizes the need to adopt ordinances restricting inappropriate development, and perhaps more importantly, restricting “improper infrastructure improvements in agricultural and conservation areas,” which effectively limits the propensity of agricultural land to eventually convert to development.¹² Finally, the Plan mentions the importance of developing an agricultural promotion program for farm products from Lancaster County, adding an economic development component to preservation.

An example of a stand-alone food system plan is Multnomah County’s Food Action Plan, which provides benchmark goals improving

upon the current status of the county's local food consumption and the economic vitality of its food system, by 2018 and then by 2025.¹³ The plan proposes to protect and enhance the agricultural land base by increasing acres in agricultural production and the number of farms (by the benchmark years). It also proposes to increase urban food production by boosting the number of municipally-operated community garden plots per capita. With economic vitality in mind, the county seeks to promote local and regional food products and producers by increasing the number of farmers markets and total farm sales. It also proposes to encourage farm-to-school and institutional purchasing that supports the regional food system by increasing the number of school districts with farm-to-school programs.

E. Programs to Spur Demand

Some institutional measures counties focus more on the demand side of the food system, ultimately benefitting the production component, including agritourism programs, and educational opportunities for local schools. In New Jersey, the Monmouth County Planning Board markets local farms specifically to attract tourism appreciating agricultural processes. In 2003, the Monmouth Department of Economic Development and Tourism published the "Touring Monmouth County New Jersey" with a comprehensive map of "u-pick" (customer self-service) establishments for fruits, vegetables and Christmas trees, and wineries.¹⁴

Missoula County, Montana has formed several institutional linkages to strengthen the position of producers in the food system. To form networks between producers and the rest of its food system, their food council has instituted the "Buy Fresh, Buy Local" program to connect producers and chefs from over a dozen local restaurants to both purchase and feed locally. Another program called "Farm to School" links one farmer to individual classrooms in Missoula County. The pairing creates on-site farm demonstrations, classroom presentations, and on-site school garden project support.¹⁵ These linkages not only expose local students to agricultural

processes with which they may not be familiar, but may encourage younger participation in an increasingly aging profession.

F. Infrastructural Strategy: Food Hubs

County governments may also decide to establish, coordinate and support Regional Food Hubs. A food hub may include 1) a central physical location, 2) business management, and 3) any combination of aggregation, storage, processing, distribution, and marketing of locally produced foods.¹⁶ The physical location is characterized as a permanent place for storage and sale, including any number of layout permutations (See Figure 11.1). The invaluable business management component coordinates local supply chains by logistically pairing producers with distributors, processors, and individual consumers. The business model itself may be non-profit, or for-profit and operated by retailers, producers, or consumers, like buying clubs. The entire facility is a drop off point for producers, and pickup for distributors and consumers interested in purchasing locally.

An example of a developed non-profit food hub includes Abingdon Virginia’s Appalachian Harvest Food Hub, established in 1995.¹⁷ The hub connects 53 organic-certified farmers (some of whom made the transition to organic farming after joining), unifying them under one regional brand to market and distribute their produce. The all-important sales and marketing manager coordinates supply chains, gauges product demand, and plans for harvests for over 500 supermarket buyers. The produce is sorted, graded, packed and shipped on-site for buyers. Annual sales surpass \$500,000, and “estimated demand is 2 to 3 times the available supply,” indicating successful marketing, and suggesting potential for growth.¹⁸

Figure 11.1 - Example of Food Hub Layout



(Source: USDA, 2011)



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RECOMMENDATIONS

In light of the assessment and analysis, there are currently a variety of actors poised to make changes necessary to make our system more complete and improve overall communication among participants in the local food system. The following recommendations are organized by food system component, by implementing authority, and by priority. The recommendations are guided by the structure of the food system, as well as our initial goals. Again, the goals for this plan are to:

1. Ensure economically viable and sustainable agriculture in Erie County
2. Promote access to local food in the county
3. Ensure lasting food security in the county
4. Promote overall health and wellness of Erie County residents
5. Educate the general public about the Erie County food system

Each recommendation is linked to a part of the food system and are intended to address uncovered problems.

The following recommendations have the potential to empower food producers by recognizing their needs and informing them of options, inform consumers as to sources of available nutritious local food, reconnect stakeholders of the food system, and strengthen the local overall food system. Each recommendation has an assigned priority level. Those of high priority may be accomplished within a year, medium priority between 1 and 3 years, and low priority between 4 and 7 years. Organized first by implementing authority and then by priority level, each recommendation details methods of realizing a more stable food system.

I. Erie County Agricultural Land Preservation Board & the Erie County Department of Environment and Planning

1. Sponsor agricultural training courses (Medium Priority)

There is an aging farmer workforce. To increase participation in farming, Erie County could work with existing agricultural training courses in farming at local educational institutions. Cornell Cooperative Extension has an Erie County Office that currently provides workshop type classes to those interested in starting farming. The Board should take a leading role in promoting existing training to farmers and potential farmers. Additionally, farmers should take a role in providing ideas for additional training. These offerings could include internships and apprenticeship programs to educate young people with potential interests in farming on practices, tools and making farming operations profitable. The success of the training course program may be measured by an increase in existing course enrollment by 10 percent, and by new courses offered to interested students.

2. Facilitate farmers' greater involvement in Agricultural Districts (Medium Priority)

Agricultural districts help bring about preservation and protect the rural character of farmland. Currently, there are 14 Agriculture Districts within Erie County. The number of Agriculture Districts should be increased to 18 within 3 years. Because of the amount of land required to create an Agriculture District (the greater of 500 acres or 10% ownership of the entire land), this would sizably promote higher farming involvement in these agriculturally designated areas. These state-generated districts, combined with an effective agriculturally-targeted regional policy, would further promote agricultural interests.

3. Identify potential new cropland (Low Priority)

Currently, there is 99,445 acres of cropland in Erie County. Potential new cropland would bring added economic benefit to farmers and the county. The Agricultural Land Preservation Board should work to increase a 15 percent increase in the number of cropland acres within 5 years. Identifying areas that are high-yield and fertile that are not currently zoned as farmland (See Figures 2.2 and 2.3). All potential agricultural land, including purely unused land, should be inventoried and examined for possible incorporation into current farm use, instead of operating under the assumption that the unused land will simply be developed. Another small-scale effort could be to encourage backyard farming, providing them with information on cultivation of fruits and vegetables. This may create a connection in the minds of local residents that food can be grown in their own backyard, ostensibly promoting the food grown in nearby local fields.

4. Establish a seed bank (Low Priority)

Currently, there is no resource for farmers to obtain local seeds. The Agricultural Land and Preservation Board should research the extent to which farmers would utilize such a seed bank. Sales from greenhouses and

seed banks have a positive economic impact and the establishment of a seed bank has the potential for an added benefit to the county as well as farmers.

To continue the vitality of Erie County produce, the local food system needs to protect indigenous varieties of plant stock to secure the niche of local food. This would also serve as an economic safeguard of unique Erie County and Western New York agriculture. Erie County could establish its own seed bank or participate in a regional seed bank. The Cornell Cooperative Extension could support the creation of this seed bank, and farmers could obtain the seeds for free or at discounted rates.

II. Erie County Department of Environment and Planning

5. Manage a county website on agricultural resources (High Priority)

There is a need for a County-managed, stand-alone website managed on agriculture or local food production. The County has an opportunity to give the public information connecting buyers, sellers and other entrepreneurs in the food system, if they choose to make that information available. The website would provide functions of making announcements, blogging, horizontal business collaboration, contact lists, a County calendar for food campaigns or harvest schedules, a discussion board for community feedback, and a component for visibility to those outside of the County in the form of a “Wiki.”

This Erie County Food Portal should be maintained by a centralized entity like the Department of Environment and Planning, or a potential Food Policy Council. There is a need for information made available on the website, at a minimum, with an inventory of local farmers participating by choice. This could also take the form of a Food Systems Assessment much like this report, except the online version would be dynamic and continuously updated.

Currently, no such website exists for Erie County stakeholders to access such information. In light of the time and effort associated with the

creation of a Food Policy Council, the Department of Environment and Planning should take the lead in creating this website immediately within the next six months to a year. The creation of the website should also include various means for stakeholders to submit information regarding current and upcoming events relevant to the county's food system and communicate through the portal, to ensure that the website remains dynamic.

6. Facilitate a regional Food Hub in Erie County (High Priority)

Currently, no Food Hub exists in Erie County. The Department needs to conduct further analysis to locate a food hub that would most beneficial for food producers and food consumers, including processors and distributors. Consideration should be given to access to food producers and the availability of an existing transportation infrastructure. Also, consideration should be given to proximity to food processors and distributors. Making local food easier to obtain for processors and distributors would lead to an increased demand in local food. Additionally, the Department should seek input from local municipalities that would be interested in hosting such a site.

The Department of Environment and Planning is poised to facilitate the creation of a Regional Food Hub. Food hubs generally take many forms, but at their core, they consist of a physical location, business management, and some combination of food storage, processing, distribution and sale. The business arm, whether for-profit or nonprofit, coordinates producer supply chains for food drop-off, and distributor or consumer demand for food pick-up. The Department could work with local municipalities to identify an appropriate location. The location should be reasonably close to producers, processors, and consumers and it should take advantage of Erie County's proximity to strong agriculture even outside the County. It will require the necessary square footage for vending and storage, or a processing component.

The physical location of the hub could also become a meeting place for working groups or conferences, a space for all involved in the food

system to share information to make processes more efficient. The food hub can also function as the main outlet for the branding of Erie County foods (as hubs are also commonly places for light processing before distribution to the purchasing areas), and applying county-wide branding or a uniform logo for Erie County food that would help consumers easily identify which products are locally-grown or processed. Additionally, an internet presence for identifying potential buyers for both food producers and consumers would be highly beneficial as an “online food hub.

7. Make available a master food system contact directory (High Priority)

There is currently no comprehensive directory of producers, processors or distributors of the local food system. The County must make an effort to furnish informational resources to any participant in the food system, achieved primarily through a regularly-updated website. Such a contact and service inventory would highlight networks among entities in the food system, who trades with whom, and lead to new local connections. This system would minimize the food supply chains originating from outside the county, resulting in minimizing the food dollars escaping the county. The Department needs to begin a system of updating and verifying farmer, business, and stakeholder contact information. The Farmer’s Resource Appendix is a start, but more needs to be done to make the directory complete and to make it readily available to participants in the food system (See Appendix E).

8. Enable a food transportation cooperative (Medium Priority)

Considering the high cost of transportation for farmers, a program should exist to pool the needs of many farms to transport their goods mutually. The County must recognize a need for private entrepreneurial leaders to start and invest in such programs. The Cornell Cooperative Extension could offer assistance in setting up such a program, if not done by individual entrepreneurs.

A Transportation Cooperative program would be a pooling system for delivery if they chose to participate. Beyond farmers, there could be a group of restaurants to form a subcomponent of the cooperative to make purchase and delivery of local foods from local farms simpler.

Progress in this direction would lower the costs to farmers and make valuable connections emerge between food producers and all other parts of the food system. The Department should convene a meeting among interested farmers and entrepreneurs to discuss the possibility of such a cooperative with key stakeholders.

9. Support Social Entrepreneurs in the Food System (Medium Priority)

The County needs to reward energetic entrepreneurs interested in starting or modifying businesses involved in the food system that may directly or indirectly create a positive social benefit. Western New York is no stranger to programs incentivizing upstart entrepreneurs, whether through tiered tax abatement structures through local Industrial Development Agencies (IDAs) or location in Excelsior Zones (formerly known as Empire Zones). Business startups benefit financially from complying with series of factors that also benefit local economic development; for example, entrepreneurs are rewarded for threshold levels of job creation, cooperation with environmental standards, and even child care services. Sending a clear message to institutions like the local IDAs that a component of how crucial social entrepreneurialism will be to economic development is the next step.

Such institutions already exist locally; for example, the Food Shuttle of Western New York collects food from grocery stores that generate unsold but edible food left over, sending it to a food pantry. This function, currently often operating in the nonprofit or public sphere, should also be brought into the private sphere, incentivized by policies of the County, and could expand to other institutions involved in the distribution of food. Thus, when developing checklists for entrepreneurial grants to business startups in the

County, one of the requirements should examine whether or not the new business has a social entrepreneurial prong in the context of the food system.

Currently, there is no incentive program geared towards entrepreneurs within the food system. In devising incentives for local emerging and/or current entrepreneurs, the County should work with the ECIDA to devise a marketing plan that will attract this unique set of stakeholders. The County and IDA should work on this effort immediately, with the intent of offering an array of incentives within one year. As a corollary effect, the County and ECIDA should witness an increase in the number of applications for grants from agricultural businesses, due to these new incentives.

10. Target Industry Clusters (Medium Priority)

Currently, there is no plan or strategy to capitalize on target industry clusters, or geographic concentrations of interconnected companies and institutions within a particular field, within Erie County. The first steps call for identification, promotion and facilitation of local strengths to bring more attention to those clusters that can reap great economic benefits for the region. Identification of the target clusters should happen within the next six months, with a plan to promote and bring together various producers within the next one to two years. Within two years, a campaign to promote these clusters should be fully implemented.

Erie County must identify local strengths in the food industry and make them stronger. For example, currently, the dairy industry has a high economic multiplier, which could become a food industry cluster. As a strong product, dairy production may be paired with nearby cheese processing as a commercial complement. Effective branding follows, with the possibility of creating a regional brand for all cheese creation, as opposed to limiting to county-only branding.

Upon recognizing which food industry clusters would work best, the County could take advantage of the new resource by instituting training courses. This could take the form of vocational training in the industry

cluster, like cheese making classes for those considering entering the field, or adding a class component to an agricultural tourism program. For example, visitors to the area may be curious about making cheese, in either witnessing the creation of cheese, or instituting a more hands-on component. This process would make the region prominent in being identified as the best at making certain cheeses from local dairy products. Another option for the cluster could be wine, because grapes have been a most profitable fruit in Erie County. The farming of grapes and wineries could pair with technology tracks from local schools, and winery tourism could expand for a more synergistic effect.

11. Implement a Purchase of Development Rights or Transfer of Development Rights Program (Medium Priority)

Currently, there is no county-wide program to help retain the county's rural character. In spite of the home rule state dynamic within New York, the County must take the lead in creating and administering a countywide program. In measuring the current amount of land protected by local municipal programs, the County should seek to (1) ensure there is no net loss of farmland and (2) increase the amount of protected land by 15% over the next three years.

To ensure that designated rural agricultural areas of Erie County preserve their rural character, the County should explore protection of farmland through a Purchase of Development Rights or a Transfer of Development Rights program. A Transfer of Development Rights program, which would allow landowners in targeted low-density areas to sell their development rights to be used by developers in higher density locations, would be a lower cost option, as there is no outright payment. While implementation of a TDR program would not be without challenges, the County needs to facilitate a market for this tool to be used as a possible avenue for agricultural preservation.

A TDR program would offer a financially viable alternative to farmers, instead of the temptation to sell land to developers, particularly in cases of retirement. Instead of restrictive zoning to achieve the same effect, the program would compensate the farmer-landowner through deed restrictions or conservation easements, which effectively function with more permanence than outright zoning.

12. Develop a County-Run Comprehensive Composting Program (Low Priority)

Currently, the County provides information regarding composting on the county's website, yet there is no concerted promotional campaign advocating for increased composting. In creating linkages between food businesses in Erie County, these businesses can work together to divert food waste towards a local composting facility that will maximize composting's economic impact within the county. The County should strive to select a centralized composting site within 3 to 5 years.

Currently, only two municipalities in all of Erie County, Amherst and West Seneca, are home to some form of composting facility. The County must develop a comprehensive network of composting to capture valuable resources otherwise wasted in the traditional waste management stream that ends at the landfill, instead of on cropland. There must be greater representation of composting processes in more than the two local municipalities to offer such resources, and if there were a system in place to coordinate composting efforts, this much-needed resource for farmers to enrich their soils could serve as a major benefit to the food system overall.

Added composting facilities would provide for more jobs, potentially reduce the staggering amount of municipal spending on garbage collection, and maximize the profitability of compost as an economic resource. One of the major expenses each farm undertakes, no matter its size, is synthetic fertilizer. The byproduct of composting could substitute for this expensive

and chemical commodity, saving farmers money and helping them establish connections with composting entities.

A fundamental part of this process would be identifying and dissolving institutional barriers to using municipal yard waste and compostable food waste for agriculture. The current popularity of recycling of inorganic material would not have occurred without top-down institutional support from local governments, and an organic analog in composting would be no different. Organic food and yard waste from residences and businesses could be collected right alongside recycling bins by simply adding a receptacle per household to contribute to the composting network on a large scale.

Large-scale composting networks may also be done outside the auspices of individual residential and business collection. The most profit involved with composting results from high enough volumes to make collection worthwhile. This makes more sense at a county level to collect composting materials from large processors like Rich's, from supermarkets, all together to make for more effective and more profitable composting.

13. Facilitate Agriculturally Focused Municipal Memorandums of Understanding (Low Priority)

The County, under the leadership of the County Executive and the Legislature, should work together to broker alliances and a cooperative agreement between municipalities in order to achieve a regional goal of protecting the rural character of the county. Considering the vast farmland that overlaps municipal borders, in order to more effectively protect them in their entirety from development, there must be an agriculturally-based system of understanding between decision-makers in Erie County municipalities.

In light of New York State's status as a home-rule state and with the goal of facilitating conservation easements in mind, Memorandums of Understanding among localities would inform individual municipality decisions. For example, food procurement policies that incorporate requirements to purchase local foods for state institutions could be

reflected in joint Memorandums of Understanding. Further, there needs to be cooperation across municipal lines to successfully implement either Purchase of Development Rights or Transfer of Development Rights programs. This holds true if there were ever a desire to institute urban growth boundaries, that Memorandums of Understanding would encourage property-by-property conservation easements.

As the governmental entity encompassing these municipalities, the County should work to commit 50% or more of the county's municipalities agree to a set of collective goals centered on agricultural preservation.

III. Erie County Legislature

14. Create a County Food Policy Council (High Priority)

Currently, no such entity exists within Erie County and there is an urgent need to begin soliciting stakeholders to help craft and implement this initiative immediately. The County, under the direction of the Department of Environment and Planning, should strive to pass a resolution creating the Food Policy Council by December 2012, with the intent of researching and creating policy in early 2013.

The Erie County Legislature should, by resolution, create the Erie County Food Policy Council, since there is currently no assembly in Erie County that represents and addresses concerns unique to the entire countywide food system. The role of this body would be to set objectives and policies for the county's food system, to monitor land use, to hold regular public meetings, to make assessments of the current state of the local food system, and form recommendations for solving problems that arise. The Council would decide on such matters benefitting from comprehensive vantage points to make economically profitable, equitable and environmentally sound food system choices.

Food Policy Councils vary in size, generally between 8 and 15 representatives. A suggested list of potential representatives of the Erie

County Food Policy Council is in Appendix E.3. A representative from the Department of Environment and Planning could serve as a Food Policy Council Coordinator, to facilitate discussions. The sample resolution which enables the Dane County Food Policy Council is provided (See Appendix 1).

The Erie County Food Policy Council would be a body to address any problems raised about the local food system, coordinate efforts in a way to maximize efficiency, and provide appropriate oversight for all matters related to the food system. A strong nonprofit organization, or an institution like Cornell Cooperative Extension to gain much-needed support and resources could bolster the Food Council by providing resources and insight.

The Erie Food Policy Council would set its own agenda, which could comprise of any of the following:

- Authoring local food purchase program policies
- Articulating incentives for direct purchases from local growers
- Coordinating local assistance or emergency food programs
- Educating the community about food resources and healthy eating habits
- Organizing conferences to get the public involved in supporting local food
- Gathering and interpreting data on local production and consumption patterns
- Food crisis response like disasters or shortages
- Assisting with the recognition and development of new urban or rural farms
- Ensuring local children have access to healthy foods in schools
- Fostering economic development by championing local food purchasing

- Investigating possible federal and state funding sources for the food system

15. Adopt an Erie County Food Charter or Food Action Plan (Medium Priority)

Currently, a Food Charter or Food Action Plan does not exist for Erie County. Adoption of a food charter should occur in concert with the creation of the Food Policy Council, as both actions will inform the process of creating a meaningful and substantive food policy for Erie County.

The Erie County Legislature should pass a resolution adopting a food charter for the county to give guidance to the Department of Environment and Planning in future planning efforts involving the food system. The United States Department of Housing and Urban Development recently approved a \$2 million grant, with possible funding to develop a resolution to create and implement a Food Action Plan.

16. Establish Local Procurement Policies for Public Institutions (Medium Priority)

Currently, the county's procurement policies do not exhibit a local buying preference. The County must review current contracts with food suppliers and distributors to determine ways in which they improve incentives for local distributors and ensure that contracts mandate a certain percentage of food purchased is derived from local food businesses. In promoting local procurement, the County should publicize such efforts to demonstrate to the public the County's emphasis on buying local, in the hopes of prodding local citizens to do the same. This can be achieved by increasing local food purchasing at the county level by 15 percent within three years.

The County currently has a three-year contract that began in 2008, about to expire, with a vending services business based in Lancaster New York.¹ Nothing in the contract provides that any food vending materials must

be generated locally, only that the percentage of return to the county will be based on 16% of gross sales, including from snack and sandwich machines. An essential change to the system of purchasing food for county institutions must take place; for example, in order for a proposed contract dealing with food to be eligible for consideration, fifty percent (50%) of that contract's purchase must engage the local food system's producers or processors.

County contracts must give preference to Erie County-produced and packaged foods. This may be done by directing the Department of Purchasing to be aware of local producers. Erie County has the potential to greatly advance the interests of local producers by stating clear preferences to buy producer grown or processed in Erie County. Pilot programs could begin at model institutions like county-run medical facilities. A procurement policy could specify that fifty percent (50%) of food should come from local growers or processors. By requiring minimum local food purchases, the County would send a clear message for such a preference to buy locally and act as an example to local businesses to follow suit.

17. Pass a Food System Development Fund (Medium Priority)

Currently, there is no countywide policy for these types of policy initiatives. In working in conjunction with the Legislature, the county should collect data and information that will enable the Legislature to pass a resolution that will bring the issue before county residents within the next two years. Additionally, the Department of Environment and Planning should research and create guidelines that will explain how impact fees would influence development in various areas of the county. Providing such guidelines will inform developers and help them plan accordingly.

Any of the recommendations here, or proposed by an Erie County Food Policy Council, would need financial investment. There are two possible structures for funding food system revitalization efforts: the sale of bonds to fund agricultural business, or using development fees in a way to divert them to the food system.

First, the Legislature should authorize the sale of Agriculture Bonds. These would be sold not for general purchase expenditures, but they would function as dedicated bank accounts sold on the private market only for the purpose of buying farmland. Clarence has already passed such authorizations and now enjoys farmland protection funding funded by its bond purchase program.

Second, a Food System Development Fund could take advantage of the impact fees traditionally charged when any development somehow makes an adverse impact, like to traffic or environment. A Food System Development Fee could be accrued if, for example, a new road were built through farmland. The developer of the road could be charged a fee to be contributed to the Food System Development Fund. Thus, any negative impact on the food system by development should be charged a fee.

With the creation of the Food Policy Council, the Council could review developments to check for such negative impacts for the food system. However, if there were a positive food system impact, the developer could instead get a credit. For example, if a new convenience store were built, the public health impact of a particular proportion of shelf space dedicated to local and healthy food would serve as a credit for the developer.

IV. Buffalo Convention and Visitors Bureau

18. Develop an Agritourism Program (Medium Priority)

Currently, the Buffalo Conventions and Visitors Bureau does not have a comprehensive agritourism offering for visitors. In working with local stakeholders, the Visitors Bureau should devise an tourism plan that highlights the region's unique target clusters, coordinates all possible tourism attractions, and places substantial capital behind a agriculturally focused tourism plan within the next two to three years.

Local agriculture holds significant tourism potential. Advertising dollars should go toward the recreational and educational opportunities to

educate visitors about the agricultural heritage of Erie County (and all of Western New York). Information already present under the Convention and Visitors Bureau should be consolidated into an all-agriculture resource, to include the Vineyards and Wine Trails, the Gardens Nature Tourism, as well as incorporate new possibilities. The Bureau is poised to network with local media to promote visits to local rural or urban farms as sites of interest for those touring Buffalo or Erie County.

New components to already existing but scattered local agriculturally based tourism initiatives may include the clustered nature of dairy producers and cheese makers. Tourists visiting the area may find cheese-making classes, for example, to be a compelling and unique pull into the attractive and rural landscape of Western New York.

19. Create Countywide Branding of Local Food (Medium Priority)

Erie County could effectively harness the more recent popularity of local food through effective branding with easily identifiable designs. A consolidated, county-wide trademark registration for locally-produced food also has the advantage of protecting individual local farmers from possible disputes that may arise if they inadvertently use an image too similar to a protected image belonging to a large company such as a distributor, which has the resources to police their trademarks. Individual farmers lack the time and resources to make sure any attempt they make at branding is not infringing on anyone else's, or that any trademark they make and use is protected against outside infringement. The previously mentioned Food Hub could be used as a place to centralize unified branding efforts for county-produced and processed foods.

A countywide brand, with an accompanying logo for Erie County food would help distributors and consumers easily identify which products are locally grown or processed. A local brand would not only appeal to home pride and provide some recognition for identification purposes, but it would incorporate an element of education to market local foods. Local

foods carry the advantage of being fresher since they are grown closer. The Convention and Visitors Bureau, upon designing the branding device and look should apply for Federal Trademark protection with the United States Patent and Trademark Office (PTO). This would demonstrate Erie County's unified commitment to support local food by giving local food a uniform and recognizable label.

The Convention and Visitors Bureau, upon establishing the local brand, could sponsor advertising "buy local" campaigns, similar to those already in existence that promote local farmers. Alternatively, due to the fact that many local farmers operate within the constraints of seasonal harvests, the Bureau should make locals aware of harvest times when local farmers are in most need of a market. These "Eat Seasonal" campaigns would provide the business essential for farmers to last through seasons when fields necessarily lay fallow.

The first step the Visitors Bureau must undertake is to create an easily identifiable icon that symbolizes the county's preference for buying local. In an effort to spur creativity, the County can host a contest open to various schools, or even citizens, across the county calling for the best design for the campaign. The branding efforts should begin in the next year. Also, within the next one to two years, the County must craft rules and procedures to inform potential supporters and businesses who are locally based.

IV. The Broadway Market

20. Reorganize Business Practices to Express a Local Preference (High Priority)

The Broadway Market is a great community asset, yet much discussion has centered on the best way to revive the vitality of the Market. The Market's management should immediately examine its current procedures and existing contracts to determine ways in which it can increase linkages with local food establishments and highlight a preference to "buy

locally” as much as possible. In exploring the possibility of a regional Food Hub, the County should seriously consider the Broadway Market as a viable location, or consider implementing some of the Market’s attributes in a future Food Hub. The proposed Food Policy Council should consider these factors when planning for a Regional Food Hub.

The Broadway Market should use the assets at its disposal, including a well-known physical space, staff, and marketing and advertising to strengthen the effect of local food purchasing. On the ground, when visiting the Market, it is unclear as to which vendors sell locally-produced or processed foods. A visible signal within and without the Market of such locally motivated practices would serve as an example to other such markets concerning the importance of establishing a local preference. The vendors already located at the Market may not have logistical supply chain connections with each other to encourage local purchasing. The Market could respond to this potential miscommunication with its own internal contact directory, or institute the County-made directory mentioned above.

With its physical space, the Broadway Market may even be a viable option for the location of a Regional Food Hub, potentially attracting more business and creating business downtown. To become an attractive target, however, the Market must take the initiative to serve as a central location for local food.

Table 12.1 – Summary of Recommendations

No.	Recommendation	Implementing Authority	Food Sector Addressed	Goal Addressed					Priority	Benchmarks
				1	2	3	4	5		
1	Sponsor Agricultural Training Courses	Agricultural Land Preservation Board	Green				✓	✓	Med	10% increase in enrollment
2	Facilitate greater involvement in Agricultural Districts		Green				✓	✓	Med	4 new Ag. Districts within 3 years
3	Identify Potential New Cropland		Green		✓	✓	✓	✓	Low	15% increase in cropland acres within 5 years
4	Establish a Seed Bank		Green		✓			✓	Low	Feasibility study conducted in 3 years
5	Manage a County Website on Agricultural Resources	Department of Environment and Planning	Green, Blue, Yellow, White, Brown	✓			✓	✓	High	Begin website within 6 months to a year
6	Facilitate a Regional Food Hub in Erie County		Green, Yellow, White	✓	✓	✓	✓		High	Conduct analysis to determine location, and obtain municipality interest in hosting site
7	Make Available a Master Food System Contact Directory		Green, Blue, Yellow, Purple, Brown	✓			✓	✓	High	Build upon provided Farmer’s Resource Appendix
8	Enable a Food Transportation Cooperative		Green, Blue, Yellow, Purple, White	✓	✓	✓	✓	✓	Med	Convene meeting with key stakeholders to discuss within 3 years
9	Support Social Entrepreneurs in the Food System		Green, Blue, Yellow, Purple, Brown	✓	✓	✓	✓	✓	Med	With ECIDA, create marketing plan within 3 years
10	Target Industry Clusters		Green, Blue, Yellow, White	✓			✓		Med	Identify key industry clusters within 6 months
11	Implement a PDR or TDR Program		Green, White	✓			✓		Med	15% increase in protected land in next 3 years
12	Develop a County-Run Comprehensive Composting Program		White, Brown				✓		Low	Site selection within 3 years
13	Facilitate Agriculturally Focused Municipal MOUs		Green, Blue, Yellow, Purple, Brown				✓	✓	Low	Commit 50% of municipalities to collective agriculture preservation goals
14	Create the Erie County Food Policy Council	Erie County Legislature	Green, Blue, Yellow, Purple, Brown	✓	✓	✓	✓	✓	High	Pass resolution to establish within 1 year, new policies emerging 6 months from then
15	Adopt an Erie County Food Charter or Food Action Plan		Green, Blue, Yellow, Purple, Brown	✓	✓	✓	✓	✓	Med	Pass resolution to establish within 1 year
16	Fund Local Procurement Policies for Public Institutions		Green, Blue, Yellow, Purple, White	✓			✓		Med	15% increase within 3 years
17	Pass a Food System Development Fund		Green, Blue, Yellow, White	✓			✓		Med	Pass resolution to fund within 2 years
18	Consolidate an Agritourism Program	Buffalo Convention and Visitors Bureau	Green, Blue, Yellow, Purple, White	✓			✓	✓	Med	Create agritourism plan within 2-3 years
19	Proliferate County-Wide Branding of Local Food		Green, Blue, Yellow, White	✓			✓	✓	Med	Create new brand within 1 year, begin using within 3 years
20	Reorganize Business Practices to Express a Local Preference	The Broadway Market	Green, Blue, Yellow, Purple, White	✓	✓	✓	✓		High	Review contracts and increase 15% to promote local buying



APPENDICES

APPENDIX A - METHODOLOGY

This section of the appendix overviews the research methods employed throughout the report. If applicable, operational definitions are defined along with the limitations implicit to each section. In doing so, this section aims to minimize any misinterpretation and clarify the results of this report.

Each section on the five sectors of the food system in Erie County, as well as supplementary analyses for ‘Local Growing Capacity’, ‘Economic Viability’, ‘Regulatory Framework’, ‘Best Practices’, and ‘SWOT Analysis’, uses some similar methodologies, but also implements a unique method of its own. Generally, the research methods used for this report fall under two categories: quantitative analysis and qualitative analysis. It is important to note that both approaches are not mutually exclusive. The following portion of the section describes these two main methodologies and the analytical methods specific to each section that needs to be addressed separately in this section.

OVERALL APPROACH

According to the rationale and limitations as defined by each section of this report, each section utilizes different data sources to deliver the most adequate analysis techniques for the goals of each analysis.

I. Quantitative Analysis

This is one of the two main approaches for various analyses of this report. It is applied to varying extents and includes the assessment of current conditions for ‘Introduction’, ‘Background’, ‘Production’, ‘Processing’, ‘Distribution’, and ‘Disposal’; it is also used as the basis of further analysis for land capacity and economic viability. Several data sources, such as the US Census, the Economic Census, and Non-Employer Statistics were used for different sections of this report. Detailed data sources are referenced either in the corresponding chapters or in the following section.

Also of note, two computer software programs are used for quantitative analyses. Microsoft Excel 2010 is used to record the general frequency and percentage matrix, and IMPLAN® Version 3.0 is used for the analysis on the economic viability of the county’s food system. The specific limitations and operational definitions, if applicable, are delineated in the following part of this section.

II. Qualitative Analysis

The other main approach is qualitative analysis, which includes the referencing of relevant documents for contextual research, as well as case studies of the food system in Erie County. It also serves as the basis for the ‘Regulatory Framework’, ‘SWOT Analysis’ and ‘Best Practices’ sections of the report. Several data sources, such as municipal government websites, the University at Buffalo Libraries, along with Internet websites of relevant agencies and institutions, are

used to examine information for each section based on its own objectives. In some cases, additional data and advice is acquired from informed representatives from pertinent agencies to instruct further analyses. Such sources of information are referenced in either the corresponding chapters of this report or later on in this section.

III. Spatial Analysis

Spatial analysis employed using data sources and ArcGIS software to demonstrate spatial patterns within Erie County. Several data sources were used, including the US Census Bureau, the US Department of Agriculture, and SSURGO. Such sources of information are referenced in the corresponding chapters of this report, or later on in this section.

SPECIFIC METHODOLOGY

The following section overviews the specific procedural methodologies utilized by each section of this report, while citing the rationality and methodological constraints of each analysis in order to provide a guideline to interpret the outcomes of the report.

I. Chapter 1 - Consumption

A. Demographic Characteristics

Demographic data are obtained mostly from the Census Bureau. For instance, data on total population, age, sex, diversity are provided by the Summary File 1. The figures on birthplace, household structure, income, poverty, and employment are gained from the Summary File 3. Census data from both 2000 and 2010 are used to gauge the changes in county demographics over this span. As of yet, 2010 Census information on income, poverty, birthplace and employment are not available at the block group or census tract level within Erie County. For this information, the most recent (2009 and 2010) 1-year estimates from the American Community Survey are used.

B. Food Security

This section addresses food security in Erie County, focusing on the access to food, quality, and affordability of food, and also public food assistance programs. Starting with a description of trends in levels of food security at national and state scales, the analysis extends to reference a study conducted by the Economic Research Service, USDA (Coleman-Jensen et al., 2011) which presents the proportion of food-secure households, by household typology, within the United States.

Lastly, a description of the major public food assistance programs available for low-income residents of Erie County is included. The information on SNAP and WIC recipients are taken from the Food and Nutrition Service of the U.S. Department of Agriculture. The information on SFMNP is obtained from the New York State Department of Agriculture and Markets, and the information on

NSLP is obtained from the U. S. Department of Education Institute of Education Sciences.

C. Diet-Related Behaviors

The two main foci of this section are people's daily intake of fruits and vegetables and their spending on food purchases. Data on the number of servings of fruits and vegetables consumed by the people of Erie County was obtained from the New York State Department of Health.

The discussion on food expenditures starts by describing national averages of food expenditures as categorized by various household typologies as presented in a USDA report (Coleman-Jensen et al., 2011). We supplement this with data from the Consumer Expenditure Survey of the U.S. Bureau of Labor Statistics. Although this survey only provides the information on national average expenditures, it can be used to create estimates of fixed expenditures among Erie County residents. To compute the average expenditures for Erie County residents, we used the national average expenditures for the income group of \$40,000-\$49,999, as the median household income in Erie County is \$46,609. To generate the total annual food expenditure in Erie County, the average from this income group is used as an index to the 383,164 total households in Erie County. Lastly, the information on people's spending on food at the New York state level is obtained from the Food Environment Atlas.

D. Diet-Related Health Outcomes

The information on the rates of diabetes and obesity among adults in Erie County between the years 2006 and 2008 is obtained from the Food Environment Atlas. The information on diabetes mortality in Erie County and New York State is obtained from the New York State Department of Health.

II. Chapter 2 - Production

This report included data from the Ag Census for years 2007, 2002, 1997, as well as limited data from 1992. While the Ag Census does provide a comprehensive and reliable source for these metrics, much information is withheld so as to not disclose information of individual operations (*e.g.*, dollar sales by product for the county).

To measure cropland and soil yield, spatial and tabular information on soil types within Erie County was obtained from the Soil Survey Geographic (SSURGO) database maintained by the USDA Natural Resources Conservation Service at <http://datagateway.nrcs.usda.gov/>. Using ESRI ArcGIS 10 software, tabular information on the soil fertility for agricultural purposes was joined to spatial data by the unique map unit symbol assigned to each soil type. The resultant file was then used to select features by each of the four classes of soil fertility. Then, employing the calculate geometry function, the area under each designation of agricultural fertility was measured in acres (resulting in Table 3 of the production chapter). The soil fertility file is also clipped to the extent of land defined as cropland using the methods described in the Land Capacity Analysis section and the above process is repeated to derive the number of acres in each soil fertility class within existing cropland. Using data displaying the current

boundaries of Agricultural Districts (provided by the Erie County Department of Environment and Planning), the above process is employed once again to obtain the percent of land in each designation of soil fertility within these districts.

To obtain the values shown in Table 4, Erie County Parcel data (as of 2010) is retrieved courtesy of the county's Office of Geographic Information Services. All parcels lying within areas with soils described as "Prime Farmland of Statewide Importance" or "All Areas Prime Farmland" by SSURGO data are selected and moved to a new file. This process thereby excluded parcels which contained prime soils but did not have the majority of their area listed as such (a total of approximately 16,250 acres or 5.2% of all prime farmland in the county). Selecting these parcels by property class code, the statistics function of ArcGIS 10 is then employed to calculate the number of parcels and area within each primary property class.

III. Chapter 3 - Processing & Wholesale

This section uses both qualitative and quantitative methods of analysis to ascertain trends in economic and employment statistics related to the food processing sector of Erie County. This data is found through a number of sources including the United States of America 2002 and 2007 Economic Census, the Bureau of Labor Statistics within the U.S. Department of Labor, and the New York Department of Labor, Labor Statistics.

An Economic Census Every is conducted every five years by the United States Census Bureau to provide detailed information regarding the nation's economy, the most recent of which being from 2007. Data is retrieved using the NAICS Classification Codes. NAICS is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy (U.S. Census Bureau, 2011). Food processors are classified under the heading 311. Also, data on wholesalers is found under the heading of 424. The analysis determines conditions and trends in the food processing sector of Erie County as found from the following ranges of NAICS codes: 311211 – 312140 and 424410-493130.

IV. Chapter 4 - Distribution

The main research objective of the distribution section is to describe entities participating in the distribution of food in Erie County and to estimate their size and influence, in terms of employment and sales, in the local food economy. Distribution in this report, however, excludes the transportation services and considers transactions related to wholesalers as part of the processing procedure. Based on this operative definition, the report identified three major food distribution channels: Retail Providers, Institutional/Non-Market Providers, and Emergency Food Providers.

Categorization of the distribution sector is based on the North American Industry Classification System (NAICS). All the data from the U.S. Census Bureau including 2007 Economic Census, 2007 County Business Pattern and

2007 Nonemployer Statistics are organized by NAICS codes. Reference USA dataset from Buffalo & Erie County Public Library System are also obtained as an ancillary dataset. It is important to note that all the analysis are not based on data from same year, but the most recent available data to represent the current situation as accurately as possible.

Total sales and number of entities and employers are calculated first based on the 2007 Economic Census data; however it suppresses data to protect the disclosure of the financial conditions of small businesses. It also does not include entities with any paid employees, known as “nonemployers”, which are released in the annual Nonemployer Statistics. Fittingly, the analysis explores 2007 Nonemployer Statistics and aggregates the total number of entities and sales for Nonemeployer Statistics with Economic Census data.

Another analysis distinguishes the total number of entities between grocery stores and supermarkets from those aggregated outcomes. According to our preliminary research on both business entities, 2007 County Business Pattern data showed results similar to 2007 Economic Census data in terms of the total number of entities for the industry sector with NAICS code 445110 (supermarkets and other grocery stores except convenience stores). Since 2007, the Economic Census does not provide a detailed number of employees associated with the number of entities to separate grocery stores (defined here as markets with less than 50 employees) from the total number of supermarkets and other grocery stores (NAICS code 445110). The proportion of grocery stores to all super markets or grocery stores, according to 2007 county business pattern dataset, is found to be 76.27%. This percentage is applied to the Economic Census to obtain a number for each store type.

Nonemployer Statistics contribute to both the number of entities and the number of employees, when aggregated with the 2007 Economic Census data. On the other hand, the sales and annual payroll for these institutions are not separable into grocery stores and supermarkets due to a lack of information. However, this is aggregated into the combined statistics.

Finally, the statistics for Food Retailers and Food Service Retailers, as a chunk of major industry sectors, are analyzed to depict a somewhat broader picture. The former includes more than the industry sectors mentioned previously; it represents the industry sectors with NAICS code 445 Food and Beverage Stores (including the NAICS code 4451- 4453 for beer and liquor retailers, etc...), NAICS code 447 Gasoline Station and NAICS code 4542 Vending Machine Operators. The latter represents the industry sector with NAICS code 722 Food Services and Drinking Places, including the industry sectors with NAICS code 7221 Full-Service Restaurants, NAICS code 7222 Limited-Service Eating Places, NAICS code 7223 Special Food Services and NAICS code 7224 Drinking Places (Alcoholic Beverages). Corresponding industry sectors from 2007 Nonemployer Statistics are also obtained and aggregated with them in a same manner described in a previous paragraph.

V. Chapter 5 - Disposal

For purposes of disposal in the food system, data sources included the 2010 US Census; the 2009 Economic Census, which includes the 2009 County Business Pattern data for Erie County, and the non-employer data; New York State Department of Environmental Conservation statutes; and perhaps most importantly, information gathered from Kailee Neuner, Food Systems Planning and Healthy Communities Lab, who contacted the Department of Environmental Conservation and individual waste management companies in 2009.

The 2010 Census figures for Erie County indicate a population of 919,040 individuals. Annual food waste in Erie County is approximately 101,816.84 tons. The US Environmental Protection Agency estimates individuals generate about 4.34 pounds of waste, and 14.1% of total Municipal Solid Waste generation generally consisted of food scraps.

Further calculations from these data contribute to the following table for Erie County:

MSW Collection Business	Modern Landfill Corporation	Covanta Niagara LP	Waste Management's Chaffee Landfill
2009 Storage	350,000 tons	245,000 tons	91,000 tons
Percentage of Total County Tonnage	48.47%	33.93%	12.60%
Total Waste	722,105.26 tons		
Total Food Scraps	101,816.84 tons		

There are three relevant business category types according to NAICS codes: code 56 “Administrative and Support and Waste Management and Remediation Services,” code 22 for Utilities, and code 32 for Manufacturing. In this context, Utilities corresponds to sewage treatment facilities as one end result of the food system, and manufacturing relates to the creation of fertilizers, in the hopes that composted food is used.

Erie County uses a variety of methods and institutions to dispose food waste. Disposal intake facilities, according to the NAICS data for Erie County, include nine total establishments dealing with solid waste collection, and twelve for general waste collection. According to non-employer statistics data, also from 2009 Census figures, there are thirty three waste management and remediation service sole proprietorships. The Sewage Treatment Facilities code 221320 indicates one facility in Erie County, representing the end result of the food system, especially considering the definition under NAICS mentions this industry as engaged in “operating waste treatment or disposal facilities.” An additional category, formally for Solid Waste Landfills under NAICS code 562212, indicates that there is only one total establishment in Erie County.

VI. Chapter 7 - Local Growing Capacity

There are numerous ways to possibly interpret and quantify both the production and consumption of the Erie County food system. The estimations used in this analysis are constrained by the availability of valid data informing the current status of agricultural production and food intake within the county. This analysis, utilizing Geographic Information Systems (GIS) and Microsoft Excel spreadsheet software, considers four scenarios in total. These four scenarios being: (1) Current Production/Status Quo Consumption, (2) Current Production/More Healthful Consumption, (3) Balanced Production of Foods/Status Quo Consumption, and (4) Balanced Food Production/More Healthful Consumption. Each of these factors, and the data used to calculate them, are explained below.

A. Current Production

This measure aims to establish the *potential* for commercial agricultural production of the current cropland in Erie County and is likely not meant a precise measure of what is actually produced within the county. The extent and use of current cropland is determined through a combination of data. The Cropland Data Layer (CDL), provided by the USDA Natural Resources Conservation Service (NRCS) (2011), presents a classification of land cover and crop types throughout the state of New York based on ground-truthed remote sensing data. As this information is determined solely by the characteristics of land cover imagery, much of what is classified as cropland extends beyond the boundaries of harvested cropland. Therefore, a Common Land Unit dataset made available by the NRCS (provided courtesy of John Whitney at NRCS of Erie County), which provides current boundaries of all county farms recognized by the Farm Service Agency (FSA), is used to extract all that is classified as cropland by the CDL. The type of crop within this extent is consistently classified by the CDL; however, the ultimate use of certain type of crops is unidentified (for example, field crops like corn or hay could be used as feed for the production of either beef, poultry or dairy products). The usage of cropland is determined by overlaying the extracted CDL with Erie County parcel data which classifies agricultural parcels by farm types (dairy, livestock, etc.). As the classification and extent of this data is limited, further information regarding the usage of crops was provided courtesy of Sharon Bachman of the Cornell Cooperative Extension of Erie County, who through personal experiential knowledge, offered general information on the ultimate use of field crops, either animal feed or human consumption. (No information is known regarding the land use of individual farms). The integration of all these sources culminated in a GIS layer providing a fair estimate of the crop type and its associated end product food group for each 30m x 30m area.

B. Estimating Total Crop Production

The annual yield of each type of crop was calculated by multiplying the most recently published yield data by the acreage of each crop type. A number of published sources from the USDA provide recent New York State average per acre annual yields of many crop types. Firstly, the *Annual Statistical Bulletin*

on New York State field crops (NASS, 2011) provided valuable information. In addition, yield estimates were gathered from a 2010 annual report of vegetable production in New York State (NASS, 2011) and also from a similar report on the yearly fruit production within the state (NASS, 2011). In areas where the specific crop is unspecified by the CDL, or, if no state-based yield data exists on the crop type in question, the average yield of all crop types whose average state yields are given within that food group are applied. For instance, the CDL classifies some areas as “Miscellaneous Fruits,” here the average yields of all other fruits known to be grown within the county are applied. Similarly, if the CDL classifies an area as a vegetable where no state-yield data could be found, an average yield of all known vegetables is applied.

C. Estimating Beef Production

For cropland attributed to the production of beef, dairy or poultry, the number of livestock capable of being supported by the calculated total yields of feed crops is determined and subsequently, the amount of beef, milk, poultry or eggs potentially produced. For beef, the average daily intake of dry matter (DMI) is found using the equation, $DMI = 4.54 + 0.0125 * iBW$, where iBW is the initial body weight of cattle when started on feed (National Academies Press, 2000). The average initial weight of traditionally-weaned calves used here is 245kg (540.13 lbs.) (average weight of a sample of traditionally-weaned calves from a 2000 report by Story, *et al.*) resulting in annual consumption of 2,458.9 lbs. of dry matter a year for each cattle. Once the total annual tonnage of feed is found, using a 35% dry matter content of corn silage (an average given by the National Academies Press, 2001), it is then divided by the 2,458.9 lbs. of feed needed to support an individual cattle, to gain an estimate of the number of beef cattle capable of being supported by the total amount of feed. Multiplying by the New York state average weight of cows at slaughter (1,157 lbs. taken from a 2011 report by NASS on crop and livestock production) then gives the total carcass weight of beef potentially produced in Erie County.

D. Estimating Dairy Production

As cows producing milk require more nutrients, a different metric is required to estimate the annual DMI of these animals. According to a study investigating the effects of bunk space on dairy cow DMI, the average daily DMI of individual dairy cows is 37.69 pounds/day (Albright, 1993). This equates to an average of 6.88 tons DMI per year for each dairy cow. The calculated dry matter yield of the cropland devoted to dairy farms is then divided by this number to obtain the number of dairy cows capable of being supported by Erie County cropland. This figure is then multiplied by the 2010 average annual milk production per cow in New York State (20,807 lbs. taken from a 2011 report by NASS on annual crop and livestock production in the state) to obtain the amount of total weight of milk Erie County is capable of producing.

E. Estimating Poultry Production

For cropland allocated to poultry farms, a determination must be made on the area being applied to the support of either egg production (*i.e.*, layers) or meat production (*i.e.*, broilers). To plausibly derive this ratio, the ratio of poultry farms with chickens of each type as given by the 2007 Agricultural Census is applied to the total acreage classified as poultry feed. Here, the number of farms with an inventory of broiler chickens in Erie County is given as 26, while the number of farms with an inventory of broilers or layers is given as 154. This ratio ($\frac{26}{154}$) is used to determine the percentage of total land used to feed broiler chickens, while the remainder of classified poultry land is applied to the support egg-laying hens. Multiplying this acreage by yield gives an estimate of the amount of feed being used to support each type of chicken. The average weight of a chicken when harvested in New York State is 5.1 lbs (NASS, 2011), which is about the average for a 7-week old chicken which has eaten a cumulative 10.26 lbs. of feed over its lifetime (Pescatore & Cantore, 2011) Using this value, the number of chickens capable of being supported can be calculated and thus, the live weight of broiler chickens potentially produced within the county.

F. Estimating Egg Production of Layer Hens

On average, a commercial layer requires 0.25 lbs. of feed per day^{xiii}. Using this value, the number of layer hens potentially supported can be calculated. Multiplying this figure by the 2010 New York State average number of eggs produced by a hen annually (285.87) yields the total number of eggs potentially produced in the county (NASS, 2011) Multiplying this number by the average weight of an egg (derived from the average weight of one dozen eggs, given as 1.57 lbs by a 1992 ERS report on the weights of agricultural commodities) then yields the total weight of eggs produced annually within Erie County.

G. Current Consumption (per National Patterns of food availability)

The USDA Economic Resource Statistics (ERS) provides statistics on national per capita annual consumption of food groups (ERS, 2011). These statistics do not provide a measure of what each person actually consumes, but rather, how much food is provided for consumption. It is determined by calculating the amount of food produced, imported and held at the beginning of each year for each commodity while excluding the amount of goods either exported, remaining at year's end, or not being used for food. Therefore, the application of this data does not suggest that these values are indicative of the amount of food necessary to support a population; instead, this is the amount of food necessary to fulfill prevalent eating habits, accounting for all food that is spoiled or otherwise wasted after it is produced. The primary weight, or initial mass of the product at the farm, provided by these tables is used, as this is commensurate to the figures calculated in the production portion of the analysis. The 2009 totals for each food group are multiplied by the population of Erie County (given as 919,940 by the 2010 U.S. Census). Although eating patterns of Erie County may likely differ from these national averages, this source should still be considered fairly representative of actual county consumption.

H. More Healthful Consumption

According to the USDA Center for Nutrition Policy and Promotion (NPP), the average person should consume a balanced daily diet consisting of 6 ounces of grain, 5.5 ounces of meat, nuts or eggs, 2 cups of fruit, 2.5 cups of vegetables, 3 cups of dairy and only use additional fats and sugars sparingly (USDA, Center for Nutrition Policy and Promotion, 2005). Actual eating habits typically fall short of these healthful aspirations. This scenario ponders how the county's self-reliance in food would change if its population actually consumed these set dietary targets. To implement this situation, the number of daily servings recommended for each food group is multiplied by the weight of servings prior to being aggregated to the yearly consumption of the population in Erie County. While the serving weights of food groups are known, these values are not commensurate with the primary weight, or weight of the product at the farm, which is measured by both production scenarios. To ensure that consumption is expressed in a manner consistent with the units used to calculate the production, the weight of an edible serving must also be represented by the primary, or farm weight necessary to produce that edible portion. To do this, the Adjusted for Loss Availability tables provided by the USDA ERS (2011) which provide both the primary weight of products (lbs/year) and the number of servings made available daily for each group, are used. 2009 figures for the primary weight of each food group are divided by the total yearly servings made available for consumption. This calculation results in a conversion factor for each food group translating the number of servings to the primary weight necessary to produce this number of servings, or simply, the primary weight of each serving (lbs). This primary weight per serving is applied to the number of servings for each food group and then multiplied by the population of Erie County to estimate the primary weight of food needed to fulfill the nutritional requirements set by the USDA NPP.

I. A More Healthful Distribution of Erie County Cropland

In this hypothetical situation, the current extent of cropland in Erie County is reallocated according to the area needed to fulfill the recommended daily intake of the county's population for each food group. The total amount of land necessary to produce all the food recommended by USDA guidelines for the population of Erie County is calculated by dividing this measure of consumption (see above) by the average yield for each food group in Erie County as given by the baseline production scenario. For the meat and dairy food groups, additional steps are taken to convert the tons of food product (beef, dairy, eggs and poultry) to the amount of land it would require to meet consumption demands. In other words, knowing the amount of a certain food product known to fully satisfy the recommended daily allowances of Erie County's current population, conversion factors articulated in the baseline production scenario, such as, the average weight of a cow and the annual tonnage of feed each requires, are used to define the amount of land required for each food group. The percentage of land devoted to each food group in order to become 100% self-reliant in food (assuming the population is consuming food according to government guidelines) is then determined from this investigation. These ratios are then applied to the current

extent of Erie County cropland (99,455 acres). Therefore, implementing this rearrangement should yield the same self-reliance for each food group. Formulas used in the existing conditions of agricultural production are again employed to derive the eventual annual tonnage produced in each food group.

J. Limitations

Perhaps the most notable limitation would be the disregard of other essential components within the food sector, which most certainly have an impact on the capacity of the region to secure itself with food. For instance, the ability to process the raw commodities produced at farms into the wide variety of products purchased at retail and the capacity for food to be distributed between all these players within the system. Furthermore, the analysis is largely conceptual in the type of crops applied and used to calculate yields; that is, since no accurate determination could be made regarding the extent of many specific crops raised within the county given the collected data, many crop types known to be grown within Erie County are not applied to this analysis, due to data constraints. For instance, no land is allocated to the raising of pigs or sheep since no indication is given by the input data and is instead included in the land devoted to the production of beef. Since the nutrient requirements of these livestock differ from those of beef cattle, this generalization limits the reliability of the results. Moreover, the analysis only considers commercial agriculture and neglects known, significant food resources such as, urban agriculture, residential gardens, aquaculture, and individuals receiving sustenance from recreational hunting or fishing. Also, the separation of crop types by 30m x 30m cells, while being consistent with the input CDL, is not indicative of reality. Furthermore, the consumption scenarios do not consider the recommended vitamin and mineral intake for individuals. The consumption factor also neglects the wide variety of fruits, vegetables, meats that current eating habits demand, and is suggesting that this diversity must become limited to the crops considered in this analysis. Likewise, the analysis does not consider the cultural appropriateness, according to the county's population, of the food grown by county farms.

VII. Chapter 8 - Economic Impact of the Food System

The economic analysis relies on an Input/Output (I/O) model. The I/O model used 2009 data obtained from a private vendor, IMPLAN. IMPLAN data is the most widely used software for I/O analyses. We used county-wide 2009 IMPLAN data of Erie County to describe economic conditions in 2009, and estimate the multiplier effects of alternative scenarios.

The multiplier output is an indicator of economic impact, whereas an increase in spending produces a general increase over the initial amount spent. We examined various industries to determine which industry sectors held high economic multipliers in each component of the food system. These indicators are based on transactions which took place within Erie County in 2009.

i) Multiplier effects

To measure the economic impact of alterations in agricultural industry, the multiplier effects in Erie County are estimated using IMPLAN software. As

spending by the sectors related to food industries ripple throughout the county economy, direct, indirect, and induced effects will be produced for Erie County's economy.

- Direct economic impact:

This describes initial spending in a particular sector of the food industry. For example, an increase in purchases of wine by consumers corresponds to an increase in the sale of wine by a wine seller.

- Indirect economic impact:

These effects result from a change in inter-industry purchases as they respond to new demands of directly affected industries. For instance, a wine buyer would need to buy crates for wine bottles from a crate manufacturing plant.

- Induced economic impact:

A portion of food-industry employee incomes is spent on food, housing, and other expenses payable within the county. As this money is retained within the local economy, successive waves of spending are created. For example, an increase in demand for wine may lead to an increased need for employees, which will generate a need for more housing.

ii) Scenarios

Several scenarios were tested to verify the change in demand which will benefit both the economy and residents in Erie County premised on the output of 2009 IMPLAN data.

- Fruits and vegetables (Agriculture)

Scenario 1: Eat healthy

The results of a hypothetical 20% increase in total demand for fruits and vegetables (using the current proportion of local consumption for current fruits and vegetables) are estimated.

Scenario 2: Eat healthy and locally

The consequence of a 20% increase in total demand for fruits and vegetables along with a doubling in the proportion of these food groups being purchased locally is measured.

- Bakery, cookie and pasta (Processing)

Scenario 3: Increase food processing establishments

The economic impacts of introducing additional processing places (20% above the current number) for bakery, cookie and pasta into Erie County are estimated in this scenario.

APPENDIX B - GLOSSARY OF TERMS

- **Agritourism** An economic development tool used to market tourist visits to agricultural areas to experience and learn of methods of production, and often take part in sampling or purchasing the products.
- **Clustering of Industries** Geographic concentrations of related and interconnected companies and institutions within a particular field
- **Commodity Credit Corporation** Also known as CCC, the Commodity Credit Corporation finances several USDA programs, and may function as lending assistance for individual farmers or farming operations in the interest of increasing production, stabilizing agricultural economy and conserving farmland.
- **Community-Supported Agriculture** Also known as CSA, Community-Supported Agriculture is means of connecting producers directly to consumers for sale of their products. Farmers will directly sell shares of their upcoming harvest to the consumer, and in return, shareholders receive weekly shares of fresh produce and share in the risks and rewards of farming.
- **Consumer Unit** A consumer unit consists of any of the following: 1) All members of a particular household who are related by blood, marriage, or other legal arrangements; 2) a person living alone or sharing a household with others, but who is financially independent; 3) two or more persons living together who use their incomes to make joint expenditure decisions including housing, food, and other living expenses.
- **Contract Labor** Waged employees working for a definite period of time, normally on a seasonal or project basis, in correspondence with farming harvests.
- **Cropland** Portion of farmland used for raising and harvesting plants, either for animal feed or human consumption.
- **Economic Multiplier** A measure of economic impact on the larger economy as a result of a change in demand measured in terms of return for each new dollar spent.
- **Emergency Food Providers** Institutions like food banks and soup kitchens, which generally provide food to individuals who lack access to food, or cannot otherwise afford to feed themselves. Emergency food providers generally provide short term relief from hunger.
- **Family Held Corporate Ownership Model** Ownership of a farm by members of the same family, with ten or more stockholders.
- **Farm Income** Amount of final profits, measured per year or per acre, that farmers earn after accounting for operation costs or taxes. Farm income is typically lower than income in other professions because of rising costs of land, fuel, and labor.
- **Farmland** Agricultural areas dedicated to raising livestock or growing crops; including fruits, vegetables and grains for human consumption, or cultivating animal feed.
- **Food Citizen** Individuals who participate in the food system as farmers, business owners, employees, consumers and political voices.

- **Food Cooperative** A consumer-oriented model of food distribution wherein a grocery store is “owned” and organized by a membership of shareholders. Food cooperatives generally offer organic products.
- **Food Distributor** Any institution making food available to consumers. Food distributors include supermarkets, grocery stores, food cooperatives, convenience stores, school cafeterias, restaurants and caterers.
- **Food Insecurity** A condition in which households are uncertain of having, or unable to acquire, enough food to meet the needs of all their members at times during a year. Food insecure households include those with low food security and very low food security.
- **Food Retailer** Distributors of food that include supermarkets and grocery stores, convenience stores, specialty markets, and food cooperatives.
- **Food Security** Exists when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. (United Nations, Food and Agriculture Organization)
- **Food Service Retailer** Businesses that specialize in the preparation of food for on-site consumption, including restaurants, food vendors, snack bars, alcoholic drinking establishments, and caterers.
- **Food System** The network of activities, resources, policies, stakeholders that enable the production, processing, distribution and disposal of food.
- **Food Waste** Food byproducts generated in any part of the system.
- **Food Wholesale** The practice of selling food items with an expected shelf life of less than three years, often sold in “bulk” volume to food retailers in large quantities.
- **Grocery Store** Stores that sell food to consumers and employ under 50 employees at an individual location. These are generally locally owned and operated.
- **Hired Farm Labor** Waged employees working for an indefinite period of time for collecting crops or maintaining livestock. This labor is a primary cost of farm spending.
- **Labor Force** The number of potential workers in an area, both employed and unemployed, who are physically and legally able to work for payment.
- **Leapfrog Development** Phenomenon of developing land in a way that would require extension of public infrastructure like sewer systems from their existing locations through undeveloped areas, resulting in an eventual development of the “skipped” areas.
- **Low Food Security** A condition in which households obtain enough food to avoid substantially disrupting their eating patterns or reducing food intake by using a variety of coping strategies, such as eating less varied diets, participating in Federal food assistance programs, or getting emergency food from community food pantries.
- **Organic Farming** Methods of limiting or excluding synthetic fertilizers or pesticides in agriculture, and antibiotics or hormones in livestock, or genetic modification of either, as

opposed to the use of such methods in “traditional farming.” United States legal and international standards may be used for guidelines in farming organically.

- **Partnership Owner Model** Organization classification of ownership over a farm, that includes family partnerships, of under ten stockholders, where only one partner functions as the overall operator.
- **Poverty Level** Individuals earning less than \$11,161 annually, or a family of four including two children earning below \$21,756 annually.
- **Recommended Daily Allowance** Also known as RDA, Recommended Daily Allowances are standards of healthy proportions of the different food groups (dairy, protein, fruits, grains, and vegetables) consumed daily, according to the US Department of Agriculture (USDA).
- **Retirement Lands** Portions of land owned by farmers that they are considering to section off and sell to developers, in the interests of providing retirement funds.
- **Self-Reliance** Proportion of the amount of food that can be produced locally, compared with the amount of food demanded for consumption in that same locality. The more food produced locally that also satisfies for a portion of local demand, the greater the self-reliance of that area.
- **Small Scale Food Processing** More individualized food processing units, like operations taking place in residences, typically taking the form of canning for food preservation, but also including drying, smoking, and fermenting of food.
- **Supermarket** Stores that employ over 50 employees at an individual location, that are generally not locally owned and operated.
- **Very Low Food Security** A condition in which normal eating patterns of one or more household members are disrupted and food intake is reduced at times during a year because they have insufficient money or other resources for food.

APPENDIX C - CHAPTER ENDNOTES

INTRODUCTION

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CHAPTER 6 - REGULATORY FRAMEWORK

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APPENDIX E - RESOURCES

1. List of Erie County Food System Stakeholders
2. Farmers Survey
3. Model Resolution establishing Dane County, WI Food Policy Council

List of Erie County Food System Stakeholders:

This appendix includes individuals and organizations that should be made aware of the completed Erie County Food Systems Assessment. Beyond general awareness, many of these groups are current or potential actors in the local food system, whether as advocates, program administrators, economic development professionals or consumers. Increased awareness of the opportunities and challenges of agricultural production should lead to increased connections between producers like farmers, forming business and sales development opportunities.

A. Federal Government (elected):

Federal representatives help determine national agricultural subsidies and programs, including but not limited to the U.S. Farm Bill and other food-related legislation. Other national priorities like infrastructure, transportation and economic development also impact the agricultural industry.

The two U.S. Senators represent the entire state, while the four Congress members have all or part of their district falling within Erie County. Western New York may lose a House seat because NYS experienced a decline in population, as evidenced in the 2010 Census.

U.S. Senators: Charles Schumer (D), Kirsten Gillibrand (D)

U.S. Representatives: Kathy Hochul (D-26th), Brian Higgins (D-27th), Louise Slaughter (D-28th), Tom Reed (R-29th)

B. State Government (elected):

State Representatives help drive state economic development funds for all purposes, including agriculture. The State Senate has four year terms, and the Assembly is elected every two years. Below are Senators and Assembly Members having jurisdictions which include part of Erie County.

NYS Senate (<http://www.nysenate.gov>): Timothy Kennedy (D-58th), Patrick Gallivan (R-59th), Mark Grisanti (R-60th), Michael Ranzenhofer (R-61st), and George Maziarz (R-62nd)

NYS Assembly (<http://assembly.state.ny.us>): Robin Schimminger (D-140th), Crystal Peoples-Stokes (D-141st), Jane Corwin (R-142nd), Dennis Gabryszak (D-143rd), Sean Ryan (D-144th), Kevin Smardz (R-146th), Daniel Burling (R-147th), To Be Filled (145th), Vacant (148th)

C. Local Government (Departments):

The client for this report is Erie County's Department of Environment and Planning. Erie County administers a number of departments that intersect with agriculture, including the "Agricultural Board." The county website outlines the following mission for the Board:

New York State Agriculture and Markets Law empowers counties to create Agricultural and Farmland Protection Boards with a broad-based membership to bring together farmers and government officials, bring broader community goals to oversight of agricultural districts, bring appreciation of agriculture's needs back to the broader community, and build bridges and bring together diverse perspectives.

Erie County is led by the County Executive and Legislature. This is not an exhaustive list of county departments; rather, it is a few examples of departments and entities that may interact with farmers or local food:

- County Executive:* Mark Poloncarz was elected in November 2011, to succeed Chris Collins.
- County Legislature:* Downsized from (15) to (11) elected members, starting in November 2011.
- Office of the County Clerk:* In addition to running the Auto Bureau, this office records all real estate and property transactions and records.
- Department of Purchasing:* This department lists vendors and "RFPs/Bids" for county purchases.
- Department of Health:* This department provides emergency services to underserved residents, as well as providing for the inspection and safety of food and food establishments.
- Department of Parks, Recreation and Forestry:* This department oversees county parkland, including issuing permits for special events and other space rentals, like farmer's markets.
- Erie Community College:* Founded in 1946, the college offers over (90) degrees and programs across its three area campuses.

D. Organizations Involved in Regional Economic Development:

The leader of public-private partnerships for economic development is the Erie County Industrial Development Agency (ECIDA). They leverage public subsidies, loans and tax abatements to spur business expansion and retention in Erie County. They also have programs for small and start-up businesses, ranging from \$35,000 loans to greater than \$1 million dollars. (www.ecidany.com)

There are several additional IDAs within Erie County, including Hamburg, Lancaster, Tonawanda, Concord, Cheektowaga, Amherst and Clarence. Similarly, there are other business improvement districts, like Buffalo Place, and “development corporations” that can leverage financial and land resources for increased economic benefit. One, for example, is the Buffalo Urban Development Corporation, which still remains after the closure of the Buffalo Economic Renaissance Corporation (BERC) and the reorganization of the Buffalo Urban Renewal Agency (BURA).

Banks and other financial institutions should be considered here because they can play a significant role in prioritizing economic development related to agriculture or food. The two largest local banks are M&T Bank and the rapidly growing First Niagara Bank, which recently purchased all HSBC branches in Western New York during 2011.

In addition to traditional funding sources, larger non-profit foundations like the John R. Oshei or Wendt Foundations, and the Community Foundation for Greater Buffalo (CFGB) can be tremendous drivers of public-private partnerships and other public benefit projects and campaigns.

E. Additional Small Business Groups & Resources

One of the organizations that business owners should be aware of is the Chamber of Commerce for their local municipality. The chamber for the City of Buffalo and Erie County is the Buffalo Niagara Partnership, along with its sister organization, the Buffalo Niagara Enterprise, which has the mission of recruiting new businesses to locate in WNY. After the BNP, the 2nd largest group is the Amherst Chamber of Commerce, as listed in Business First of Buffalo in November 2011.

Area chambers are essentially membership organizations that facilitate business networking, government advocacy, and publicizing information. There are additional membership organizations like the Elmwood Village Association,

Buffalo First, Buffalo Niagara Medical Campus (BNMC) and groups with a shared mission or boundary like the Erie Canal Harbor Development Corp.

After membership organizations, there are government-supported programs like the Small Business Administration (SBA), SCORE (Service Corps of Retired Executives), or a local Small Business Development Center among the 24-locations in the New York state system. These groups offer small business assistance to individuals, like farmers, that are starting a business or need help managing an existing business. Groups like these have a tremendous resource-sharing capacity with specific groups, including some of those that have an agricultural mission listed below.

F. Agricultural Advocates, Supporters, and Stakeholders:

These groups involve the intersections of agricultural farming, food policy, small business development for farming, and protection of the natural environment.

- i.* The American Farmland Trust is a national organization working at the state level to (a) save farmland, (b) protect the environment and (c) prioritize the consumption of locally-grown, nutritious food. This includes a “Grow Local” petition and supportive awareness spreading.
- ii.* The WNY Environmental Alliance is an ad hoc committee of over 150 organizations connected through an arrangement formulated by the Community Foundation (CFGB) in 2008-2009. It draws specific attention to the “Shared Agenda for Action” which highlights three objectives:
 - a. “Preserve and restore our regional environment through collaborative projects;
 - b. “Mobilize people and policymakers to improve the environment;
 - c. “Strengthen Western New York environmental organizations.”

Additionally, GrowWNY.org was established by the CFGB to connect resources and inform interested members of the public of its shared mission of a “Green Renaissance of WNY.”

- iii.* The Erie County Farm Bureau is the local organization for a statewide advocacy group with over 30,000 members. They claim over 900 members locally who work together to fulfill their mission as “a non-governmental, volunteer organization financed and controlled by member families for the purpose of solving economic and public policy issues challenging the agricultural industry.” (www.ecfarm.com)

- iv. The WNY Land Conservancy is “a private, non-profit land trust dedicated to preserving our region’s irreplaceable natural environments, farms, forestlands and open space in order to maintain wildlife habitat, economic resources, the recreation areas and the unique scenic character of WNY.” (www.wnylc.org)
- v. Two additional land-based groups: the Buffalo Olmsted Parks Conservancy promotes and maintains six parks designed by Frederick Law Olmsted, and the Buffalo Niagara Riverkeeper group pools resources to protect WNY freshwater. Both groups have community resources and land capacity that can be shared with the agricultural sector. Thinking broadly, other assets like The Broadway Market and Central Terminal are of note.
- vi. Several examples of effective “agricultural co-ops” exist, including groups like the Eden Valley Growers. Their business farming group was founded in 1956 and involves about eight family-owned farms that grow, market and distribute over 45 vegetable specialty varieties. They report that over 60% of their vegetables are shipped to retail locations in the Buffalo area. They also supply greenhouse materials and flowers. A similar group, the Field & Fork Network builds capacity for a local food network in the eight counties of Western New York by bringing consumers, food producers, and food buyers together through education and outreach. Separately, on the retail side, the Lexington Cooperative Market at 807 Elmwood Avenue illustrates a retail commitment to healthier, more local food. Founded in 1971, this market is a membership organization that promises the following to members and the community:
 - a. “Providing a natural foods grocery store in a friendly environment,
 - b. “Providing education about nutrition, consumer issues, and cooperative principles,
 - c. “Nurturing the local economy and the environment.”
- vii. The growing forms of urban agriculture are increasing food production within the City of Buffalo. The Massachusetts Avenue Project is a location-based community advocacy group on the lower west side of Buffalo (271 Grant Street), whose mission “nurtures the growth of a diverse and equitable community food system to promote local economic opportunities, access to affordable, nutritious food, and social-change

education.” It is the host organization for the Growing Green initiative, which operates “an urban agricultural training program that provides healthy food to Buffalo communities and meaningful job training skills to youth in Buffalo.” These groups also take participate in an evolving task force, Buffalo Growing, that brings together a diverse group of organizations and community members committed to promoting healthy food access and fostering sustainable communities.

- viii. When the focus is placed on individuals living in poverty, there are public organizations that facilitate services like the Food Bank of WNY (www.foodbankwny.org). They help to improve access to food for at-risk populations and conduct collections, donations and related activities. More broadly, the Hunger Action Network of New York State (www.hungeractionnys.org) is a “statewide anti-hunger coalition that combines grassroots organizing at the local level with state level research, education and advocacy to address the root causes of hunger, including poverty.” Separately, “Healthy Kids, Healthy Communities” battles such problems as childhood obesity with local operations in communities across the nation, including Buffalo.

G. Media Targets for Agricultural Reporting and Publicity:

In order to increase exposure for farming, it is necessary to actively engage local news and media organizations for proper exposure and coverage. The exposure group with the most positive coverage would be the Buffalo Convention and Visitors Bureau, which aims to promote regional assets. They manage www.visitbuffaloniagara.com as a premier introduction to Buffalo and WNY.

More traditionally, the leaders in print media are The Buffalo News, Business First of Buffalo, Artvoice and subscription magazines like Buffalo Spree or Buffalo Healthy Living. All of these publications are increasingly creating online content to supplement their hard copy editions, and there are other online blogs like Buffalo.com, Buffalo Rising, and WNY Media looking for timely, intelligent content for their loyal followers.

The local TV stations are always looking for features, trends and more. A quick listing of them includes WGRZ, WIVB, WKBW, YNN, WNED and radio outlets WBEN and WBFO.

AGRICULTURE SURVEY - ERIE COUNTY, NY

This survey was created and distributed by a group of **Urban Planning** graduate students at the **University at Buffalo**. We are completing a semester-long analysis of the conditions, opportunities, and challenges in the agricultural industry in **Erie County**. The results will be presented to the **Erie County Department of Environment and Planning**, which is in the process of updating its 1996 **Agricultural and Farmland Protection Plan**. Your responses will help us make farming and agriculture stronger in Erie County. Thank you for your time and feedback.

Please complete this survey if you are a farmer operating a farm in Erie County. Individual responses to the survey will remain confidential. Please return the completed survey in the enclosed envelope. You can also complete the survey online at: <https://www.surveymonkey.com/s/ErieCountyFarms>.

Instructions Most questions may be answered by checking the circle(s) (e.g.) adjacent to answer(s). Please check only one circle, unless stated otherwise. Base your answer on records for calendar year 2010, unless stated otherwise. Some questions may ask for information that you do not record; please provide your best estimate for these questions.

A. FARMLAND OWNERSHIP

1. How would you describe your access to the land on which you farm?
 Own Rent Other (specify) _____
2. If you own a farm, how did you obtain the land?
 Land auction Inherited from family Purchased from family Obtained from friend/neighbor
 Other (specify) _____

B. CHALLENGES AND OPPORTUNITIES

3. Listed below are some challenges and opportunities that farmers report in their work. Please rank **the top five** challenges and opportunities that you find in Erie County **by placing a number between 1 (high) to 5 (low)** in the circles (e.g. 1) adjacent to the answer choices. If you see a challenge or see an opportunity not listed below, please write and rank it in the empty space.

CHALLENGES <input type="radio"/> Finding market <input type="radio"/> Labor regulations <input type="radio"/> Environmental regulations <input type="radio"/> _____	<input type="radio"/> Lack of capital <input type="radio"/> Urban sprawl <input type="radio"/> Food safety regulations <input type="radio"/> Limited farm labor <input type="radio"/> Expensive energy <input type="radio"/> Finding farmer mentors <input type="radio"/> Creating a business plan <input type="radio"/> Land use regulations <input type="radio"/> Finding food processors <input type="radio"/> _____
--	--

OPPORTUNITIES <input type="radio"/> Farmers' markets <input type="radio"/> Food processing on farms <input type="radio"/> Educating public about farming <input type="radio"/> _____	<input type="radio"/> Ag tourism <input type="radio"/> Urban agriculture <input type="radio"/> Farm to school programs <input type="radio"/> Purchase of development rights <input type="radio"/> Regional food hub <input type="radio"/> Value-added <input type="radio"/> Workforce development <input type="radio"/> Microenterprise loan program <input type="radio"/> Marketing local farm products <input type="radio"/> Local government's support and understanding of local farms <input type="radio"/> _____
---	--

C. FARM OPERATIONS

4. Is farming your primary occupation? Yes No
5. If you are engaged in an occupation other than farming, which of the following best describes its purpose?
 A primary income source
 For personal interest
 Other (specify) _____
6. What is your primary purpose of farming? (check all that apply)
 Full-time business Part-time enterprise Hobby Keep land in agriculture
 Continue family tradition Other (specify) _____
7. What kind of farming experience did you have prior to working on this farm? (check all that apply)
 Hired farm worker Farm internship Farm volunteer Raised on family farm
 Training classes Other (specify) _____

AGRICULTURE SURVEY - ERIE COUNTY, NY

F. FARM EXPENDITURES

15. Please estimate your total farm expenditures in the year 2010.
 \$0 - \$9,999 \$10,000 - \$24,999 \$25,000 - \$49,999 \$50,000 - \$99,999
 \$100,000 - \$149,999 \$150,000 - \$199,999 \$200,000 - \$249,999 Over \$250,000

Also, please describe your agricultural expenditures from the year 2010 in the table below. Please provide percentages in shaded columns.

Type of Expenditure	%	Type of Expenditure	%	Type of Expenditure	%
Tax, property, real estate		Depreciation		Fertilizers	
Rent, cash, buildings, etc.		Seeds, plants		Chemicals	
Interest		Other supply		Packaging	
Contract labor		Animal purchase		Equipment	
Hired labor		Animal feed		Repair	
Utilities		Breeding		Other	
Fuel		Other animal expense		Other	
Total of the 3 shaded columns represents 100% of expenses.					

16. How much capital investment have you made in your farm in the last 3 years?
 \$0 - \$9,999 \$10,000 - \$24,999 \$25,000 - \$49,999 \$50,000 - \$99,999
 \$100,000 - \$149,999 \$150,000 - \$199,999 \$200,000 - \$249,999 \$250,000 - \$499,999
 Over \$500,000
17. How do you market your products? (check all that apply)
 Farm cooperatives Branding, logos Local media Provide product samples
 Call potential buyers Farm events Your farm website Links on other websites
 Printed farm product catalogues Other (specify) _____

G. AGRICULTURAL DISTRICT

18. Is your farm currently within an agricultural district? Yes No Not sure
 19. If no, what is the primary reason? _____

H. Background Information

20. Gender: Male Female
 21. Age: _____ years
 22. Education: High school Some college Associate degree
 Bachelor's degree Graduate or professional degree
 23. Race/ethnicity: White African American Hispanic or Latino
 Asian American Indian Native Hawaiian Other (specify) _____
 24. Are you a member of any farmers' organizations?
 Yes (specify) _____ No
 25. Please name the municipality where your farm is located: _____

I. If you would like to receive the summary of survey results, please fill in the section below.

26. Name: _____
 27. Mailing address: _____
 28. Telephone number: _____
 29. Email address: _____

Thank you again for your cooperation.

ESTABLISHING A FOOD COUNCIL FOR DANE COUNTY

On June 1, 2004, the Environment, Agriculture and Natural Resources Committee of the Dane County Board approved the creation of a subcommittee to examine Dane County food system issues. Dane County has a vibrant and complex food system that encompasses the many social, political, economic, and environmental relationships between food producers, processors, and consumers. The Local Food Policy Advisory Subcommittee's (LFPAS) charge was to explore, review, and develop strategies to strengthen the local food system and economy.

The LFPAS has met regularly over the past 13 months and convened a Local Food Summit Conference in February 2005 that brought together key stakeholders and the broader community to generate information and ideas to improve the local food system. While the LFPAS has laid the groundwork, the hard work of implementing its recommendations remains.

The report of the Local Food Policy Advisory Subcommittee recognizes the following factors:

- Food system issues significantly affect the public health, land use, economy, and quality of life of Dane County residents; and
- Food is a necessity of life and access to nutritious, affordable, and locally grown food is important to residents of Dane County; and
- Food production is a core component of Dane County's economy and culture and Dane County produces more value of agricultural product than any other Wisconsin county; and
- Residents of Dane County spend about a billion dollars each year in restaurants and grocery stores, yet little of that money goes directly to Dane County farmers. However, there is a growing interest among consumers in purchasing fresh food locally. While Dane County farmers now sell some \$3.6 million in direct marketed and organic foods each year that accounts for only about 5% of the county's fresh fruit and vegetable consumption. There is an enormous potential for growth in this sector; and
- Food and agricultural sectors are central to the economy of Dane County and a strong regional food system of food production, processing, distribution, storage, access and reuse protects our natural resources and contributes significantly to the environmental and economic well-being of the region; and
- On February 11, 2005, approximately one hundred people including local farmers, food retailers and processors, nutritionists, educators, anti-hunger advocates and local

government officials met for a Local Food Summit and expressed overwhelming support for the creation of a local Food Council; and

- Food policy councils established in other counties, cities, and states have provided government officials and stakeholders with a forum to identify policies that harness the potential of the food system to foster economic development, provide children and those in need greater access to fresh and nutritious foods, and support stewardship of finite land and water resources; and
- Several county agencies are connected to particular aspects of food policy – e.g., the Division of Public Health, the Department of Planning and Development, the Department of Land and Water Resources, UW Dane County Extension, and the Department of Administration. No single unit looks at the many ways the food system impacts the County, from the production of food through the food chain to the eventual disposal of food waste.

NOW, THEREFORE, BE IT RESOLVED that the Dane County Board of Supervisors hereby establishes the Dane County Food Council to address food system issues in the County, including development of educational programs, data-gathering, research projects, and policies to address food system issues.

BE IT FURTHER RESOLVED that the Council shall have 12 members with an interest in local food issues to be appointed as follows:

- Three members recommended and appointed by the Dane County Executive to represent economic development, food system, and processing and distribution concerns (one term ending April 11, 2006; one term ending April 10, 2007; and one term ending April 15, 2008)
- Three members recommended and appointed by the Mayor of the City of Madison to represent accessibility, urban agriculture, and processing and distribution concerns (one term ending April 11, 2006; one term ending April 10, 2007; and one term ending April 15, 2008)
- Three members appointed by the Dane County UW Extension Committee to represent nutrition, food waste, and large-scale agricultural concerns (one term ending April 11, 2006; one term ending April 10, 2007; and one term ending April 15, 2008)
- Three members appointed by the Environment, Agriculture and Natural Resources Committee to represent environmental, planning, and small-scale agricultural concerns (one term ending April 11, 2006; one term ending April 10, 2007; and one term ending April 15, 2008)

BE IT FURTHER RESOLVED that the Food Council shall focus its efforts on implementing the following recommendations of the Local Food Policy Advisory Subcommittee:

- Develop strategies to increase the amount of locally produced food the County and other local governments purchase
- Develop a list of local food producers in concert with the UW Center for Integrated Agriculture, Dane County UW Extension and other entities
- Devise, support and enhance direct marketing opportunities for local food producers by establishing a county-wide network of farmers markets
- Work with the City of Madison and Public Market Project participants to implement the project.
- Assist with further study and potential formation of a Central Agriculture Food Facility, including helping to organize the stakeholder community and working with the City of Madison and other groups to determine the long-term feasibility of such a facility
- Develop strategies and find opportunities to educate and inform a wide range of citizens about the Council's activities and seek citizen advice, comments, and suggestions for building a better local food system
- Explore the interest of neighboring counties and cities in forming a regional food council by working with Dane County UW Extension and other organizations and agencies
- Explore and actively seek grants from foundations, the state and federal government, and the university with the assistance of Dane County UW Extension to carry out the work of the Council
- Pursue other recommendations in the final report of the Local Food Policy Advisory Subcommittee that the Council deems appropriate

BE IT FURTHER RESOLVED that the Food Council shall make an annual report of findings and accomplishments to the Dane County Executive and Board of Supervisors.

BE IT FURTHER RESOLVED that Dane County UW-Extension, and others as necessary, shall provide support to the Food Council.

Submitted by:

Robert C. Zund (Primary sponsor)
[Signature]
Al Madison
[Signature]

Referred to:

- Executive
- Hlth/Hum Needs
- Pers/Finance
- Pub Prot/Jud 3
- Pub Wks/Transp
- Envir/Ag/Nat Res

Ag Advisory

Extension

[Signature]
[Signature]
Erigen Judd [Gross]
David de Felice
Mark Opaty
[Signature]
[Signature]

- Approved as Submitted
- Fiscal Note Not Required
- Policy Note Not Required
- Forward to: Extension for completion of:
- Policy Note
- Fiscal Note

APPENDIX F - SUPPLEMENTAL INFORMATION

I. Eligibility Requirements for Supplemental Nutrition Assistance Program in Erie County, provided by Erie County Department of Social Services

A. Citizenship Requirements

All United States citizens and certain non-citizens qualify. The eligibility for non-citizens include children, refugees, asylees, anyone receiving permanent disability assistance, and those legally admitted for permanent residence after 5 years of residence or 40 qualifying quarters of work in the county.

B. Income Eligibility

Table 1 presents the limit of monthly and weekly gross incomes for different household sizes to be eligible for SNAP participation in Erie County. The limits on monthly gross income are determined to be 130% of the poverty threshold.

Table 1 – Monthly & Weekly Maximum Income Required for SNAP Eligibility, Erie County

Persons in Household	Income Limit (\$)	
	Monthly	Weekly
1	1,174	271
2	1,579	364
3	1,984	458
4	2,389	551
5	2,794	645
6	3,200	739
7	3,605	832
8	4,010	925
Each additional member	406	94

(Source: Erie County Department of Social Services)

C. Work Requirements

Erie County requires SNAP applicants, who are able-bodied between 16 and 59 of age, to register for work or look for a job.

II. Eligibility Requirements for Women, Infants, Children in the U.S., provided by Food & Nutrition Service, U.S. Department of Agriculture.

A. Categorical Requirements

WIC participants need to be a pregnant woman of any age, an infant or child up to 5 years of age, a mother of a baby who is up to 6 months of age, or a breastfeeding mother of a baby who is up to 12 months of age.

B. Citizenship Requirement

WIC participation does not require U.S. citizenship.

C. Income Eligibility

The gross income of the household cannot surpass 185% of the federal poverty guidelines. Table 3 presents the detailed gross income limits for WIC eligibility.

Table 2 – Monthly and Weekly Maximum Income to be Eligible for WIC in the United States

Persons in Household	Income Limit	
	Monthly (\$)	Weekly (\$)
1	1,679	388
2	2,268	524
3	2,857	660
4	3,446	796
5	4,035	932
6	4,624	1,067
7	5,213	1,203
8	5,802	1,339
Each additional member	589	136

(Source: Food & Nutrition Service, U.S. Department of Agriculture)

III. Eligibility Requirements for National School Lunch Program in the U.S., provided by Child Nutrition Programs

Students are eligible to participate in NSLP when he/she is:

- A member of a household receiving assistance such as Supplemental Nutrition Assistance Program, the Food Distribution Program on Indian Reservations and the Temporary Assistance for Needy Children Program
- Enrolled in a Head Start or Even Start program on the basis that qualifies the program's low-income criteria
- A homeless child, as determined by the school district or the director of a homeless shelter
- A migrant child, as determined by the State or local Migrant Education Program coordinator
- A runaway child receiving assistance from the Runaway and Homeless Youth Act program

IV. Estimated Food Expenditure in Erie County

Table 3 - National Average of Food Expenditure per Consumer Unit with Income \$40,000 - \$49,999, 2010

	Expenditure per Consumer Unit of Income \$40,000-49,999 (\$)	Expenditure by All Consumer Units in Erie County (\$)
Food	5,515	2,113,149,460
Food at home	3,393	1,300,075,452
Cereals and bakery products	446	170,891,144
Cereals and cereal products	145	55,558,780
Bakery products	301	115,332,364
Meats, poultry, fish, and eggs	769	294,653,116
Beef	227	86,978,228
Pork	162	62,072,568
Other meats	106	40,615,384
Poultry	132	50,577,648
Fish and seafood	101	38,699,564
Eggs	42	16,092,888
Dairy products	348	133,341,072
Fresh milk and cream	130	49,811,320
Other dairy products	219	83,912,916
Fruits and vegetables	589	225,683,596
Fresh fruits	180	68,969,520
Fresh vegetables	187	71,651,668
Processed fruits	102	39,082,728
Processed vegetables	120	45,979,680
Other food at home	1,241	475,506,524
Sugar and other sweets	124	47,512,336
Fats and oils	104	39,849,056
Miscellaneous foods	642	245,991,288
Nonalcoholic beverages	339	129,892,596
Food prepared by consumer unit on out-of-town trips	32	12,261,248
Food away from home	2,122	813,074,008
Alcoholic beverages	330	126,444,120

(Source: Consumer Expenditure Survey, U.S. Bureau of Labor Statistics, 2010)

APPENDIX G - ADDITIONAL DATA

Table 1 - Food Security Rate by Household Type, USA, 2010

Table 2 - Weekly Food Cost by Household per Person, USA, 2010

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Table 15 - Multiplier Effects by Industry

Table 1 – Food Security Rate by Household Type, USA, 2010

	Food Security (%)		
	Secure	Low	Very Low
Total households	85.5	9.1	5.4
Households with Children < 18	79.8	14.5	5.7
Married-couple	86.2	10.2	3.6
Female head, no spouse	64.9	24.3	10.8
Male head, no spouse	74.6	18.7	6.7
Households with no children	88.3	6.5	5.2
Households with elderly	92.1	5.3	2.6
Race/ethnicity of households			
White non-Hispanic	89.2	6.6	4.2
Black non-Hispanic	74.9	16.0	9.1
Hispanic	73.8	17.8	8.4
Household income-to poverty ratio			
Under 1.00	59.8	23.7	16.5
Under 1.30	62.4	22.8	14.9
Under 1.85	66.2	20.7	13.1
1.85 and over	92.6	5.0	2.5
Inside metropolitan area	85.5	9.1	5.3
In principal cities	83.0	10.7	6.3
Not in principal cities	87.4	8.0	4.6
New York State (2008-2010 average)	87.1	7.8	5.1

(Source: Coleman-Jensen et al., 2011, p. 11)

Table 2 – Weekly Food Cost per Person by Household Type, USA, 2010

	Median Weekly Food Cost per Person (\$)
Total households	43.75
Households with Children < 18	33.33
Married-couple	34.50
Female head, no spouse	32.50
Male head, no spouse	33.33
Households with no children	50.00
Households with elderly	45.00
Race/ethnicity of households	
White non-Hispanic	49.00
Black non-Hispanic	37.50
Hispanic	33.33
Household income-to poverty ratio	
Under 1.00	33.33
Under 1.30	33.33
Under 1.85	33.33
1.85 and over	50.00
Inside metropolitan area	45.00

(Source: Coleman-Jensen et al., 2011, p. 11)

Table 3 – Size of Farm, Erie County & New York State

Farm Size Class (Acres)	1997		2002				2007					
	Erie County		New York		Erie County		New York		Erie County		New York	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1 to 49	362	37.20	7,725	24.33	584	45.31	11,318	30.38	581	47.82	11,713	32.22
50 to 179	381	39.16	11,319	35.64	453	35.14	13,474	36.17	438	36.05	13,847	38.09
180 to 499	177	18.19	9,327	29.37	200	15.52	8,977	24.10	142	11.69	7,739	21.29
500 to 999	39	4.01	2,530	7.97	33	2.56	2,457	6.60	38	3.13	2,014	5.54
Over 1,000	14	1.44	856	2.70	19	1.47	1,029	2.76	16	1.32	1,039	2.86
Total	973	100	31,757	100	1,289	100	37,255	100	1,215	100	36,352	100

(Source: USDA Agricultural Census 1997, 2002, 2007)

Table 4 – Soil Fertility in Erie County

	Erie County		Within Current Cropland		Within Agricultural Districts	
	Acres	%	Acres	%	Acres	%
Not Prime Farmland	154,603.33	23.11	4,926.57	4.95	42,399.57	23.02
Prime Farmland if Drained	189,355.92	28.30	27,411.20	27.57	27,411.20	14.88
Prime Farmland	120,078.23	17.94	29,778.67	29.95	50,376.10	27.35
Prime Farmland of Statewide Importance	205,029.93	30.64	37,322.79	37.53	63,996.49	34.75
Total Land Area	669,067.40	100	99,445	14.86	184,183	27.53

(Sources: USDA Natural Resource Conservation Service (NRCS) Soil Survey; SSURGO Database, 2010. USDA, NRCS; Common Land Unit, Erie County, 2011. USDA NRCS; Cropland Data Layer, 2011. Erie County Dept. of Environment And Planning, Agricultural District Boundaries, 2011.)

Table 5 – Land Uses Within Prime Farmland Soils of Erie County

Land Use	No. of Parcels	Total Area (Acres)	% of Prime Farmland Area
Residential	127,766	130,103.95	35.11
Vacant	30,629	59,996.02	16.19
Agricultural	11,191	57,083.60	15.40
Other	22,692	61,689	16.65
Unclassified	7,831	16,347.56	4.41
Community Services	2,722	14,733.55	3.98
Conservation Lands and Public Parks	1,366	10,473.04	2.83
Commercial	6,961	7,840.90	2.12
Recreation & Entertainment	1,382	6,886.17	1.86
Public Services	1,680	3,230.30	0.87
Industrial	750	2,177.36	0.59
Total	214,970	370,561.32	100.00

(Sources: USDA Natural Resource Conservation Service (NRCS) Soil Survey; SSURGO Database, 2010. Erie County Dept. of Environment And Planning, Erie County Parcel Data, 2010.)

Table 6 – Food Retailer Characteristics in Detail, Erie County, 2007

Description of Industry	Establishment		Sales		Annual Payroll		Employees	
	No.	%	\$	%	No.	%	\$	%
Motor vehicle and parts dealers	794	9.17	2,612,305	22.65	794	9.17	2,612,305	22.65
Furniture and home furnishings stores	277	3.20	296,561	2.57	277	3.20	296,561	2.57
Electronics and appliance stores	222	2.56	368,948	3.20	222	2.56	368,948	3.20
Building material and garden equipment and supplies dealers	350	4.04	892,957	7.74	350	4.04	892,957	7.74
Health and personal care stores	638	7.37	899,716	7.80	638	7.37	899,716	7.80
Clothing and clothing accessories stores	817	9.43	623,118	5.40	817	9.43	623,118	5.40
Sporting goods, hobby, book, and music stores	501	5.78	322,044	2.79	501	5.78	322,044	2.79
General merchandise stores	211	2.44	1,394,456	12.09	211	2.44	1,394,456	12.09
Miscellaneous store retailers	1,073	12.39	334,683	2.90	1,073	12.39	334,683	2.90
Nonstore retailers (except Vending Machine Operators)	2,542	29.35	412,272	3.57	2,542	29.35	412,272	3.57
Food and beverage stores	829	9.57	2,187,249	18.96	829	9.57	2,187,249	18.96
Gasoline stations	301	3.47	1,164,967	10.10	301	3.47	1,164,967	10.10
Vending machine operators	107	1.24	26,615	0.23	107	1.24	26,615	0.23
Total	8,662	100	11,535,891	100	8,662	100	11,535,891	100

(Source: 2007 Economic Census & Non-Employers Statistics, U.S. Census Bureau)

Table 7 – Residence Within 10 Minute Walking Distance to Grocery Stores & Supermarkets

City or Town	Serviced Residences	Total Residences	ServiceArea (%)	City or Town	Serviced Residences	Total Residences	ServiceArea (%)
Alden	8	2,142	0.37%	Orchard Park	269	8,229	3.27%
Amherst	3,410	32,289	10.56%	Sardinia	106	1,049	10.10%
Aurora	9	2,850	0.32%	Tonawanda	5,145	21,018	24.48%
Boston	0	2,770	0.00%	Village of Akron	0	824	0.00%
Brant	1	650	0.15%	Village of Alden	166	653	25.42%
Cheektowaga	3,295	25,461	12.94%	Village of Angola	0	665	0.00%
City of Buffalo	45,368	69,872	64.93%	Village of Blasdell	569	765	74.38%
City of Lackawanna	857	4,874	17.58%	Village of Depew / Cheektowaga	579	3,339	17.34%
City of Tonawanda	404	5,466	7.39%	Village of Depew / Lancaster	477	2,003	23.81%
Clarence	433	9,722	4.45%	Village of East Aurora	184	1,914	9.61%
Colden	4	1,229	0.33%	Village of Farnham	0	119	0.00%
Collins	0	1,035	0.00%	Village of Gowanda	0	259	0.00%
Concord	0	1,614	0.00%	Village of Hamburg	480	3,088	15.54%
Eden	16	2,660	0.60%	Village of Kenmore	2,562	5,330	48.07%
Elma	0	4,242	0.00%	Village of Lancaster	624	3,611	17.28%
Evans	795	4,924	16.15%	Village of North Collins	101	381	26.51%
Grand Island	14	7,105	0.20%	Village of Orchard Park	295	964	30.60%
Hamburg	1,357	14,441	9.40%	Village of Sloan	1,006	1,328	75.75%
Holland	26	1,186	2.19%	Village of Springville	571	1,220	46.80%
Lancaster	352	8,277	4.25%	Village of Williamsville	599	1,627	36.82%
Marilla	0	1,664	0.00%	Wales	0	966	0.00%
Newstead	0	1,653	0.00%	West Seneca	2,322	15,111	15.37%
North Collins	53	748	7.09%	Total	72,457	281,337	25.75%

(Source: U.S. Census, 2010)

Table 8 – Residence with Less Than 75% and 50% Vehicle Availability Located Outside of 10 Minute Walking Distance to Grocery Stores & Supermarkets

Types of Residences	No. of Residences with Less Than 75% of VA	Total No. of Residences	% Within Each Municipality	No. or Residences with Less Than 50% of VA	Total No. of Residences	% Within Each Municipality
Amherst	472	32,289	1.46%	0	0	0%
1 Family Residence	466					
2 Family Residence	3					
Multiple Residence	2					
Residence w/Commercial Use	1					
Cheektowaga	30	25,461	0.12%	0	0	0%
1 Family Residence	30					
City of Buffalo	13,416	69,872	19.20%	114	69,872	0.16%
1 Family Residence	7,497			34		
2 Family Residence	5,478			65		
3 Family Residence	179			12		
Multiple Residence	247			3		
Residence w/Commercial Use	15			0		
City of Lackawanna	572	4,874	11.74%	0	0	0%
1 Family Residence	479					
2 Family Residence	71					
3 Family Residence	21					
Multiple Residence	1					
Tonawanda	58	21,018	0.28%	0	0	0%
1 Family Residence	36					
2 Family Residence	19					
3 Family Residence	3					
West Seneca	120	15,111	0.79%	0	0	0%
1 Family Residence	63					
2 Family Residence	50					
3 Family Residence	4					
Multiple Residence	3			0	0	0%
Total	14,668	168,625	8.70%	114	69,872	0.16%
Total in Erie County	14,668	281,337	5.21%	114	281,337	0.04%

(Source: U.S. Census, 2010)

Table 9 – Residence Outside of 15 Minute Driving Distance to Grocery Stores & Supermarkets

City or Town	Serviced Residences	Total Residences	Service Area (%)	City or Town	Serviced Residences	Total Residences	Service Area (%)
Alden	42	2,142	1.96%	Orchard Park	0	8,229	0.00%
Amherst	16	32,289	0.05%	Sardinia	56	1,049	5.34%
Aurora	0	2,850	0.00%	Tonawanda	0	21,018	0.00%
Boston	341	2,770	12.31%	Village of Akron	311	824	37.74%
Brant	15	650	2.31%	Village of Alden	0	653	0.00%
Cheektowaga	0	25,461	0.00%	Village of Angola	0	665	0.00%
City of Buffalo	0	69,872	0.00%	Village of Blasdell	0	765	0.00%
City of Lackawanna	0	4,874	0.00%	Village of Depew / Cheektowaga	0	3,339	0.00%
City of Tonawanda	0	5,466	0.00%	Village of Depew / Lancaster	0	2,003	0.00%
Clarence	236	9,722	2.43%	Village of East Aurora	0	1,914	0.00%
Colden	420	1,229	34.17%	Village of Farnham	0	119	0.00%
Collins	179	1,035	17.29%	Village of Gowanda	0	259	0.00%
Concord	215	1,614	13.32%	Village of Hamburg	0	3,088	0.00%
Eden	0	2,660	0.00%	Village of Kenmore	0	5,330	0.00%
Elma	0	4,242	0.00%	Village of Lancaster	0	3,611	0.00%
Evans	20	4,924	0.41%	Village of North Collins	0	381	0.00%
Grand Island	15	7,105	0.21%	Village of Orchard Park	0	964	0.00%
Hamburg	2	14,441	0.01%	Village of Sloan	0	1,328	0.00%
Holland	115	1,186	9.70%	Village of Springville	7	1,220	0.57%
Lancaster	0	8,277	0.00%	Village of Williamsville	0	1,627	0.00%
Marilla	166	1,664	9.98%	Wales	224	966	23.19%
Newstead	912	1,653	55.17%	West Seneca	0	15,111	0.00%
North Collins	0	748	0.00%	Total	3,292	281,337	1.17%

(Source: U.S. Census, 2010)

Table 10 – Food Service Retailing Characteristics in Detail, Erie County, 2007

Description of Industry	Establishment		Sales		Annual Payroll		Employees	
	No.	%	\$	%	\$	%	No.	%
Accommodation	173	1.78	55,216	6.84	12,187	7.86	3,233	6.24
Repair and maintenance	2,005	20.58	157,206	19.48	29,554	19.06	4,914	9.49
Personal and laundry services	5,075	52.10	179,810	22.28	20,430	13.17	9,060	17.50
Food services and drinking places	2,488	25.54	414,647	51.39	92,919	59.91	34,572	66.77
Total	9,741	100	806,879	100	155,090	100	51,779	100

(Source: 2007 Economic Census & Non-Employers Statistics, U.S. Census Bureau)

Table 11 – Retail Market Description in Detail

Description	Detail List
Food Retail	‘Food and Beverage Stores,’ ‘Gasoline Stations,’ ‘Vending Machine Operators’
Other Retail	‘Motor Vehicle and Parts Dealers,’ ‘Furniture and Home Furnishings Stores,’ ‘Electronics and Appliance Stores,’ ‘Building Material and Garden Equipment and Supplies Dealers,’ ‘Health and Personal Care Stores,’ ‘Clothing and Clothing Accessories Stores,’ ‘Sporting Goods, Hobby, Book, and Music Stores,’ ‘General Merchandise Stores,’ ‘Miscellaneous Store Retailers,’ ‘Non-store Retailers (Except Vending Machine Operators)’
Food Service Retail	‘Food Services and Drinking Places’
Other Service Retail	‘Accommodation,’ ‘Repair and Maintenance,’ ‘Personal and Laundry Service’

(Source: 2007 Economic Census, U.S. Census Bureau)

Table 12 – List of Community Supported Agriculture (CSA) Servicing Erie County

Farm	Town	County	Vegetables	Fruit	Meat	Grains	Eggs
Becker Farms and Vizcarra Vineyards	Gasport	Niagara	✓	✓			
Connections Community Farm	Middleport	Niagara	✓	✓	✓		✓
Fairwind Farm Organic Market Garden	Sherkston	Ontario	✓	✓			
Fenton’s Produce	Batavia	Genesee	✓	✓			
Genzel’s East Hill Farm	Colden	Erie			✓	✓	✓
Good Food Farm	North Java	Wyoming	✓	✓	✓		✓
Lake Land Meats, Farm Market	St. Catherine’s	Ontario	✓	✓	✓		✓
Native Offering Farm	Little Valley	Cattaraugus	✓		✓		
Porter Farms	Elba	Genesee	✓				
Root Down Farm	East Amherst	Erie	✓	✓			
Sinemus Farms	Elba	Genesee	✓	✓		✓	
The Moore the Merrier Farm	Delevan	Cattaraugus	✓		✓		✓

(Source: www.localharvest.org)

Table 13 – List of Farmers’ Markets, Erie County

	Market Season	Sell Food Only	Accepts WIC/ Senior FMNP Checks	Accepts SNAP Checks (As entire markets, not necessarily all vendors)
Alden Farmers’ Market	May - Oct	No	Yes	No
Broadway Farmers’ Market	July - Nov	No	Yes	No
Clarence Hollow Farmers’ Market	June - Oct	No	Yes	No
Clinton Bailey Farmers’ Market	Year Round	Yes	Yes	No
Downtown Buffalo Country Market	May - Oct	No	Yes	No
East Aurora Farmers’ Market	May - Nov	No	Yes	No
Elmwood-Bidwell Farmers’ Market	May - Dec	No	Yes	Yes
Fox Run at Orchard Park Farmers’ Market	May - Oct	No	Yes	No
Hamburg Farmers’ Market	May - Nov	Yes	Yes	No
Holland Farmers’ Market	May - Nov	Yes	Yes	No
Kenmore Farmers’ Market	June - Oct	Yes	Yes	No
Lancaster Market	May - Oct	No	Yes	Yes
North Campus Farmers’ Market	Sept - Nov	No	No	No
Springville Farmers’ Market	May - Dec	Yes	Yes	No
Springville/Olde Farmers’ Market	June - Oct	No	Yes	No
University Community Farmers’ Market	May - Oct	Yes	Yes	No
Williamsville Mill Farmers’ Market	May - Oct	Yes	Yes	No

(Source: New York Department of Agriculture and Markets)

Table 14 – Economic Characteristics of Food System, Erie County

Industry	Employment	\$1,000 Output	% Sales in Food System	% Sales in Erie County
Production				
Oilseed farming	53	1,861	0.02	0.00
Grain farming	199	4,830	0.05	0.01
Vegetable & melon farming	130	12,505	0.13	0.02
Fruit farming	66	6,205	0.06	0.01
Tree nut farming	6	320	0.00	0.00
Greenhouse, nursery, floriculture	260	16,757	0.17	0.02
Other crop farming	6	453	0.00	0.00
Cattle ranching and farming	36	2,335	0.02	0.00
Dairy cattle and milk	538	38,131	0.39	0.05
Poultry & egg	7	2,235	0.02	0.00
Other animal production	120	2,959	0.03	0.00
Production Total	1,420.67	88,591	0.90	0.12
Processing				
Wholesale trade	19,959	3,435,958	34.74	4.81
Flour milling and malt mnfg.	593	745,132	7.53	1.04
Confectionery mnfg from purchased chocolate	494	160,126	1.62	0.22
Nonchocolate confectionery mnfg.	125	43,579	0.44	0.06
Frozen food mnfg.	88	28,438	0.29	0.04
Fruit & vegetable canning, pickling, drying	62	32,402	0.33	0.05
Fluid milk & butter mnfg.	867	650,000	6.57	0.91
Cheese mnfg.	451	439,531	4.44	0.61
Dry, condensed, evaporated dairy product mnfg.	8	8,990	0.09	0.01
Ice cream & frozen dessert mnfg.	324	135,733	1.37	0.19
Animal slaughtering, rendering, processing (except poultry)	1,198	550,459	5.56	0.77
Bread & bakery mnfg.	488	71,991	0.73	0.10
Cookie, cracker, pasta mnfg.	187	75,898	0.77	0.11
Snack food mnfg.	9	5,373	0.05	0.01
Coffee and tea mnfg.	31	19,546	0.20	0.03
Flavoring syrup & concentrate mnfg.	81	132,162	1.34	0.18
Seasoning & dressing mnfg.	38	18,869	0.19	0.03
Other food mnfg.	15	4,309	0.04	0.01
Soft drink & ice mnfg.	445	310,542	3.14	0.43
Breweries	71	40,155	0.41	0.06
Wineries	11	3,044	0.03	0.00
Processing Total	25,547	6,912,237	69.88	9.67
Distribution				
Food & beverage	13,121	587,467	5.94	0.82
Gasoline stations	1,660	78,178	0.79	0.11
Direct & electronic sales	3,916	218,288	2.21	0.31
Food services & drinking places	36,422	1,955,276	19.77	2.73
Distribution Total	55,120	2,839,209	28.70	3.97
Disposal				
Water, sewage, other treatment, delivery systems	2	236	0.00	0.00
Fertilizer mnfg.	32	51,420	0.52	0.07
Disposal Total	34	51,657	0.52	0.07
Processing & Distribution Total	80,667	9,751,446	98.58	13.64
Total Food System	82,121	9,891,693	100	13.83
Total Erie County	512,894	71,507,136		100

(Source: IMPLAN, Erie County 2009)

Table 15 – Multiplier Effects by Industry

	Direct Effects	Indirect Effects	Induced Effects	Total
Production				
Oilseed farming	1.00	0.31	0.25	1.56
Grain farming	1.00	0.38	0.25	1.63
Vegetable & melon farming	1.00	0.31	0.63	1.94
Fruit farming	1.00	0.25	0.78	2.03
Tree nut farming	1.00	0.26	0.75	2.01
Greenhouse, nursery, & floriculture production	1.00	0.07	0.91	1.98
Tobacco farming	0.00	0.00	0.00	0.00
Cotton farming	0.00	0.00	0.00	0.00
Sugarcane & sugar beet farming	0.00	0.00	0.00	0.00
All other crop farming	1.00	0.41	0.38	1.78
Cattle ranching & farming	1.00	0.28	0.14	1.42
Dairy cattle & milk production	1.00	0.34	0.14	1.48
Poultry & egg production	1.00	0.29	0.21	1.50
Animal production, except cattle, poultry & eggs	1.00	0.22	0.25	1.47
Processing				
Flour milling & malt manufacturing	1.00	0.51	0.21	1.72
Wet corn milling	0.00	0.00	0.00	0.00
Soybean & other oilseed processing	0.00	0.00	0.00	0.00
Fats & oils refining & blending	0.00	0.00	0.00	0.00
Breakfast cereal manufacturing	0.00	0.00	0.00	0.00
Sugar cane mills & refining	0.00	0.00	0.00	0.00
Beet sugar manufacturing	0.00	0.00	0.00	0.00
Chocolate & confectionery manufacturing from cacao beans	0.00	0.00	0.00	0.00
Confectionery manufacturing from purchased chocolate	1.00	0.44	0.22	1.66
Nonchocolate confectionery manufacturing	1.00	0.40	0.22	1.61
Frozen food manufacturing	1.00	0.51	0.28	1.79
Fruit & vegetable canning, pickling, drying	1.00	0.44	0.22	1.67
Fluid milk & butter manufacturing	1.00	0.56	0.22	1.78
Cheese manufacturing	1.00	0.64	0.18	1.83
Dry, condensed, & evaporated dairy product manufacturing	1.00	0.55	0.18	1.73
Ice cream & frozen dessert manufacturing	1.00	0.69	0.25	1.94
Animal (except poultry) slaughtering, rendering, & processing	1.00	0.43	0.19	1.63
Poultry processing	0.00	0.00	0.00	0.00
Seafood product preparation & packaging	0.00	0.00	0.00	0.00
Bread & bakery product manufacturing	1.00	0.56	0.34	1.90
Cookie, cracker, & pasta manufacturing	1.00	0.60	0.24	1.84
Tortilla manufacturing	0.00	0.00	0.00	0.00
Snack food manufacturing	1.00	0.42	0.16	1.58
Coffee & tea manufacturing	1.00	0.48	0.20	1.68
Flavoring syrup & concentrate manufacturing	1.00	0.63	0.13	1.75
Seasoning & dressing manufacturing	1.00	0.49	0.21	1.70

All other food manufacturing	1.00	0.55	0.22	1.77
Soft drink & ice manufacturing	1.00	0.55	0.20	1.75
Breweries	1.00	0.41	0.13	1.54
Wineries	1.00	0.43	0.15	1.58
Distilleries	0.00	0.00	0.00	0.00
Distribution				
Wholesale trade businesses	1.00	0.32	0.42	1.74
Retail Stores - Food & beverage	1.00	0.14	0.47	1.61
Retail Stores - Gasoline stations	1.00	0.15	0.47	1.62
Retail Nonstores - Direct & electronic sales	1.00	0.15	0.29	1.44
Food services & drinking places	1.00	0.38	0.39	1.77
Disposal				
Water, sewage, other treatment & delivery systems	1.00	0.35	0.42	1.77
Fertilizer manufacturing	1.00	0.90	0.18	2.08

(Source: IMPLAN, Erie County 2009)



ROOM AT THE TABLE