Advancing Specialty Crops In Urban Wilmington Delaware
Estimating the Consumption Gap

THE DELAWARE CENTER FOR HORTICULTURE
FINAL REPORT
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Produced by:
Meghan Sobbott, Urban Agriculture Intern
Tara Tracy, Urban Agriculture Manager

Edited by:
Vikram Krishnamurthy, Executive Director
Ann Mattingly, Director of Programs
Executive Summary:

Delaware’s local food system is a complex network of crop production and distribution that reflects an unbalanced arrangement in urban communities and limited food access for certain communities across the state. The Advancing Specialty Crops in Urban Wilmington project was supported by a Specialty Crop Block Grant (SCBG) through the Delaware Department of Agriculture, in collaboration with The Delaware Center for Horticulture (TheDCH). The purpose of this report and associated maps is to geographically identify areas in New Castle County (NCC) that grow and distribute Delaware produce in order to identify gaps in food access. In New Castle County, 90 percent of the population lives north of the Chesapeake & Delaware (C&D) canal and because of this, this report specifically focuses on the area north of the C&D canal, also referred to as northern New Castle County (NoNCC). Within NoNCC, poverty and transportation access have played a large role in the local food system and reflects limited access for certain communities. Restrictions created from these variables, such as limited transportation access and high poverty rates, are factors that correlate with the health and diet of certain communities in NoNCC. In order to help alleviate these restrictions and provide local fruits and vegetables to all communities in Delaware, the creation of a statewide food policy council could facilitate policies that improve food access through the development of urban agriculture and increased local food outlets.

The resources provided in this report will help inform officials about the need to increase local produce in NoNCC to ultimately improve access of fresh fruits and vegetables and improve public health in the area. Within this report, several GIS maps were created to indicate areas of high need in NoNCC based on several different variables. The creation of the maps involved extensive research about where Delaware produce is being grown and sold in NoNCC, as well as three considerations that affect a household’s purchasing habits.

The considerations chosen for analysis are:

1. Low Income: High poverty rates in various locations limits purchasing opportunities for some residents based on affordability.
High cost fruits and vegetables are easily overlooked when price is a factor compared to low cost energy dense processed foods. These high calorie processed foods then become more of a norm in household diets that can cause individuals to become more susceptible to excessive weight gain, heart disease, or stroke.

2. **Transportation Access:** Limited access to a vehicle or public transportation affects where residents are able to purchase fruits and vegetables. Highly limited vehicle access in some locations limits food purchasing opportunities for residents and encourages the consumption of processed foods that can be found in nearby corner stores. Often, corner stores do not offer perishable products such as fruits and vegetables, thus limiting food access for communities that are dependent on corner stores for everyday food products.

3. **Food Assistance:** A high percentage of food assistance recipients in a given geography indicate that there is potential to increase economic spending on food products in that area. Programs such as the Supplemental Nutrition Assistance Program (SNAP) and Women, Infants, and Children (WIC) help to increase food access to low-income families and individuals while also providing economic benefits to the community. Locations where there is a high percentage of SNAP and WIC recipients indicate that the increase of fruits and vegetables in those communities could benefit these residents by increasing food access and affordability, thereby leading to economic spending of these benefits within that community.

Utilizing these three considerations, maps were developed to analyze and characterize an area’s level of need in NoNCC as well as the City of Wilmington.

Currently in NCC, there are several efforts to help increase food access, educate the public about healthy eating behaviors and demonstrate how food is grown. In support of these efforts the development of a statewide food policy council could help create policies that improve food access and bring awareness to
healthy eating behaviors, including the consumption of fruits and vegetables in individual behavior. A food policy council can also provide the opportunity to enhance the local economy by encouraging spending on local fruits and vegetables within underserved communities. Accessing the food system for all of Delaware requires more research to be completed in Kent and Sussex County regarding their current foodsheds, as well as demographic, transportation, and behavior analyses to determine populations that lack access to local fruits and vegetable within those counties. This report aims to address the needs of NCC and identify geographic areas that may benefit the most from an increase of local fruits and vegetables, including recommendations as to how that can be accomplished through policy creation and an expansion of urban agriculture practices.

**Introduction and Overview:**

The Delaware Center for Horticulture (TheDCH) developed this report to assess the local food environment in northern New Castle County, Delaware (NoNCC). Located north of the Chesapeake & Delaware (C&D) Canal, northern New Castle County consists of the largest urban population in Delaware, including over 90 percent of the population in New Castle County. Currently in the county, 17 percent of the population (33,000 households) has low access to fresh fruits and vegetables and 64 percent (348,847 adults) are not consuming the USDA recommended servings of fruits and vegetables per day (Policy Map). With this information, increasing local food access and urban agriculture in NoNCC could help reduce the number of households that currently lack access to fresh fruits and vegetables and encourage healthy eating behaviors, while also strengthening the local food system and local food economy.

Simply put, food access refers to how people obtain their food, a universal issue affecting people worldwide. When reviewing the article *Core Indicators of Nutritional State for Difficult to Sample Populations* it was noted that food insecurity “exists whenever the availability of nutritionally adequate and safe foods or the ability to acquire acceptable foods in a socially acceptable ways is limited or uncertain” (Anderson). Limited access to healthy foods can discourage positive
eating practices and allow for the consumption of processed foods to become a normal practice in homes and communities based on cost and convenience. Public health is strongly affected by dietary intake as noted by the USDA recommendation that adults consume 5 servings of fruits and vegetables each day in order to maintain a healthy weight and reduce the risk of heart disease and stroke. In order to encourage the consumption of fruits and vegetables, increasing access to local produce is an effective way to enhance public health and limit the consumption of processed foods. According to the report *The Grocery Gap; Who Has Access to Healthy Food and Why it Matters*, it was discovered in a multistate study that people who have access to supermarkets and grocery stores, typically supplying fresh fruits and vegetables, have the lowest rates of obesity and weight concerns (Treuhaft and Karpyn). Encouraging the consumption of more fruits and vegetables can be done by introducing affordable local produce in food insecure communities that currently lack access to a wide range of various fruits and vegetables at a reasonable cost.

Understanding where high need populations are located is dependent on understanding the quality of life that specific populations can obtain based on the resources available to them. In this report, high need populations are classified based on three factors: transportation access, income level, and the use of food assistance programs such as the Supplemental Nutrition Assistance Program (SNAP). These three factors can all be connected to an individual's dietary intake by affecting what consumers are purchasing as well as where they are purchasing it. Local fruits and vegetables can be costly, and at times difficult to locate, limiting some households from being able to purchase local food products. There is a high need for increased access to local produce in low income neighborhoods, but the challenge with increasing food access to these households is that families tend to eat fewer fruits and vegetables based on cost and convenience (Chase). Low cost, processed foods that can be found in nearby corner stores can be more appealing to families that lack the transportation to go to larger supermarkets that carry various fruits and vegetables at slightly a higher cost, thereby reinforcing these patterns and behaviors.
Poverty encourages the purchase of inexpensive, high calorie, energy dense processed foods, which can lead to excess weight gain and poor health. It was noted in the book *Food, Farms and Community: Exploring Food Systems* that families with household incomes of less than $15,000 per year spend just 60 percent of the national average of annual household expenditures on fresh produce compared to families earning $100,000 or more spending 160 percent of the national average (Chase). Providing affordable fruits and vegetables to low-income communities introduces and encourages the consumption of these food products. In association with increasing the supply of fruits and vegetables into low-income communities, the use of food assistance programs such as SNAP and WIC (Woman, Infant, and Children) would encourage the purchase of these perishable products at more affordable rates.

SNAP is the largest of the domestic food and nutrition assistance programs administered by the Department of Agriculture’s Food and Nutrition Service (FNS) and helps low income individuals purchase food so they can obtain a nutritious diet. In 2013, nearly 51 million individuals were eligible for SNAP under federal SNAP rules in an average month, but only an estimated 43 million actually participated in the program (Eslami). SNAP is a valuable resource in helping provide low income individuals and households the opportunity to purchase local fruits and vegetables in order to maintain a healthy lifestyle. In 2013, 23,981 households in NCCO were receiving food assistance and 54.3 percent of those homes have children under the age of 18 (AMERICAN FACT FINDER). Programs such as SNAP and WIC can help stimulate local economies by increasing consumer spending on food products. Increasing the availability of local fruits and vegetables in low income communities that house families that utilize SNAP would encourage household to purchase these products, keeping these SNAP benefit dollars in the local economy.

In addition to low income households and SNAP recipients, transportation access can limit food access for some households that cannot find healthy food options within their community. In an article published in 2009 by the Institute of Public Administration of the University of Delaware, 23.5 million Americans lacked access to a supermarket within one mile of their home and an additional 3.4 million
households were limited by vehicle accessibility living less than one mile from a supermarket (Jacobson). Urban communities that are located over 1 mile from supermarkets are considered to be located outside of that supermarket’s service area, and out of reach for households that lack access to a car or public transportation. Due to the lack of mobility to access supermarkets that are located in NoNCC, specific populations are limited by where they can shop for fresh produce and resort to utilizing corner stores for everyday grocery shopping trips. Corner stores do not tend to offer a diverse selection in food options and rarely supply fruits and vegetables, thus encouraging the purchase of processed foods.

This report focuses on pinpointing where local produce is being sold and grown in NCCO as well as identifying areas of limited access to local produce, based on three main variables. GIS analysis included the incorporation of locations where fresh fruits and vegetables can be purchased, with an examination of NCCO census tracts to categorize which tracts could benefit the most from an increase in availability of local fruits and vegetables. Census tracts that have the greatest potential to benefit from increase of local food were classified as high need tracts.

**Methods and Results**

When geographically mapping NCCO to identify local food gaps, three variables were taken into consideration. These variables included:

I. **Supply:** Consisting of point of sale locations, the supply markets in NCCO were mapped to identify where local fruits and vegetables could be purchased. Point of sale locations include supermarkets that have been identified as selling local produce, market locations such as farmers markets, mobile markets and healthy corner stores, and finally agriculture locations such as urban and NCCO farms, community gardens and school gardens. Each supply market was assigned a particular service area radius, isolating the locations that have immediate access to local produce.

II. **Demand:** A level of demand was created and used to categorize each census tract based on a level of need. Three levels of need were created based on proxy data examining transportation access and food stamp/SNAP
recipients, while also analyzing areas that are currently outside the service area of supply markets. Using food stamp/SNAP data low-income households could also be analyzed.

III. **Access:** Compiling information from supply markets and the variables of demand, access to local fruits and vegetables could be examined and food gaps could be identified.

These three variables helped characterize each census tract based on a level of need compared to what is currently available per census tract. USDA census tracts were used in the mapping process based on the availability of proxy information in the same format from American Community Survey (ACS) found on ArcGIS Online, as well as publicly-available data through the State of Delaware GIS portal.

**Supply Markets**

Focusing on the supply variable, Figure 1 was created to highlight all of the supply markets in NCC that offer local fruits and vegetables. These locations were designated point of sale locations and pinpoint areas within each census tract that have immediate access to local produce based on designated service areas. Establishing service areas around each point of sale locations was based on a Philadelphia study entitled “Walkable Access to Healthy Food in Philadelphia, 2010-2012,” which identified supermarkets as having a service area of 0.5 miles, while smaller market locations and agriculture locations were assigned a service area of 0.25 miles. These service areas were created based on what was deemed as a reasonable walkable distance to travel in order to acquire and transport (carry) food products. Households that are located within these service areas are considered to be in the immediate service area of local food outlets, thus having greater access to local fruits and vegetables.

In Figure 1, three point of sale locations were identified including market locations, agriculture locations, and supermarkets that all have been ascertained to sell locally-grown produce. A market location includes farmers’ markets, mobile markets, and healthy corner stores. Market locations are able to offer local fruits
and vegetables at a lower cost and typically accept Electronic Bank Transfers (EBT) and Supplemental Nutrition Assistance Program (SNAP) benefits, allowing for low-income families to have the option to purchase healthy local produce. Farmers’ markets and mobile markets vary in size, and alternate their locations based on scheduled routes assigned to each market, but are able to reach underserved communities because of this mobility. Healthy corner stores have secure locations and consistent hours of operation, and can provide a consistent place where residents can go to purchase local produce at a reasonable cost. However, market locations are highly affected by seasonal changes. Farmers’ markets are available in the summer, offering a wider range of fruits and vegetables, but typically slow down in the winter when it becomes more difficult to grow.

**Figure 1: Point of Sale Locations Offering Local Produce in Wilmington, DE and NoNCC**

In this figure point of sale locations including supermarkets, market locations, and agriculture locations can be observed throughout NoNCC and The City of Wilmington.

Agriculture locations are similar to market locations in that they are strongly affected by seasonal changes, but typically sell local produce in one consistent location. Urban farms and NCCO farms offer local produce to the public on the farm site or through farmers’ markets, and are a great place for community members to
meet the farmers that grow their food. Urban farms, such as the E.D. Robinson Urban Farm at 12th & Brandywine in Wilmington, also often offer educational opportunities for residents, encouraging home gardening to residents so they can safely grow their own fruits and vegetables at home. In addition to urban farms and NCCO farms, community gardens are also utilized to promote public gardening and create spaces where residents can gather and collaborate to grow their own fruits and vegetables. School gardens do not typically grow enough produce to sell to the public, but are an opportunity for children to learn where their food comes from and the effort required to garden and grow food. Urban farms and NCCO farms are able to supply more local produce to the public than community gardens and school gardens; however, community gardens and school gardens provide the opportunity to education, influence behavior, and support the continuing effort to encourage healthy eating behaviors.

In contrast to market locations and agriculture locations, supermarkets are able to offer a wide range of fruits and vegetables consistently throughout the year. Supermarkets are larger in size than market locations and can offer local produce to a larger service area as a result. Only supermarkets that have been identified to sell locally-grown produce have been included in Figure 1. These retail supermarkets include Acme, Pathmark, Giant, Food Lion, Delaware Local Food Exchange, Janssen’s Marker, Shoprite, Newark Natural Food, and Wiley’s Market. Encouraging supermarkets to take advantage of local produce grown in the Delmarva region provides an opportunity to encourage local spending, stimulating local economies.

Together, these market locations, agriculture locations, and supermarkets are able to offer local produce to NCCO residents in various ways; however, certain areas are still out of reach from these locations. Table 1 demonstrates that there are a large number of agriculture locations throughout NCCO, and even 35 urban agriculture locations within the City of Wilmington itself. Of the 101 agriculture locations, 81 are either school or community gardens that do not sell produce to the public, but are nonetheless important resources in educating the public on local food production, safe gardening, and healthy eating. Excluding the 81 community and school gardens, a total of 20 agricultural locations offer local produce to the
public. In addition to agriculture locations, 22 of the 25 market locations are located within the City of Wilmington, offering local fruits and vegetables to a variety of communities. These market locations include 13 farmers’ markets, 2 mobile markets, and 10 corner stores. These locations are imperative in distributing local produce to underserved urban communities in Wilmington and provide a network of markets for farms to sell local produce. Of the 13 identified supermarkets that sell local produce, 3 are in the City of Wilmington, playing a large role in reaching residents in the surrounding areas because of their large service area.

<table>
<thead>
<tr>
<th>Local Supply Market</th>
<th>Located within NCC</th>
<th>Located within the City of Wilmington</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supermarkets</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td>Agriculture Locations</td>
<td>101</td>
<td>35</td>
</tr>
<tr>
<td>Market Locations</td>
<td>25</td>
<td>22</td>
</tr>
</tbody>
</table>

**Table 1:** Local Fruit and Vegetable Point of Sale Markets in NCC and the City of Wilmington

**Assessing Demand**

Assessing the potential demand for each census tract required a level of need be associated to each tract based on three criteria. The three criteria included transportation limitations, food stamp/SNAP recipients and areas of each census tract excluded from the immediate service area of point of sale locations. Each of these variables can limit the ability of households to access local fruits and vegetables and helped to identify the areas that currently have the least amount of access in NCCO. The percentage of households receiving food stamps/SNAP is represented in Figure 2, and the average number of vehicles per census tract is represented in Figure 3. Both of these variables were compiled into GIS layers and added to the same map represented in Figure 4. The map shown in Figure 4 displays both variables as a unit, and highlights the census tracts with the highest
percentage of households using food stamps/SNAP and the tracts with the lowest average vehicle per household.

**Figure 2: Percent of Households Receiving Food Stamps/SNAP Benefits Per Census Tract, Wilmington DE and NoNCC**

Utilizing ArcGIS Online and American Community Survey (ACS) proxy data Figure 2, 3, and 4 were created to categorize each census tract. Figure 2 was created to classify each census tract based on the percentage of households that received food stamps/SNAP in 2010-12. Using the average gathered for all of NCCO and Wilmington census tracts, a simple scale was created to group census tracts based on level of access. Within all of NCCO, the average percentage of households receiving food stamps/SNAP is 10%, and in the City of Wilmington the average is 23%. When integrating these averages into Figure 2, census tracts that had an average of 0 – 10% of households receiving food stamps/SNAP are considered to have adequate access to local produce; tracts that have between 10%-23% are considered to be moderately limited in access; and tracts that have greater than or equal to 23% of households receiving food stamps/SNAP are limited the most. It was important to identify census tracts with a high percentage of food stamp/SNAP beneficiaries because these tracts also indicate low income households (in order to receive food stamps/SNAP a household must be characterized as a low income household indicating financial insecurity).
Households that are limited by financial standing are also more limited in food access.

Figure 2 demonstrates that a large proportion of food stamp/SNAP recipients are located in census tracts within the City of Wilmington, as well as the Bear (DE) and Claymont areas, thus indicating that a larger percentage of low income households are also located within those areas. The top 5 census tracts in NCC with the highest percentage of households receiving food stamps/SNAP are represented in Table 2. All 5 of these tracts are located in the City of Wilmington, specifically on the east side of the city with tract 29 having the highest percentage of food stamp/SNAP recipients (49%). Though mapping households that receive food stamps/SNAP identifies low income households, this also indicates that these tracts have some financial ability through government assistance to spend on local fruits and vegetables. Increasing local fruits and vegetables in these lower income communities would allow residents to use financial assistance provided through food stamps/SNAP on local produce encouraging economic growth and improving public health.

<table>
<thead>
<tr>
<th>Census Tract</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Census Tract 29</td>
<td>49%</td>
</tr>
<tr>
<td>Census Tract 30.02</td>
<td>48%</td>
</tr>
<tr>
<td>Census Tract 6.02</td>
<td>46%</td>
</tr>
<tr>
<td>Census Tract 21</td>
<td>42%</td>
</tr>
<tr>
<td>Census Tract 9</td>
<td>38%</td>
</tr>
</tbody>
</table>

Table 2: Top 5 Census Tracts with the Highest Percentage of Food Stamp/SNAP Recipients

Once food stamp/SNAP recipients were located, a separate map representing the average number of vehicles per census tract was created and is shown in Figure 3. Census tracts that have an average of one vehicle or less per census tract are significantly limited in local food access than census tracts that have an average higher than one vehicle. Households that have more than one vehicle are able to
travel further distances to acquire local fruits and vegetables, while households that do not have access to a vehicle are forced to purchase food products at nearby stores that may not offer local produce. Most of the tracts that have an average of less than one vehicle are located within the City of Wilmington, and represent the tracts that are most limited in mobility to acquire local fruits and vegetables.

**Figure 3: Average Number of Vehicles Per Census Tract, Wilmington DE and NoNCC**

Examining both transportation access and the percentage of households that utilize food stamps/SNAP enabled a geographic analysis that addresses both variables affecting access to local fruits and vegetables. Census tracts that have a percentage of households receiving food stamps/SNAP greater than or equal to 23%, combined with the household average of one vehicle or less per census tract, indicate tracts that are significantly limited in access to local fruits and vegetables. Figure 4 overlays both of the previous maps to indicate the census tracts that have the highest percentage of households receiving food stamps/SNAP and the lowest average of vehicles per household. The darker red tracts in Figure 4 are considered to have the highest potential demand for an increase in local produce, because they have the least access based on mobility and financial standing. Considering the
county as a whole, the City of Wilmington demonstrates a large number of census tracts that have the least access to local fruits and vegetables.

**Figure 4: Variables Affecting Access to Local Produce in Wilmington, DE and NoNCC**

Assessing Level of Access

Once these census tracts were mapped in Figure 4, point of sale locations and respective service areas were added to the map to identify food gaps. Figure 5 illustrates point of sale locations and respective service areas in relation to each census tract's level of need for NCC and the City of Wilmington. In order to determine a level of need for each census tract, data used in the creation of the previous maps were used to categorize each census tract. High need tracts were categorized by having an average of one vehicle or less per household, and greater than or equal to 23% of households receiving food stamps/SNAP. Census tracts determined to be of moderate need for the increase in access to local produce have an average of between 1-3 vehicles per household and a percentage between 10% and 23% receiving food stamps/SNAP. Census tracts that have little need for the increase in access to local produce have an average of more than three vehicles per household and less than 10% of households receiving food stamps/SNAP.
In Figure 5, the darkest red census tracts are the tracts that have the highest level of need for an increase in access to local fruits and vegetables. Within these high need tracts it can be seen that there are multiple agriculture locations,
however; since these locations are not necessarily able to supply local fruits and vegetables year round, these tracts are still seasonally limited in access. The tracts with the highest level of need can be seen in Table 3, and consist of census tracts within the City of Wilmington. Upon review of the maps shown in Figure 5, it can be observed that the highest level of need for the increase in access to local fruits and vegetables is within and surrounding the City of Wilmington, with some additional areas in other areas of the county.

<table>
<thead>
<tr>
<th>Census Tract Number</th>
<th>Percent of Households receiving food stamps/SNAP per Census Tract</th>
<th>Average Number of Vehicles per Census Tract</th>
</tr>
</thead>
<tbody>
<tr>
<td>Census Tract 29</td>
<td>49%</td>
<td>0.2</td>
</tr>
<tr>
<td>Census Tract 21</td>
<td>42%</td>
<td>0.7</td>
</tr>
<tr>
<td>Census Tract 6.02</td>
<td>46%</td>
<td>0.8</td>
</tr>
<tr>
<td>Census Tract 9</td>
<td>38%</td>
<td>0.8</td>
</tr>
<tr>
<td>Census Tract 30.02</td>
<td>48%</td>
<td>0.9</td>
</tr>
<tr>
<td>Census Tract 16</td>
<td>32%</td>
<td>0.9</td>
</tr>
<tr>
<td>Census Tract 22</td>
<td>36%</td>
<td>1</td>
</tr>
<tr>
<td>Census Tract 4</td>
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<td>1</td>
</tr>
<tr>
<td>Census Tract 19.02</td>
<td>26%</td>
<td>1</td>
</tr>
</tbody>
</table>

**Table 3:** Top 9 Census Tracts that have the Greatest Level of Need Based off of Vehicle Access and Percentage of Households Receiving Food Stamps/SNAP

**What's Being Done to Increase Access**

There are several efforts in New Castle County that are making large strides to help increase locally grown food into areas that lack access. Some of these initiatives include urban farms, school education programs, community gardens, and coalitions targeted to increase awareness of local produce availability, healthy eating habits, and making local fruits and vegetables more available to the public. These initiatives help grow and distribute locally grown produce throughout New
Castle County and ultimately increase food access to assist and empower urban communities to grow their own fresh food. Some of these initiatives are highlighted below:

1. **Urban Farms:** There are 4 urban farms located in NCCO, all of which grow and sell local produce to community members. The first urban farm developed was the E.D. Robinson Urban farm at 12th & Brandywine in Wilmington, and was established with the assistance of The Delaware Center for Horticulture, where it is still part of TheDCH’s education programs. The E.D. Robinson Urban Farm was developed in 2008 after neighborhood members saw an opportunity to address food security concerns in the area by turning an abandoned site on East 12th Street into an urban farm. With the aid of TheDCH and community leadership, the E.D. Robinson Urban Farm was developed and eventually divided into two sections: one where nearby residents could grow fresh fruits and vegetables in community garden plots, and another commercial production side, where fruits and vegetables are grown and sold to the community on market days. The E.D. Robinson Urban Farm at 12th & Brandywine, along with the other urban farms, Bright Spot Ventures (two locations) and Planting Hope in Delaware, are examples of how urban farms can prosper and help provide communities with fresh produce.

2. **Community Gardens:** In addition to urban farms, there are 55 community gardens in NCCO, providing multiple communities the opportunity to grow fresh produce. The Southbridge Community Garden is one of these gardens, created in 2011 through the efforts of the South Wilmington Planning Network (SWPN). The garden includes 12 raised beds, fruit trees, berries, and wildflowers. The Southbridge Community Youth Garden was established in 2014 as an offshoot of the existing community garden. The youth garden aims to demonstrate horticultural practices and introduce gardening to kids through hands-on learning opportunities. In 2015 the Southbridge Farmers
Market, located at 402 S Heald St, Wilmington, DE, opened and now sells local produce to community members in the surrounding areas. The Southbridge Farmers Market also accepts SNAP, EBT, and WIC to ensure that everyone has an opportunity to purchase locally grown produce. Community gardens are an increasingly popular way to bring residents together to grow their own fresh food.

3. **School Gardens**: Throughout NCCO, there are 25 school gardens that allow children the opportunity to experience and observe food production and learn the effort and responsibilities that are required to grow food.

   a. Healthy Food for Healthy Kids (HFHK), started by Thianda Manzara in 2008, is a nonprofit organization with the mission of designing and implementing food and garden-based education programs for Delaware schools. The vision of HFHK is to motivate youth to develop lifelong wholesome eating habits by experiencing the joy of growing, cooking, and eating garden-fresh vegetables. Healthy Food for Healthy Kids main office is located in Hockessin DE but works with 23 schools located throughout Delaware.

   b. The Boys & Girls Clubs of Delaware is part of a nationwide movement whose mission is to inspire and enable all young people, especially those who need us most, to realize their full potential as productive, responsible, and caring citizens. What began as The Wilmington Community Service evolved into what is today the Boys & Girls Clubs. The Wilmington Community Service first met in 1919 with the goals of cooperating and coordinating the activities of existing community service agencies.

4. **Mobile markets**: Bright Spot Urban Farms was created in 2014 as an extension to Bright Spot Ventures in connection with West End Neighborhood House. Along with the creation of Bright Spot Ventures farm,
a mobile market was incorporated to reach various farmers markets throughout Wilmington. Produce harvested from Bright Spot Urban Farm is sold via the mobile market at various farmers’ market locations around the Wilmington area, including Cool Springs Farmers Market on 10th and Jackson Street in Wilmington, and Rodney Square Farmers' Market located on 11th & N. Market Street. This mobile market is an effective example of bringing fresh produce to multiple communities around Wilmington.

5. Coalitions and other organizations

The Delaware Urban Farm and Food Coalition (DEUFFC), hosted by the Delaware Center for Horticulture, works in partnership with over 60 individuals and organizations to connect and support urban food production in Delaware. The DEUFFC supports community-oriented urban agricultural projects that help expand healthy food access in northern Delaware.

Food Bank of Delaware started at Westminster Presbyterian Church where Retha Fisher, Director of Community Services, formed a Food Closet Study Committee in 1977 to help improve the church’s hunger-relief efforts. Four years later, Food Conservers, Inc. was established and eventually changed the name to the Food Bank of Delaware. The FBD works to provide low- and no-cost food to qualified feeding programs throughout the greater Delaware region; inform the greater Delaware community about hunger issues and food security; mobilize support for anti-hunger efforts; train and empower under- and unemployed individuals to fill needed positions within the food service industry; and develop and implement statewide nutrition programs to assist low-income families, individuals and children.

Specific programs associated with the Delaware Food Bank are SNAP-ED, low-income CSA, and a mobile pantry. The SNAP-ED program educates and empowers participants to make healthy choices within a limited budget. All educational materials and topics have been developed using the 2010 Dietary Guidelines for Americans as well as the USDA’s MyPlate. The low-income CSA program through
which the Food Bank has partnered with local growers to provide all Delawareans, regardless of income level, the opportunity to participate in a local CSA.

Nemours Health & Prevention Services (NHPS), formed in 2004 at the request of the Nemours Board of Directors, was first created in Delaware to address the childhood obesity epidemic. Its mission is to enhance the quality of health and health care to children.

6. **Urban Acres**: Urban Acres is a community owned company established by the Central Baptist Church designed to enhance the distribution of Delaware fruit and vegetables. Urban Acres Produce aims to provide fruits and vegetables to underserved markets in the state with the establishment of a local focused distribution network linking Delaware producers with Delaware restaurants, schools, small retail outlets and other institutional outlets.

**Recommendations**

Within New Castle County and in the City of Wilmington in particular, there are numerous efforts to increase access to local fruits and vegetables in urban communities. These programs are providing the opportunity for communities to grow food while encouraging the consumption of more fruits and vegetables and healthy eating habits. However, there are clear examples of limited access in some regions of NCCO and particularly in the City of Wilmington that could benefit from enhanced access to local fruits and vegetables. The analysis and presentation of these access gap data serve to identify the areas of significant need and opportunities for increased access to local fruits and vegetables.

In an effort to increase access to local fruits and vegetables, a food policy council could be created to help increase access to these communities in an efficient manner. There are a large number of agriculture locations in the City of Wilmington that are helping to encourage community members to grow their own fruits and vegetables, but these agriculture locations typically are not able to supply produce year round. Enhancing communications and coordinating efforts among these
agriculture locations to grow more collaboratively, and produce enough food so that it can be sold to the public, could help increase access year round to local foods. Increasing the number of distribution of urban farms is a potential way to provide a place-based, community effort for purchasing local fruits and vegetables.

A food policy council would also be able to help encourage and increase access to local produce. The council could help provide assistance to community gardens, urban farms, and farmers markets to encourage consumption of local produce. A food policy council could also help with communication between community gardens, school gardens, and urban farms. From this research it can be seen that there are multiple efforts in NCCO and The City of Wilmington to increase access to local produce, but there are still food gaps that are limiting access for some communities. Specifically in the City of Wilmington, the east side is significantly limited in access to local food and would benefit from the intervention of a food policy council to increase urban agriculture practices and collaboration.

The development of the maps in this report have helped to identify food gaps in NCCO; however, completing similar research for Kent and Sussex counties would increase our knowledge of food access statewide. A food policy council would be able to link Delaware farmers with communities that lack access to local food. Delaware as a whole produces a large amount of fruits and vegetables each year; however, certain areas still lack access to this produce. Identifying the areas that would benefit from an increase of local fruits and vegetables can help to connect Delaware farmers to these locations. Now that food gaps have been identified in NCCO steps need to be taken to help enhance access to local foods in these areas and continue research on other food gaps throughout Delaware.
References/Sources


