Food Deserts in Virginia

Recommendations From the Food Desert Task Force

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Virginia Cooperative Extension
Virginia Tech • Virginia State University

Food Desert Study Report

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Executive Summary

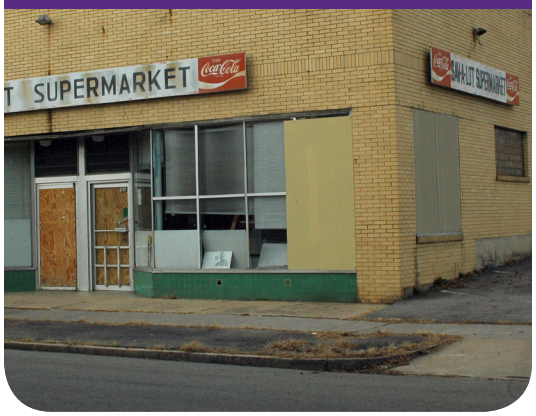
The purpose of the Virginia Food Desert Study Report is to determine the current status of food deserts in the Commonwealth of Virginia. The report identifies challenges, consequences, strategies, and resources to address food deserts and offers recommendations for the Virginia General Assembly's consideration and action.

In 2012, Delegate Delores McQuinn introduced House Joint Resolution 88 and then in 2013 reintroduced House Joint Resolution 646 to request that the Virginia General Assembly review the issue of food deserts in Virginia. The Honorable William Howell, Speaker of the House of Delegates of the Virginia General Assembly, commissioned Alan Grant, dean of the College of Agriculture and Life Sciences at Virginia Tech, and Jewel Hairston, dean of the College of Agriculture at Virginia State University, to conduct a study of food deserts in the Commonwealth of Virginia. The letter from Speaker Howell, dated March 25, 2013, in part states: "The Virginia General Assembly has identified the existence of food deserts in Virginia as a significant concern. … [It is] logical for your organizations to provide leadership in convening and engaging appropriate professionals and stakeholders in the discussion of the issue and development of recommendations."

The deans led a broad-based Task Force that conducted the study. A complete list of Task Force members is included at the beginning of this report.

For the purpose of the study, the Task Force accepted a version of U.S. Department of Agriculture's definition of a food desert as "an area in the United States with limited access to affordable and nutritious food, particularly such an area composed of predominately lower-income neighborhoods and communities" (110th Congress 2008). Specifically, a food desert is defined as an area where populations live more than one mile from a supermarket or large grocery store if in an urban area or more than 10 miles from a supermarket or large grocery store if in a rural area (Ver Ploeg et al. 2012).

The U.S. Department of Agriculture defines "food deserts" as areas where people cannot access affordable and nutritious food. They are usually found in impoverished areas lacking grocery stores, farmers markets, and healthy food providers. Food deserts contribute to food insecurity, which means people aren't sure where their food will come from.



Methodology

The Task Force relied mostly on existing data from sources such as the U.S. Department of Agriculture, the U.S. Census Bureau, Feeding America's 2011 Map the Meal Gap study, and city and county data sources rather than attempting to collect primary data. The study focused on the Commonwealth of Virginia as a whole and eight primary localities, namely: (1) Fredericksburg, (2) Hampton, (3) Harrisonburg, (4) Lynchburg, (5) Martinsville, (6) Petersburg, (7) City of Richmond, and (8) Wise County. The eight selected localities reflect a variety of geographical locations that include rural and urban areas and represent localities where previous food studies were conducted. In addition, the cities of Alexandria, Arlington, Fairfax, and Manassas were included to determine the extent of food insecurity within what are considered more affluent regions of the state.

The report includes findings on low (inadequate) access to affordable and nutritious food (food deserts) and food insecurity in the commonwealth. It identifies challenges impacting food deserts, consequences if localities do not develop and implement strategies to address concerns, and resources to address the identified issues. Finally, the report provides recommendations for action.

Findings

The major findings indicate that Virginia is better off than other states in terms of low (inadequate) food access; however, data revealed that there are food deserts and/or pockets of low access to differing degrees in all cities and counties across the state of Virginia, including rural and urban areas. Whereas the commonwealth as a whole has a low food-access rate of 17.8 percent (1,423,483 individuals), the low-access rate for Lynchburg, for example, is 26.4 percent (19,952 individuals). It is important to note that while Virginia's low-access rate is 17.8 percent, Virginia's rate exceeds the national low-access rate of 7.3 percent. For low-access rates for the eight identified localities, see tables 1 or 2.

It is interesting to note that even in Northern Virginia, which is considered a more affluent region of the state, data revealed pockets of low food access and food insecurity. For example, Alexandria, Arlington, Fairfax, and Manassas have food-insecurity rates lower than the state of Virginia rate (from 9.8 to 12.3 percent, compared to the state's rate of 12.7 percent). However, there are pockets in which the problem exists.

A review of existing data suggests a strong relationship between food deserts and food insecurity. The review also suggests a strong relationship between poverty and food deserts. Of all the factors reviewed by the Task Force related to food deserts, the relationship between food deserts and poverty is strongest for the commonwealth as a whole, as well as for the individual localities, with the exception of Harrisonburg and Wise County.

Lack of adequate transportation impacts food deserts and was seen as a major factor in the study.

Data showed that in localities with low food access, the number and percentage of fast food restaurants and convenience stores per 1,000 residents are greater than the number and percentage of grocery stores and superstores that carry fresh fruits and vegetables. This suggests that individuals in food deserts have greater physical access to fast food restaurants and convenience stores than they do to grocery stores and supermarkets.

A review of existing data suggests that although the adult obesity rate for Virginia is relatively high at almost 30 percent, six of the eight primary localities studied have adult obesity rates that exceed the state rate. The adult obesity rates for those localities ranged from 29 percent in Fredericksburg to 38 percent in Petersburg.

The study documented that many efforts are being made to address the inadequate access to nutritious and affordable foods, including community gardens, food hubs, farmers markets, and transportation; however, these efforts are only partially successful in meeting the need for adequate food access. There appears to be a need for more effective coordination of efforts.

The Task Force suggests that if purposeful and effective strategies are not implemented to ensure that all Virginians have nutritious and affordable food access, there will be negative consequences to residents and localities throughout the commonwealth. These consequences are likely to include escalating health care costs and an epidemic of adult and child obesity, which could lead to higher production costs due to reduced employee productivity and reductions in national and global competitiveness of Virginia's products and services.

Despite the challenges that food deserts and food insecurity present, there are tremendous resources available in Virginia to address the challenges. The resources include human capital, such as the Virginia General Assembly, Virginia Cooperative Extension and other educational institutions, the Virginia Food System Council and other nonprofit organizations, financial institutions, and state and federal agencies, just to name a few. With proper division of labor and effective coordination of stakeholders and others, Virginia leaders could develop and implement effective strategies to ensure that all Virginians have adequate access to nutritious and affordable food within reasonable distances of their homes.

Recommendations

The Task Force offers a number of recommendations for Virginia General Assembly consideration. The recommendations are summarized below.

1. Establish a cooperative arrangement with the Commonwealth of Virginia for the Virginia Food System Council to become a repository for research and data, serve as lead facilitators in discussions to solve issues pertaining to food deserts and food insecurity, and be identified as the organization to coordinate public and private grants to distribute funds to local organizations to address the challenges outlined in this report. As part of the cooperative arrangement with the Commonwealth of Virginia, Virginia Cooperative Extension should be identified as the educational support organization to the Virginia Food System Council because of its reach and network.

2. Commission a study to assess the feasibility and impact of mobile farmers markets in urban and rural areas.

3. Expand current grant opportunities to allow organizations to establish and support urban and community gardens, mobile markets, community kitchens, and food hubs; provide incentives for small businesses to develop local and healthy food enterprises in food desert areas; and provide funding for Healthy Corner Store – Get Fresh programs.

4. Establish one urban farm in Virginia as an educational and training center for other communities in partnership with Virginia State University.

5. Expand Virginia Cooperative Extension's Family Nutrition Program to allow for additional partnering with education and training centers, as well as private and nonprofit organizations, to conduct food demonstrations for healthy meal preparation.

6. Explore tax incentives with agencies such as the Virginia Department of Economic Development Small Business Commission and consider expanding the Agriculture and Forestry Industries Development Fund for local governments to encourage small businesses to invest in infrastructural changes that allow them to sell fresh and healthy foods in local markets. Further, local governments should consider creating budget lines that invest in incentives dedicated to addressing food deserts and food insecurity.

7. Consider establishing an educational pathway that ties nutrition and health education to educational advancement, community improvement, and job creation. This may be accomplished through a review of family and consumer sciences and health and physical education curricula, along with the creation of a certification for health and nutrition. Additionally, the Department of Education may consider developing a dual-enrollment curriculum for health and nutrition to provide a pathway for students to transition from high school to community college to four-year colleges. Finally, funding for targeted nutrition and health education in local communities and agriculture education and training should be considered.

8. Consider funding for the commonwealth's land-grant universities to expand involvement in developing and promoting sustainable community food systems, with the assistance of Virginia Master Gardeners and the Master Food Volunteers.

Finally, the Task Force recommends that a more detailed study be conducted focusing on food deserts and food insecurity in cities and rural areas that may not have been included in the data from the U.S. Department of Agriculture or the U.S. Census Bureau. Once more detailed research is completed, members of the Virginia General Assembly should engage in and focus on policy decisions that have potential to impact food deserts and food insecurity in Virginia. The Virginia General Assembly should review legal and policy initiatives to increase healthy food access and consider policy changes regarding food procurement practices (e.g., collective purchasing, local food preferences, nutrition standards), local land-use planning and zoning initiatives, permits/licensing, financing and tax incentives, and local healthy food initiatives (e.g., healthy community and local government resolutions).

Food Desert Study Report

Introduction

Envision a future where every citizen within the Commonwealth of Virginia is food secure. Food deserts are gone; healthy, accessible, affordable food abounds, and food insecurity and hunger are nonexistent.

The U.S. Department of Agriculture's Economic Research Service estimates that 23.5 million people in the United States live in food deserts, including 6.5 million children (Ver Ploeg et al. 2009). In Virginia, approximately 17.8 percent of the population lives in a food desert (USDA-ERS 2013a) and food desert pockets exist in every region of Virginia. Food deserts contribute to food insecurity and are a principle cause of hunger in the United States (National Coalition for the Homeless 2011). Food insecurity affects all regions of the commonwealth, although some regions are more severely affected than others. Data show that issues related to food deserts are found in both urban and rural areas. For example, in 2012, Richmond was identified as the largest food desert for a city its size in the United States (Community Development Financial Institution Fund 2012).

In 2012, Delegate Delores McQuinn introduced House Joint Resolution 88 and then in 2013 reintroduced House Joint Resolution 646 to request that the Virginia General Assembly review the issue of food deserts in Virginia. In March 2013, the Honorable William Howell, Speaker of the House of Delegates, commissioned Alan Grant, dean of the College of Agriculture and Life Sciences at Virginia Tech, and Jewel Hairston, dean of the College of Agriculture at Virginia State University, to conduct a study of food deserts in the Commonwealth of Virginia. This report includes a discussion of the current status of food deserts in Virginia, factors and challenges impacting food deserts, consequences that are likely to occur if localities throughout the commonwealth do not develop

Speaker Howell, in part, states:

The Virginia General Assembly has identified the existence of food deserts in Virginia as a significant concern. … The leadership that faculty in the College of Agriculture and Life Sciences [Virginia Tech] and the School of Agriculture and Ecology [Virginia State University], particularly those agents and specialists in Virginia Cooperative Extension, have displayed in the Virginia Farm to Table Program and the Virginia Food System Council makes it logical for your organizations to provide leadership in convening and engaging appropriate professionals and stakeholders in the discussion of the issue and development of recommendations.

The limited access and affordability of fruits, vegetables, and other staples jeopardize the health, well-being, and future of individuals and families living in food deserts. It is recognized that no single entity can solve this problem, but rather a coordinated interdisciplinary effort.

and implement effective strategies to address the concerns, and current resources that could be leveraged to address food deserts.

In 2012, 48.9 million Americans lived in households struggling against hunger (Coleman-Jensen, Nord, and Singh 2012). Because food deserts contribute to food insecurity, the Task Force thought it was important to discuss both food deserts and food insecurity in the findings and recommendations. Finally, the report includes recommendations for the Virginia General Assembly to consider in addressing food deserts and food insecurity.

The Task Force suggests that an additional study to gather primary data — especially in some smaller urban and rural areas — may be beneficial and recommends that members of the General Assembly and other interested parties carefully read the report and request additional information and/or ask questions as appropriate.

While the description of a food desert varies, for the purpose of this study, the Task Force decided to use a version of the U.S. Department of Agriculture's definition. The 2008 U.S. Farm Bill defines a food desert as "an area in the United States with limited access to affordable and nutritious food, particularly such an area composed of predominately lower-income neighborhoods and communities" (110th Congress 2008). Specifically, a food desert is defined as an area where populations live more than one mile from a supermarket or large grocery store if in an urban area or more than 10 miles from a supermarket or large grocery store if in a rural area (Ver Ploeg et al. 2012). These areas of limited food access or "food deserts" are defined as areas where people cannot access affordable and nutritious food and are usually found in impoverished areas lacking grocery stores, farmers markets, and healthy food providers (110th Congress 2008).

Food deserts and food insecurity are strongly related, but they are not the same. Food deserts contribute to food insecurity. Food insecurity means people aren't sure where their food will come from. In addition, they have little to no access to nutritious food and are likely to have unbalanced diets and to skip meals. Various parts of Virginia lack reasonable access to retail grocery stores that offer healthy and affordable fresh produce, along with meat, poultry, milk, and other dairy products (Ver Ploeg et al. 2012). Ultimately, food deserts and food insecurity lead to negative consequences for Virginia.

The Commonwealth of Virginia is known for impressive agricultural productivity, which suggests that food deserts and healthy food access issues are in part a result of local and regional food distribution issues. With its abundant resources, Virginia has the potential to meet the needs of individuals living in food deserts and food-insecure households, while strategically strengthening agricultural markets and increasing access to healthy foods.

Current Status of Food Deserts in Virginia

Methodology

The Task Force relied on existing data and testimonials from reliable sources such as the USDA, the U.S. Census Bureau, Feeding America's 2011 Map the Meal Gap study, and city and county data sources. The Task Force focused on the Commonwealth of Virginia as a whole and the following eight localities: (1) Fredericksburg, (2) Hampton, (3) Harrisonburg, (4) Lynchburg, (5) Martinsville, (6) Petersburg, (7) City of Richmond, and (8) Wise County. The eight selected localities reflect a variety of geographical locations that include rural and urban areas across the commonwealth. Further, they represent localities where previous food studies were conducted. Additionally, the cities of Alexandria, Arlington, Fairfax, and Manassas were included to determine the extent of food insecurity within what are considered more affluent regions of the state.

The study reviewed the following specific factors

related to food deserts. These factors are reported for the eight selected localities and are shown in table 1. For data for the entire state of Virginia, see appendix A.

1. Low access.

2. Low income.

3. Food insecurity.

3. Lack of transportation.

4. Food sources.
   a. Number of grocery stores.
   b. Number of superstores.
   c. Number of convenience stores.
   d. Number of fast food restaurants.

5. Prevalence of obesity.

Table 1. Relationships among selected factors in food deserts.

	Low access		Low income	SNAP eligible	Lack of transportation	Adult obesity	Food insecurity	
	No.	Rate	Rate	Rate	Rate	Rate	No.	Rate
State of Virginia	1,423,484	17.8%	10.7%	9.3%	0.0%	29.8%	1,026,730	12.7%
Fredericksburg	6,390	26.3%	16.1%	21.1%	2.7%	29.2%	4,370	18.2%
Hampton	32,202	23.4%	14.0%	15.9%	1.7%	36.8%	24,490	17.7%
Harrisonburg	4,208	8.6%	31.8%	37.3%	0.6%	29.1%	8,860	18.4%
Lynchburg	19,951	26.4%	23.2%	26.9%	4.0%	31.2%	13,490	18.0%
Martinsville	3,489	25.3%	24.1%	33.2%	2.7%	32.4%	3,610	26.0%
Petersburg	7,215	22.3%	18.4%	—	5.3%	37.6%	8,620	26.6%
Richmond City	41,569	20.4%	26.3%	30.5%	3.5%	31.3%	46,380	22.8%
Wise County	3,924	9.5%	21.6%	27.3%	5.5%	35.3%	5,190	12.5%

	Number of Stores (# per 1,000 population)			
	Grocery stores	Superstores	Convenience stores	Fast food restaurants
State of Virginia	1,532	122	4,106	5,908
Fredericksburg	12	1	20	39
Hampton	18	2	78	100
Harrisonburg	16	2	29	49
Lynchburg	15	2	34	76
Martinsville	4	1	9	22
Petersburg	13	1	34	27
Richmond City	60	1	131	177
Wise County	12	—	38	30

Factors and Challenges

Low Access and Low Income

The USDA Report to Congress (USDA-ERS 2009) identified low food-access areas as those where people cannot access affordable and nutritious food. Low food access is part of what defines a food desert. Low food-access areas are usually found in impoverished areas that lack grocery stores, farmers markets, and healthy food providers. In Virginia, more than 1.4 million people live in low-access areas. Six of the eight primary localities selected for focused study have low food-access rates that exceed the state average (table 2).

The data in table 2 show a relationship between low income and low food access in six of the eight primary areas studied. Harrisonburg and Wise County had more access to food as compared to the state as a whole, even though income rates were below the state average for those localities.

When considering the impact of income on this issue, it is important to examine the cost of food. There are varying degrees of consensus as to how to compare the affordability of healthy and unhealthy food. One way is to compare the cost of these foods in relationship to calories (energy provided). Low-calorie foods (i.e., fruits and vegetables) typically have a higher price per calorie. Conversely, less healthy foods, especially those high in saturated fat and added sugar, tend to have a lower price per calorie; however, the long-term costs that impact health and health care costs should be considered.

According to the White House Task Force on Childhood Obesity (2010), over the last 30 years, fruit and vegetable prices increased nearly twice as fast as the price of carbonated drinks. An increase in the price of fruits and vegetables, relative to less healthy foods, can reduce consumers' incentive to purchase fruits and vegetables and result in less healthy diets. The potential influence of food prices on consumption necessitates consideration of the extent to which changes in food policies might affect consumption patterns.

Table 2. Low-access and low-income rates by locality.

Locality	Low-access rate	Low-income rate
United States	7.3%	15.3%
Virginia	17.8%	10.7%
Fredericksburg	26.3%	16.1%
Hampton	23.4%	14.0%
Harrisonburg	8.6%	31.8%
Lynchburg	26.4%	23.2%
Martinsville	25.2%	24.1%
Petersburg	22.6%	18.4%
Richmond City	20.3%	26.3%
Wise County	9.4%	21.6%

Source: U.S. Department of Agriculture, Economic Research Service (USDA-ERS 2013b).

Food Insecurity

Again, food deserts contribute to food insecurity. More than 48.9 million Americans lived in households struggling against hunger in 2012; 15.8 million of them were children (Coleman-Jensen, Nord, and Singh 2012). The food-insecurity rate (table 3) within six of the eight targeted localities exceeds the state average of 12.7 percent. Further, 16.5 percent of children in the state of Virginia are food-insecure (Feeding America 2013), suggesting that children often bear the brunt of food insecurity in society.

While Northern Virginia is considered an affluent area of the state, there are pockets within that region where food insecurity exists. In four identified cities in Northern Virginia, a total of 42,412 people reported experiencing food insecurity. According to Feeding America (2013) 16,850 residents (12.3 percent) in Alexandria, 4,010 residents (10.9 percent) in Manassas, 1,840 residents (8.3 percent) in Fairfax and 19,980 residents (9.8 percent) in the Arlington experienced food insecurity. Although the percentages are below the Virginia state rate of 12.7 percent, food insecurity exists within the region.

Table 3. Food insecurity rate by locality.

Locality	Food-insecurity rate
U.S. Average	14.9%
Virginia	12.7%
Fredericksburg	18.2%
Hampton	17.7%
Harrisonburg	18.4%
Lynchburg	18.0%
Martinsville	26.0%
Petersburg	26.6%
Richmond City	22.8%
Wise County	12.5%

Source: Feeding America (2013).

Lack of Transportation

Ownership and access to a vehicle may be the best marker for access to healthy and affordable food, regardless of the socioeconomic status of the individual or family. Factors such as travel time, travel costs, awareness of access, and cultural factors impact how people utilize transportation to access food (table 4).

Based on our knowledge of human behavior, we know individuals often choose the path of least resistance. This means that individuals in food deserts tend to shop at stores within close proximity. Often these stores do not offer the variety of choices needed for a healthy diet. Further, the problem increases in rural food desert areas where traveling the distance to access nutritional food is impossible on foot.

Without good public and private transportation, even nutritious and affordable food can be unavailable and inaccessible. If full-service retail grocery stores are not within an economically feasible distance, food access can be

The Importance of Transportation

The resourcefulness of some Family Nutrition Program participants — despite their many struggles and challenges — is amazing. People living in poverty rely on each other in order to meet their food needs. One participant brought her neighbor to the food pantry because she doesn't have a car. They pooled the food they received to make a casserole for themselves and their neighbors. This is a great example of the impact that access to transportation can have. The community in which these participants live is not considered a food desert per se; however, for the older adult who has no transportation, there is a real barrier to food security.

— Contributed by Carolyn Hall, Family Nutrition Program assistant, Montgomery County

Focus on the BackPack Program

Feeding America's BackPack Program was designed to provide nutritious foods and snacks for students during the school year. Bags containing food items packaged in food pantries are distributed once a week at participating schools. Students who take part in this program are more alert and perform better in school. Teachers report that children with limited food at home depend on these food bags and ask when the food bags will be delivered. This is a great example of the importance of a program like this: Food is provided to children in need, which enhances their school performance.

— Contributed by Kim Russell, Smart Choices Nutrition Education Program assistant, Smyth County

limited and food insecurity can increase. Urban and rural economic leakage can also result and be exacerbated when supermarket access is limited.

As noted in a recent Richmond Food Policy Task Force Report (2013, 22) "While the tracts with high rates of no vehicle access are served by GRTC's bus system, taking a bus to buy groceries is difficult, cumbersome, and often impossible given the limited bus routes and schedules combined with the location of grocery stores in the city." Other anecdotal knowledge shows that in that community, a special route established to transport individuals in a neighborhood with no grocery stores to one with a grocery store reduced the two and a half hour travel time by only half an hour. This special route was successful when there was no charge for it, but fell through when a $4 charge was needed to support the route.

Table 4. Lack of transportation.

Locality	Lack of transportation
Virginia	0.0%
Fredericksburg	2.7%
Hampton	1.7%
Harrisonburg	0.6%
Lynchburg	3.9%
Martinsville	2.7%
Petersburg	5.3%
Richmond City	3.5%
Wise County	5.5%

Source: U.S. Department of Agriculture, Economic Research Service (USDA-ERS 2013b).

Food Sources

Availability of grocery, super-, and convenience stores and fast food restaurants is defined by the number of stores per 1,000 in population (USDA-ERS 2009). Data show a limited number of grocery and superstores in localities reviewed, but an abundance of convenience stores and fast food restaurants (table 5).

Imagine the difficulty of traveling on a bus with small children to purchase groceries and then boarding that bus with several bags, along with your children, for a one- or two-hour ride back to your neighborhood.

In many low-income communities, a lack of competition exists with respect to grocery stores and supermarkets that carry healthy and nutritious food. Many communities throughout Virginia contain only one major supermarket or large grocery store. Furthermore, these same communities have greater competition within the fast food and convenience store sectors, which may keep the cost of unhealthy options at a lower price. Additionally, in each locality the Task Force reviewed, there were at least four times as many convenience stores and fast food restaurants as there were grocery and super stores (table 5).

Table 5. Food sources.

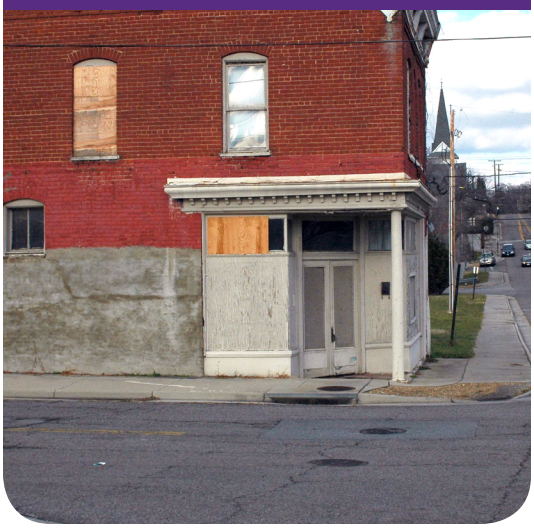
Locality	Grocery stores	Superstores	Convenience stores	Fast food restaurants
Virginia	1,532	122	4,016	5,908
Fredericksburg	12	1	20	39
Hampton	18	2	78	100
Harrisonburg	16	2	29	49
Lynchburg	15	2	34	76
Martinsville	4	1	9	22
Petersburg	13	1	34	27
Richmond City	60	1	131	177
Wise County	12	0	38	30

Source: U.S. Department of Agriculture, Economic Research Service (USDA-ERS 2013b).

Choosing Food or Medicine

The importance of the food pantry in Lynchburg is illustrated by one couple's struggle to choose between medicine and food. Both have diabetes, but with a combined income of only $530 per month, the cost of medication — even with assistance from Medicaid — is prohibitive. The woman chose to buy her husband's medicine but couldn't afford her own that month. They rely on the food pantry but find it difficult to eat healthy because much of the food is processed. Still, they are very grateful for the pantry and the food it provides.

— Contributed by Meredith Ledlie Johnson, Family Nutrition Program project associate, and Sarah Misyak, human nutrition, foods and exercise Ph.D. student, Virginia Tech



Prevalence of Obesity

The prevalence of obesity is measured by the adult obesity rate. The percentage of adult obesity was relatively high in the eight localities, ranging from 29 percent to 38 percent. Six of the eight localities have adult obesity rates of 31 percent or more (table 6). There is a strong correlation between obesity and increased health care costs. A significant contributor to the rising cost of public health is the obesity epidemic that is connected to low affordable and healthy food access and low income. In 2008, the Centers for Disease Control estimated that obesity cost the nation upwards of $147 billion annually in medical costs (Centers for Disease Control and Prevention 2013).

Table 6. Rate of adult obesity by locality.

Locality	Adult obesity rate
Virginia	29.8%
Fredericksburg	29.3%
Hampton	36.8%
Harrisonburg	29.1%
Lynchburg	31.2%
Martinsville	32.4%
Petersburg	37.6%
Richmond City	31.3%
Wise County	35.5%

Source: U.S. Department of Agriculture, Economic Research Service (USDA-ERS 2013b).

Food Preparation and Educational Need

Food preparation and education continue to be an important need in addressing food deserts and food access issues. It is important to note that in Virginia approximately 75,000 households do not have complete kitchens (i.e., lacking a sink with a faucet, a stove or range, a refrigerator, etc.). A disproportionate number of these households are found in food desert tracts (U.S. Department of Commerce 2013). A lack of cooking tools and/or appliances combined with an overabundance of unhealthy food options and a

lack of financial resources create an environment where exposure to and knowledge of healthy food preparation techniques is limited. Over time, conditions develop where many households lack the ability to prepare affordable and nutritious food. This is particularly problematic because research shows taste preferences and palates are developed at an early age, possibly as early as within the womb (Menella 2006). The likelihood of more children born socially and biologically predisposed to unhealthy food makes interventions around nutrition education and healthy food preparation more critical.

Additional Research Needed

In reviewing the data, the Task Force acknowledges that USDA and Census Bureau data from other Virginia cities and rural localities have not been discussed in the current report. Consequently, further study of pockets of low access to nutritious food and food insecurity in smaller urban and rural areas in the Commonwealth of Virginia may be warranted.

Existing Resources and Opportunities

Availability and accessibility of affordable and nutritious food is already being coordinated through various hunger relief organizations and state agencies. Improving current initiatives will encourage implementation of successful strategies and models that will reduce redundancy of time and effort and optimize resources that will benefit individuals of need within the commonwealth. Listed and briefly discussed below are some of the entities available to assist with addressing the challenges of food deserts and food insecurity in Virginia.

Virginia Food System Council

The Virginia Food System Council is an existing resource that was established to ensure that all Virginians have access to healthy, affordable food grown in Virginia through coordination, collaboration, education, and communication regarding critical food system issues. The council was formally established as a 501(c)(3) nonprofit organization in 2009. It comprises 24 participating food-system-related organizations and agencies and is well-positioned to provide ongoing coordination and communication to strengthen Virginia's food system from farm to table so all Virginians have adequate access to nutritious and affordable food. (See appendix B, Virginia Food System Council's composition and mission statement.)

Instead of creating another mission or further expanding state government, a cooperative arrangement could be made between the commonwealth and the Virginia Food System Council to become a repository for research and data and to facilitate community discussions toward solving issues pertaining to food deserts and food insecurity. In developing this cooperative arrangement, the council could coordinate the distribution of public and private grant funds to local organizations to address the challenges outlined in this report.

Virginia Cooperative Extension

With offices in 107 cities and counties across the commonwealth, Virginia Cooperative Extension can serve as the educational support organization to the Virginia Food System Council because of its reach and network across the state. This role directly leverages Extension's strengths in the area of agricultural production, market development, community and nutrition education, and viability. For example, the Virginia Cooperative Extension 2011 Farm to Table study, the Virginia Food System Council, and the University of Virginia laid out a number of policy issues that need to be addressed, some of which served as a foundation for gathering information for this study. An important finding is that a food system is an important component of community economic development (Virginia Farm to Table Team 2011).

Following are examples of community-based food systems and markets that open the door for

The Cost of Doing Nothing

If nothing is done, health care costs will continue to spiral upward.

- **Obesity rates impact health care costs.** Research suggests that residents who have better access to grocery stores and supermarkets tend to have healthier diets and lower levels of obesity (Larson, Story, and Nelson et al. 2009) although limited access to grocery stores is not the primary cause of obesity. Virginia's 2012 average obesity rate of 27.4 percent translates to an additional medical cost of $11.4 billion annually. The medical costs for people who are obese are estimated to be 42 percent or $1,429 higher than those of normal weight (Finkelstein et al. 2009).

- **If nothing is done, the commonwealth will fail to provide people in food deserts with a level playing field for achieving better academic outcomes and job opportunities.** The ability to succeed in the job market is predicated by the ability to succeed in school. If students are unable to succeed in school due to hunger and poor nutrition, they may subsequently be unable to prepare for and/or succeed in the job market. "Nutrition clearly affects academic performance," according to a joint Princeton University and Brookings Institution report (Story, Kaphingst, and French 2006, 110). Poor nutritional status and hunger interfere with cognitive function. They are also associated with lower academic achievement and job performance, which often results in costs to the employer and may result in job loss.

economic and community development (Bendfeldt et al. 2011, 4).

- Farmers markets.
- Community-supported agriculture (CSAs).
- U-pick operations and roadside stands.
- Food cooperatives and chefs collaborative.
- Community gardens.
- Farm-to-school, -university, -hospital, and -institution programs.
- Food and meat processors.
- Produce and livestock auctions.
- Food banks and community food pantries.
- Community kitchens.
- Producer cooperatives.
- Grocery stores, restaurants, and food service operations.
- Food hubs.

This is why it is important to maintain the complete network of Virginia Cooperative Extension offices to work with local economic development officials to foster strong community-based food systems. Also, family and consumer sciences education is a critical link to nutrition education and plays a vital role in connecting markets to consumers.

Mobile Markets and Pantries/Farm Stands

The food bank system and other private entities already use mobile markets/pantries to reach food deserts. Mobile markets/pantries resolve a short-term problem until economic development models can be developed to attract more grocery stores or encourage expansion of convenience stores to provide affordable and nutritious food options.

Many of the mobile pantries provide access to fresh fruits and vegetables, much of it grown by Virginia farmers. Market-style farm stands provide such access while providing an opportunity for youth to get involved in local community outreach.

Educational projects such as food demonstrations, cooking classes, and taste testing help families unaccustomed to purchasing and preparing fresh fruits and vegetables to learn practical ways to prepare and increase their family's consumption of fresh produce.

This Task Force identified an opportunity for the commonwealth to utilize mobile markets/pantries as an education and training center for other communities, in partnership with one of Virginia's land-grant institutions.

Virginia Cooperative Extension's Family Nutrition Program could be expanded to allow additional partnering with education and training centers, as well as private and nonprofit organizations, to conduct food demonstrations for preparing affordable and nutritious meals.

Financial Incentives

Many farmers and roadside farm stands are beginning to accept the electronic benefit transfer (EBT) cards given to Supplemental Nutrition Assistance Program (SNAP) recipients. Becoming EBT vendors, however, can be cost-prohibitive for small farmers because of the cost of the machines and the regulations required for farmers to accept EBT cards. Virginia Cooperative Extension, in coordination with Virginia Department of Social Services, Virginia Department of Agriculture and Consumer Services, and the USDA, is working with farmers and farmers markets to assist them in applying to participate as EBT vendors.

Across the state, money is being invested to jumpstart the sale of healthy produce in low food-access areas and to increase the sale of healthy options to underserved communities through existing outlets. In some cases, this has meant providing increased dollars for SNAP recipients for the purchase of fresh produce. Such models make healthy food more affordable for low-income communities while helping to build a market that can support small local farmers. Making foods more accessible and affordable within these markets and providing educational programs that address eating healthy on a small budget with limited

Consideration of Mobile Markets

Family Nutrition Program instructors and students who work with focus groups in Danville recently learned that even though residents are excited about the farmers market, some have trouble accessing it because its limited hours of operation don't fit into their schedules. They are very interested in the idea of a mobile market that would take produce throughout the community, making it easier for residents with little time or ability to travel to access the market's fresh fruits and vegetables. Otherwise, their access to fresh produce may continue to be limited.

— Contributed by Meredith Ledlie Johnson, Family Nutrition Program project associate, and Sarah Misyak, human nutrition, foods and exercise Ph.D. student, Virginia Tech

Robert's Success Story

Robert, 54, lives at a men's shelter in downtown Lynchburg. The shelter provides only one meal per day, so he relies on SNAP benefits for most of his food. Robert lives in a food desert and relies on public transportation, but the closest full-service grocery store requires him to change buses two or three times, depending on the route. The bus costs $4, and the round trip can take more than an hour.

In September 2013, a SNAP-Ed adult nutrition class conducted at the shelter introduced Robert to the nearby Lynchburg Community Farmers Market. He was intrigued and his interest grew when he learned of the double-bucks program offered by the market. A $10,000 grant from the Virginia Department of Health's Healthy Eating and Active Living Program allows SNAP recipients to double their benefit dollars at the market. Robert began shopping at the farmers market twice a week, buying fresh fruits, vegetables, meats, cheeses, and breads while making new friends.

Robert is now employed as an apprentice baker at the market. His overall health has improved, as has his confidence. He is a strong advocate for the market and encourages other men living at the shelter to shop there.

— Contributed by Jeanell Smith, Family Nutrition Program assistant, Lynchburg

time (e.g., the Family Nutrition Program and SNAP-Ed programs through Virginia Cooperative Extension) have been successful in increasing low-income families' purchase and consumption of fresh fruits and vegetables.

The U.S. Department of Treasury, through its Community Development Financial Institution programs, estimates that residents living in limited-supermarket-access areas spend on average $1,120 annually on food products outside of their communities, which is considered an economic leak and a missed business opportunity (Community Development Financial Institution Fund 2012). Virginia Community Capital, a U.S. Department of the Treasury Community Development Financial Institution, is working to launch the Virginia Fresh Food Loan Fund (VFFLF). The VFFLF combines small business technical assistance with lending opportunities to increase the capacity of urban corner stores to sell and market healthy items and foster the expansion and formation of food hubs and other small- and medium-size food enterprises.

Tax incentives with agencies such as the Virginia Department of Economic Development Small Business Commission and expansion of the Agriculture and Forestry Industries Development Fund can assist local governments in providing incentives that encourage small businesses to invest in infrastructural changes that allow them to sell fresh and healthy foods in local markets. For example, the Get Fresh Task Force has launched the Healthy Corner Store – Get Fresh Program in Richmond's East End and is providing financial incentives to owners of corner stores in food deserts to carry healthy, local fruits and vegetables. The incentives include refrigerators, reduced-price produce, and marketing assistance. The program also provides outreach and education to community members on affordable, healthy, and fun food preparation.

Local leaders and communities may choose to tackle food deserts and food insecurity at the local level. Local governments could consider identifying and appropriating local funds, through budget line items, to invest in incentives that are dedicated to address food desert issues and incentivize local businesses to sell fresh produce, meats, and dairy products.

Urban Agriculture

Urban agriculture initiatives are transforming communities in myriad ways. Nonprofit, school, and community models of urban agriculture provide hands-on educational opportunities to connect residents, particularly children, with healthy food. These urban and community gardens and farms create the future growers, purchasers, and consumers of healthy food while educating and providing direct access to fresh and healthy food. Many also provide concrete ways for residents in areas of low access to affordably grow their own healthy food. Commercial models of urban agriculture can provide direct access within these communities while driving down distribution costs and driving economic and enterprise development. Tricycle Gardens, for example, is a nonprofit organization focused on using community and urban gardens to bring sustainable agriculture, nutrition education, and healthy food access to Richmond.

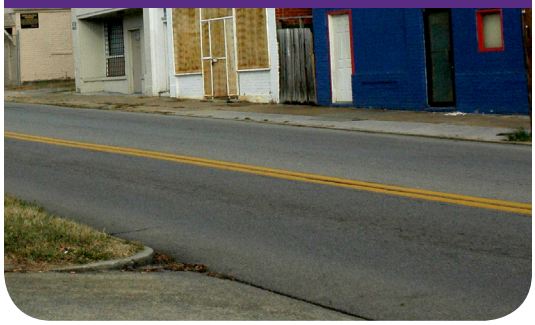
Urban agriculture has the potential of powerful, direct impact on communities in urban and rural areas. Resources are needed that will allow urban farming organizations to leverage their ability to produce and distribute fresh foods to communities nearby. Expanding current grant opportunities, where they make sense, can assist producers in obtaining resources to leverage their capabilities. The Task Force suggests the following for consideration:

- Provide funding for urban and community gardens and community kitchens.
- Provide incentives for small businesses that develop local and healthy food enterprises in food deserts.
- Provide funding for the Healthy Corner Store – Get Fresh Program; other states are receiving needed support to run statewide programs.

Promoting Strategies in a Community of Need

In Lynchburg, Family Nutrition Program assistants have addressed the issues of local food deserts and food insecurity by working with the Lynchburg Area Food Council. For a community in need, the farmers market has become more accessible as SNAP-Ed programming has been incorporated. Community gardening involvement provides healthy, economical foods as well as social benefits, and ideas are circling about a mobile produce bus that could expand the access area even more.

— Contributed by Jeanell Smith, Family Nutrition Program assistant, Lynchburg



Consider Growing Your Own Food

Many people can empower themselves and their communities by growing food in backyard or rooftop gardens, community gardens, or in any location where a small plot of land exists. It doesn't take much space to grow a lot of fresh fruits and vegetables. You can start where you are. Change begins with one person and one community at a time.

A Close Look Inside

Westmoreland County is a rural food desert. About 9 percent of households don't have a car and are located more than a mile from a supermarket or large grocery store, as are more than one-third of low-income households. Bus service is limited in the county.

The Northern Neck Food Bank receives fresh produce from farmers and delivers it to a few churches. The Richmond Food Bank delivers food once a month to a church in Warsaw and a church at the far end of Westmoreland that attracts more than 200 families the day the food truck arrives. The WIC office has emergency food packets for some families, and Colonial Beach Public Schools offer a summer nutrition program for students. Westmoreland schools' summer feeding program only operates during summer school, which is limited to the first few weeks of June.

— Contributed by Meredith Ledlie Johnson, Family Nutrition Program project associate, and Sarah Misyak, human nutrition, foods and exercise Ph.D. student, Virginia Tech

Food Banks and Hunger Programs

While hunger and access to healthy food are separate issues, they are often inextricably linked. Food banks and related hunger programs are often at the forefront of the work to get healthy food to residents who may lack physical and economic access. Many in Virginia are leading the way in developing models to address these complex issues. The seven Virginia food banks operate mobile food pantries to get food to underserved areas while investing more of their purchasing budget to buy fresh produce and support programs that grow produce specifically for the food bank. The Society of St. Andrews, for example, works with volunteers and partners across the commonwealth to glean produce left in farmers' fields.

Community Food Enterprises

Food hubs are growing rapidly to meet the needs of local communities and are creating market opportunities for small- and mid-sized producers. For example, the Local Food Hub in Charlottesville and the Blue Ridge Produce Food Hub in Elkwood support growers, provide local food aggregation and distribution, and serve as "one number to call" for local food. They enable public schools, hospitals, and retailers to easily purchase local food in large quantities and build partnerships to get fresh, delicious food into neighborhoods that need it.

Additional Educational Ideas

The Task Force recognized that there are educational and career opportunities in food and nutrition. A side benefit is increased education in food-insecure areas. Some opportunities to consider are as follows:

- Request that the Department of Education review curricula for family and consumer sciences and health and physical education.
- Request that the Department of Education consider creating a certificate for health and nutrition.
- Request that the Department of Education consider developing a dual-enrollment curriculum for health and nutrition to provide a pathway for students to transition from high school to community college to four-year colleges. Curriculum could include nutrition, health, and hospitality management.

- Provide funding for targeted nutrition and health education in local communities. Successful programs such as Virginia Cooperative Extension's Family Nutrition Program provide educational classes to low-income families in nearly every city and county. Graduates of their programs are able to buy more food with less income, prepare foods at home more often, and feed their families more fruits and vegetables.

- Provide funding for agriculture education and training as Virginia farmers are aging out while the demand for locally grown food is increasing. Focusing on changing needs related to food production and agriculture education will also provide communities with farmers to grow the healthy food needed to eradicate food deserts.

Recommendations

The Task Force offers a number of recommendations for consideration of the Virginia General Assembly. Some of the recommendations are within the scope of the General Assembly's direct authority. However, the General Assembly may decide that other recommendations are outside the scope of its direct authority and may choose to provide encouragement, incentives, or directives to other bodies for consideration and action. The recommendations to the General Assembly are summarized below.

1. Establish a cooperative arrangement with the Commonwealth of Virginia for the Virginia Food System Council to become a repository for research and data, serve as lead facilitators in discussions to solve issues pertaining to food deserts and food insecurity, and be identified as the organization to coordinate public and private grants to distribute funds to local organizations to address the challenges outlined in this report. The Task Force recommends that the Virginia Food System Council take the lead role in coordinating efforts that follow as a result of this report. As part of the cooperative arrangement with the Commonwealth of Virginia, Virginia Cooperative Extension should be identified as the educational support organization to the Virginia Food System Council because of its reach and network across the state.

2. Commission a study to assess the feasibility and impact of mobile farmers markets in urban and rural areas.

Fresh Produce at the Food Pantry

Christiansburg's food pantry is a 30-minute drive for two neighbors who have to pool their money for gas, but they make the trip because their own county doesn't have a food pantry. The trailer park where they live does not provide access to land for gardening, so the only fresh produce they consume comes from either the food bank or from neighbors who share produce from their own gardens.

— Contributed by Meredith Ledlie Johnson, Family Nutrition Program project associate, and Sarah Misyak, human nutrition, foods and exercise Ph.D. student, Virginia Tech

3. Expand current grant opportunities that allow organizations to:

   - Provide funding to establish and support urban and community gardens, mobile markets, community kitchens, and food hubs.
   - Provide incentives for small businesses that develop local and healthy food enterprises in food desert areas.
   - Provide funding for Healthy Corner Store – Get Fresh programs; other states across the country are gaining needed support to run statewide programs.

4. Establish one urban farm in Virginia as an educational and training center for other communities in partnership with Virginia State University.

5. Expand Virginia Cooperative Extension's Family Nutrition Program to allow for additional partnering with education and training centers, as well as private and nonprofit organizations, to conduct food demonstrations for healthy meal preparation.

6. Explore tax incentives with agencies such as the Virginia Department of Economic Development Small Business Commission and consider expanding the Agriculture and Forestry Industries Development Fund so local governments can encourage small businesses to invest in infrastructural changes that allow them to sell fresh and healthy foods in local markets. Further, local governments should consider creating budget lines that invest in incentives dedicated to addressing food deserts and food insecurity.

7. Consider establishing an educational pathway that ties nutrition and health education to educational advancement, community improvement, and job creation. This could be accomplished by:

   - Requesting the Department of Education review curricula for family and consumer sciences and health and physical education and consider the creation of a certification for health and nutrition.
   - Requesting that the Department of Education consider developing a dual-enrollment curriculum for health and nutrition to provide a pathway for students to transition from high school to community college to four-year colleges. Curriculum could include nutrition, health, and hospitality management.
   - Providing funding for targeted nutrition and health education in local communities.
   - Providing funding for agriculture education and training.

8. Consider funding to the commonwealth's land-grant universities to expand involvement in developing and promoting sustainable community food systems, with the assistance of Virginia Master Gardeners and the Master Food Volunteers.

Finally, the Task Force recommends that a more detailed food desert and food insecurity study be conducted in cities and rural areas that may not have been included in data from the U.S. Department of Agriculture or the U.S. Census Bureau. Once more detailed research is completed, members of the Virginia General Assembly should engage in and focus on policy decisions that have potential to impact food deserts and food insecurity in Virginia. The Virginia General Assembly should review legal and policy initiatives to increase healthy food access and consider policy changes regarding food procurement practices (e.g., collective purchasing, local food preferences, nutrition standards), local land-use planning and zoning initiatives, permits/licensing, financing and tax incentives, and local healthy food initiatives (e.g., healthy community and local government resolutions).

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Appendix A. Relationships Among Selected Factors in Food Deserts

		Low access		Low income	SNAP eligible		Lack of transportation		Grocery stores	Super-stores	Convenience stores	Fast food restaurants	Adult obesity	Food insecurity	
		No.	Rate	% below FPL	No.	Rate	No.	Rate	Number of stores (# per 1,000 population)				Rate	No.	Rate
	State of Virginia	1,426,484	17.75%	10.7%		9.29%	59,509	0.04%	1532 (2.4)	122 (.02)	4016 (.74)	5908 (.73)	29.81%	1,026,730	12.7%
N	Fredericksburg	6,390	26.32%	16.1%	4,445	21.16%	255	2.68%	12 (.52)	1 (.04)	20 (.86)	39 (1.68)	29.2%	4,370	18.2%
E	Hampton	32,202	23.43%	14.0%	21,501	15.89%	908	1.65%	18 (.12)	2 (.01)	78 (.54)	100 (.69)	36.8%	24,490	17.7%
N	Harrisonburg	4,208	8.60%	31.8%	14,413	37.30%	91	0.57%	16 (.35)	2 (.04)	29(.64)	49 (1.09)	29.1%	8,860	18.4%
P	Lynchburg	19,951	26.40%	23.2%	17,559	26.91%	1,123	3.95%	15 (.20)	2 (.03)	34 (.46)	76 (1.03)	31.2%	13,490	18.0%
P	Martinsville	3,489	25.25%	24.1%	4,453	33.24%	161	2.65%	4 (.27)	1 (.07)	9 (.61)	22 (1.50)	32.4%	3,610	26.0%
C	Richmond City	41,569	20.36%	26.3%	58,532	30.53%	3,039	3.49%	60 (.29)	1 (.005)	131 (.64)	177 (.87)	31.3%	46,380	22.8%
W	Wise Co	3,924	9.47%	21.6%	10,656	27.28%	879	5.51%	12 (.29)	0 (0)	38 (.91)	30 (.72)	35.3%	5,190	12.5%
C	Petersburg	7,216	22.26%	21.8%	8,649	27.15%	716	5.25%	13 (.39)	1 (.03)	34 (1.03)	27 (.82)	37.6%	8,620	26.6%
	Accomack	1528	4.61%	18.70%	7,543	22.42%	1,063	7.71%	10(.26)	0(0)	32(.83)	21(.55)	33.40%	4,770	14.2%
	Albemarle	15462	15.62%	8.80%	10,540	11.47%	741	1.94%	25(.26)	1(.01)	49(.52)	53(.56)	27.20%	9,170	9.4%
	Alexandria	0	0	7.80%	13,997	10.59%	0	0.00%	31(.21)	1(.006)	40(.27)	119(.79)	20.10%	16,850	12.3%
	Alleghany	2221	13.67%	10.90%	2,614	16.36%	152	2.21%	3(.18)	1(.06)	11(.68)	10(.62)	25.80%	1,640	10.0%
	Amelia	1855	14.62%	10.50%	2,176	17.51%	134	2.78%	2(.16)	0(0)	8(.62)	6(.47)	32.60%	1,390	11.0%
	Amherst	6526	20.17%	11.50%	5,314	17.44%	573	4.56%	5(.15)	1(.03)	20(.62)	17(.52)	29.80%	3,720	11.5%
	Appomattox	445	2.97%	16.60%	2,408	16.72%	367	6.09%	3(.21)	0(0)	9(.62)	4(.27)	31.70%	1,940	13.1%
	Arlington	5136	2.47%	7.10%	16,743	8.62%	53	0.05%	41(.19)	1(.005)	76(.35)	223(1.03))	19.30%	19,980	9.8%
	Augusta	9496	12.88%	8.60%	9,356	13.49%	735	2.58%	11(.15)	0(0)	38(.53)	23(.32)	26.60%	5,760	7.8%
	Bath	979	20.70%	12.70%	1,035	21.81%	62	2.87%	1(.22)	0(0)	6(1.34)	1(.22)	27.20%	370	7.9%
	Bedford City	540	8.67%	17.80%	1,531	24.91%	32	1.23%	2(.31)	0(0)	11(1.73)	15(2.36)	29.50%	960	15.6%
	Bedford Co	7638	11.12%	8.90%	8,812	13.07%	1,096	3.99%	7(.10)	1(.01)	26(.39)	18(.27)	25.60%	5,380	7.9%
W	Bland Co	2,752	40.33%	11.4%	955	15.19%	116	4.51%	1 (.15)	0 (0)	7 (1.03)	1 (.15)	30.4%	560	8.2%
	Botetourt	7296	22.01%	6.00%	2,737	8.53%	241	1.83%	5(.15)	0(0)	27(.83)	17(.52)	28.8%	2,030	6.2%
W	Bristol	5,023	28.16%	22.4%	5,057	29.33%	250	3.18%	6 (.34)	0 (0)	26 (1.47)	31 (1.75)	27.2%	2,730	15.4%
	Brunswick	3583	20.55%	24.50%	3,954	26.49%	519	8.15%	2(.11)	0(0)	18(1.03)	5(.29)	36%	3,800	21.7%
	Buchanan	1357	5.63%	24.00%	7,147	30.26%	1,145	11.49%	7(.31)	0(0)	17(.74)	10(.44)	33.70%	2,940	12.2%
	Buckingham	2075	12.10%	21.10%	2,335	23.60%	696	11.66%	2(.12)	0(0)	16(1.00)	1(.06)	32.80%	2,860	16.8%
P	Buena Vista	6,238	93.80%	21.6%	1,574	24.01%	169	6.49%	0 (0)	0 (0)	3 (.48)	5 (.80)	28.6%	950	14.3%
	Campbell	11557	21.07%	13.70%	9,536	17.80%	928	4.13%	9(.17)	1(.02)	39(.74)	24(.45)	31.70%	6,110	11.2%
	Caroline	1432	5.02%	8.90%	3,012	11.08%	302	2.89%	5(.18)	0(0)	19(.68)	10(.36)	30.90%	3,300	11.7%
	Carroll	1997	6.65%	17.70%	3,012	11.08%	864	6.74%	2(.07)	0(0)	27(.93)	9(.31)	30.60%	3,600	12.0%

		Low access		Low income	SNAP eligible		Lack of transportation		Grocery stores	Super-stores	Convenience stores	Fast food restaurants	Adult obesity	Food insecurity	
		No.	Rate	% below FPL	No.	Rate	No.	Rate	Number of stores (# per 1,000 population)				Rate	No.	Rate
	Charles City	141	1.94%	8.90%	1,173	16.35%	143	4.83%	1(.14)	0(0)	3(.42)	0(0)	33.70%	1,010	14.0%
	Charlotte	4,221	33.54%	18.60%	2,573	20.52%	409	8.01%	4(.33)	0(0)	7(.58)	3(.25)	30.50%	1,950	15.5%
	Charlottesville	1153	2.65%	26.40%	11,948	30.93%	25	0.14%	18(.43)	0(0)	27(.64)	63(1.49)	26.60%	7,640	17.9%
	Chesapeake	49801	22.41%	7.40%	19,299	9.00%	646	0.81%	27(.12)	6(.03)	102(.46)	194(.87)	27.50%	25,120	11.4%
C	Chesterfield Co	116,514	36.84%	6.1%	25,612	8.43%	1,076	0.93%	45 (.15)	6 (.02)	127 (.41)	200 (.65)	26.9%	29,550	9.4%
	Clarke	312	2.22%	6.70%	1,270	9.25%	65	1.18%	2(.14)	0(0)	127(.41)	9(.62)	28.4%	1,030	7.3%
	Colonial Heights	3299	18.95%	7.10%	1,600	9.23%	89	1.22%	2(.11)	2(.11)	13(.73)	37(2.08)	27.60%	1,920	11.0%
	Covington	1152	19.33%	20.50%	1,289	21.52%	35	1.34%	1(.16)	0(0)	10(1.63)	11(1.79)	28.10%	860	14.5%
	Craig	644	12.41%	4.20%	511	10.17%	26	1.20%	2(.40)	0(0)	2(.40)	1(.20)	27%	340	6.6%
	Culpeper	2194	4.70%	7.30%	4,486	10.26%	343	2.11%	11(.24)	1(.02)	18(.39)	27(.58)	32.40%	4,640	10.0%
C	Cumberland Co	5,913	58.83%	15.2%	2,216	22.52%	378	9.49%	1 (.10)	0 (0)	10 (1.02)	0 (0)	33.7%	1,380	13.9%
	Danville	6395	14.85%	25.60%	13,199	31.64%	450	2.39%	16(.36)	2(.05)	42(.95)	55(1.24)	30.30%	10,030	23.1%
	Dickenson	30	0.19%	21.30%	4,240	26.80%	444	6.73%	5(.32)	0(0)	11(.68)	7(.44)	31.30%	1,910	12.0%
	Dinwiddie	5848	20.89%	12.30%	4,103	15.20%	475	4.52%	7(.27)	0(0)	17(.65)	5(.19)	33.70%	3,520	12.7%
	Emporia	101	1.71%	28.90%	2,055	36.47%	21	0.91%	5(/89)	1(.18)	16(2.84)	10(1.77)	32.90%	1,550	26.5%
C	Essex Co	2,975	26.68%	10.8%	1,313	12.28%	189	4.19%	2 (.18)	1 (.09)	8 (.71)	11 (.89)	32.5%	1,560	14.1%
	Fairfax City	0	0	5.90%	1,326	6.19%	0	0.00%	17(.69)	1(.04)	24(.97)	67(2.72)	28.10%	1,840	8.3%
	Fairfax Co	205515	19.00%	5.50%	72,076	6.93%	1,425	0.36%	194(.19)	3(.003)	269(.26)	860(.83)	23.50%	76,000	7.1%
	Falls Church	166	1.35%	3.90%	627	5.48%	0	0.00%	9(.75)	0(0)	9(.75)	37(3.09)	26.20%	1,100	9.3%
	Fauquier	8123	12.46%	5.30%	4,996	7.81%	366	1.55%	12(.18)	0(0)	34(.50)	39(.57)	26.80%	4,470	6.9%
W	Floyd Co	4,253	27.84%	13.1%	2,881	19.21%	355	5.53%	4 (.27)	0 (0)	8 (.53)	7 (.47)	27.5%	1,440	9.5%
	Fluvanna	6889	26.81%	6.90%	2,440	10.08%	311	3.29%	3(.12)	0(0)	10(.39)	3(.12)	29.50%	1,920	7.5%
E	Franklin City	4,978	58.00%	22.3%	2,212	26.55%	374	10.61%	3 (.34)	1 (.11)	11 (1.25)	13 (1.47)	32.4%	5,570	10.0%
	Franklin Co	8932	15.90%	13.60%	10,037	18.75%	981	4.31%	6(.12)	1(.02)	34(.65)	28(.54)	29.50%	5,570	10.0%
	Frederick	14691	18.76%	7.90%	7,938	10.66%	502	1.74%	9(.12)	2(.03)	37(.49)	38(.51)	28.50%	5,980	7.7%
	Galax	190	2.69%	27.60%	2,477	38.80%	8	0.26%	4(.58)	1(.15)	8(1.16)	12(1.74)	29%	1,130	16.2%
	Giles	1853	10.72%	15.00%	3,419	20.25%	301	4.18%	5(.29)	1(.06)	18(1.04)	14(.81)	28.60%	1,760	10.2%
	Gloucester	3765	10.21%	8.30%	4,123	11.36%	295	2.07%	5(.13)	1(.03)	24(.61)	22(.56)	28.70%	2,900	7.9%
	Goochland	3313	15.25%	5.20%	1,469	9.83%	182	2.27%	2(.09)	0(0)	16(.75)	8(.38)	26.70%	1,540	7.2%
	Grayson	2736	17.62%	17.20%	3,723	23.88%	412	6.01%	1(.06)	0(0)	5(.32)	2(.13)	28.50%	1,950	12.4%
	Greene	0	0	7.30%	2,583	14.39%	176	2.59%	3(.16)	0(0)	9(.49)	4(.22)	30.60%	1,360	7.4%
	Greensville	864	7.06%	18.40%	2,295	23.14%	264	7.39%	0(0)	0(0)	13(1.08)	2(.17)	34.40%	2,280	18.7%
	Halifax	9534	26.31%	19.30%	9,442	26.47%	1,176	7.80%	9(.26)	1(.03)	13(1.08)	24(.68)	33.40%	6,290	17.4%
	Hanover	19821	19.85%	5.00%	5,544	5.72%	382	1.05%	16(.16)	3(.03)	50(.50)	70(.70)	26.50%	7,110	7.1%
	Henrico	69020	22.49%	10.20%	37,822	12.80%	1,041	0.84%	66(.22)	7(.02)	136(.46)	250(.84)	28.50%	38,080	12.5%
	Henry	10402	19.21%	18.80%	13,147	24.27%	1,235	5.33%	14(.26)	0(0)	49(.89)	34(.62)	28.50%	8,770	16.1%

		Low access		Low income	SNAP eligible		Lack of transportation		Grocery stores	Super-stores	Conve-nience stores	Fast food restaurants	Adult obesity	Food insecurity	
		No.	Rate	% below FPL	No.	Rate	No.	Rate	Number of stores (# per 1,000 population)				Rate	No.	Rate
P	Highland Co	2,321	100%	9.0%	306	12.79%	21	1.97%	1 (.42)	0 (0)	7 (2.99)	0 (0)	26.8%	200	8.3%
	Hopewell	6,541	28.95%	20.10%	5,650	25.71%	284	3.11%	7(.30)	0(0)	16(.69)	23(.99)	33.30%	4,610	20.4%
	Isle of Wight	5799	16.44%	9.50%	3,827	11.05%	404	2.94%	6(.17)	0(0)	24(.67)	23(.64)	31.20%	3,720	10.6%
E	James City Co	21,539	32.14%	7.1%	5,328	8.41%	580	2.16%	10 (.16)	0 (0)	22 (.35)	35 (.55)	26.80%	5,620	8.5%
	King and Queen	732	10.54%	9.70%	1,343	19.39%	103	3.58%	0(0)	0(0)	5(.74)	0(0)	34.10%	840	12.1%
	King George	0	0	6.90%	2,202	10.14%	269	3.21%	2(.08)	0(0)	11(.47)	14(.59)	28.30%	2,420	10.4%
	King William	1626	10.21%	7.10%	1,509	9.79%	244	4.08%	2(.12)	0(0)	10(.62)	6(.37)	30%	1,470	9.3%
	Lancaster	352	0.03%	10.80%	1,518	13.78%	332	6.31%	6(.53)	1(.09)	17(1.51)	9(.80)	29.90%	1,550	13.6%
	Lee	19	0.07%	22.70%	6,367	26.07%	763	7.51%	6(.24)	1(.04)	23(.91)	6(.24)	34.10%	3,210	12.6%
	Lexington	9	0.13%	25.20%	1,593	35.76%	1	0.05%	5(.72)	0(0)	1(.14)	11(1.59)	28.20%	1,290	18.4%
	Loudoun	39430	12.63%	3.40%	12,017	4.14%	444	0.42%	50(.17)	4(.01)	78(.26)	219(.73)	23.20%	16,950	5.6%
	Louisa	779	2.35%	9.50%	4,566	14.24%	497	3.84%	4(.12)	1(.03)	23(.70)	11(.33)	31.80%	3,460	10.6%
	Lunenburg	5	0.04%	18.40%	2,704	22.77%	297	5.99%	3(.23)	0(0)	5(.39)	4(.31)	34%	2,120	16.4%
	Madison	247	1.85%	10.90%	1,931	14.57%	137	2.70%	3(.29)	0(0)	7(.51)	6(.44)	31.60%	1,160	8.7%
	Manassas	2314	6.12%	13.80%	5,706	15.92%	16	0.13%	16(.44)	0(0)	21(.58)	47(1.29)	28.70%	4,010	10.9%
N	Manassas Park	4,919	34.46%	4.3%	1,215	9.22%	56	1.25%	2 (.17)	0 (0)	7 (.58)	5 (.42)	30.1%	1,070	7.8%
	Mathews	0	0	8.00%	1,231	13.79%	119	3.09%	2(.22)	0(0)	6(.67)	5(.56)	28.50%	740	8.2%
	Mecklenburg	3599	11.00%	20.90%	8,036	25.60%	725	5.37%	6(.19)	1(.03)	37(1.16)	24(.75)	32%	5,860	17.9%
	Middlesex	108	0.98%	7.50%	1,462	13.79%	121	2.57%	3(.28)	0(0)	10(.93)	6(.56)	27.90%	1,040	9.6%
	Montgomery	7891	8.36%	23.60%	20,646	25.71%	940	2.63%	18(.20)	1(.01)	48(.53)	65(.71)	28.80%	13,280	14.2%
	Nelson	787	5.24%	11.40%	2,359	15.87%	443	6.92%	4(.26)	0(0)	16(1.03)	7(.45)	26.20%	1,490	9.9%
	New Kent	0	0.00%	5.60%	1,073	6.34%	100	1.47%	3(.17)	0(0)	13(.72)	11(.61)	29.10%	1,390	7.7%
	Newport News	33746	18.67%	14.40%	30,347	17.55%	629	0.89%	34(.18)	3(.02)	100(.52)	136(.70)	33.70%	31,350	17.3%
	Norfolk	32045	13.20%	17.10%	49,257	22.03%	1,035	1.20%	42(.18)	5(.02)	124(.53)	214(.92)	33%	46,510	19.2%
	Northampton	38	0.31%	20.60%	3,210	25.85%	437	8.20%	4(.30)	0(0)	13(.96)	12(.89)	29.80%	2,090	16.7%
	Northumberland	908	7.36%	10.80%	1,696	13.66%	162	2.93%	3(.23)	0(0)	11(.85)	4(.31)	32.90%	1,580	12.7%
	Norton	488	12.34%	21.20%	1,072	28.06%	6	0.36%	2(.54)	1(.27)	5(1.35)	12(3.23)	27.80%	550	14.1%
	Nottoway	7,976	50.31%	16.10%	3,759	24.88%	498	8.73%	1(.15)	0(0)	7(1.03)	9(.57)	32.40%	2,550	16.1%
	Orange	7443	22.23%	11.50%	4,235	13.23%	275	2.13%	4(.12)	0(0)	21(.63)	17(.51)	31.40%	3,560	10.7%
	Page	692	2.88%	14.10%	4,435	18.65%	235	2.41%	6(.25)	1(.04)	15(.62)	15(.62)	31.80%	3,020	12.5%
	Patrick	907	4.90%	15.90%	3,663	20.08%	266	3.30%	6(.32)	1(.05)	14(.75)	9(.48)	29.90%	2,240	12.1%
	Pittsylvania	9790	15.42%	14.40%	12,482	20.03%	1,358	5.19%	10(.16)	0(0)	41(.67)	15(.24)	29.40%	8,080	12.8%
	Poquoson	5,212	42.89%	4.30%	840	6.97%	48	1.06%	3(.25)	0(0)	4(.34)	9(.76)	28.10%	690	5.7%
	Portsmouth	14240	14.91%	16.70%	18,379	19.84%	257	0.69%	14(.14)	1(.01)	57(.57)	73(.73)	39.20%	18,130	18.9%
	Powhatan	2645	9.43%	4.40%	1,290	6.08%	142	1.49%	3(.11)	0(0)	14(.50)	10(.36)	27.50%	1,960	7.0%
	Prince Edward	3510	15.02%	19.10%	4,359	22.37%	379	4.79%	5(.22)	1(.04)	21(.94)	15(.67)	31.80%	3,970	17.2%

		Low access		Low income	SNAP eligible		Lack of transportation		Grocery stores	Super-stores	Convenience stores	Fast food restaurants	Adult obesity	Food insecurity	
		No.	Rate	% below FPL	No.	Rate	No.	Rate	Number of stores (# per 1,000 population)				Rate	No.	Rate
	Prince George	10,243	28.67%	6.50%	2,851	9.64%	193	1.69%	3(.08)	0(0)	15(.40)	6(.16)	34.60%	4,070	11.4%
	Prince William	82733	20.58%	5.60%	27,307	7.32%	817	0.62%	63(.17)	5(.01)	131(.35)	259(.68)	27.20%	32,700	8.4%
	Pulaski	5227	14.99%	15.00%	7,243	21.45%	472	3.18%	8(.23)	2(.06)	19(.54)	30(.86)	26.60%	3,850	11.0%
	Radford	2600	15.85%	33.90%	4,606	36.61%	104	1.73%	2(.12)	0(0)	8(.49)	11(.68)	27.60%	3,060	18.7%
N	Rappahannock	5,825	79.01%	10.00%	1,024	13.90%	182	5.91%	3 (.43)	0 (0)	4 (.57)	2 (.28)	26.40%	620	8.3%
	Richmond Co	644	6.96%	10.60%	1,293	16.73%	119	3.77%	2(.22)	0(0)	6(.67)	5(.56)	32.10%	1,180	12.7%
P	Roanoke City	23,017	23.72%	20.8%	24,999	26.57%	961	2.25%	28 (.30)	3 (.03)	61 (.66)	94 (.99)	34.0%	16,570	17.2%
	Roanoke Co	19685	21.31%	5.80%	7,341	8.20%	504	1.34%	14(.15)	0(0)	37(.41)	46(.51)	26.90%	6,930	1.4%
	Rockbridge	3642	16.33%	11.90%	3,837	17.30%	414	4.34%	3(.14)	1(.05)	20(.94)	11(.52)	28.70%	2,160	9.7%
	Rockingham	14849	19.46%	9.90%	10,658	14.55%	1,577	5.40%	11(.15)	1(.01)	31(.41)	30(.40)	26.70%	6,040	8.0%
	Russell	2118	7.33%	20.10%	6,592	22.93%	922	7.72%	5(.17)	1(.03)	20(.68)	18(.62)	30.10%	3,670	12.7%
	Salem	12,140	48.95%	9.40%	3,008	13.26%	286	2.85%	7(.27)	1(.04)	21(.82)	34(1.34)	27.60%	2,440	9.8%
	Scott	2780	12.00%	18.30%	5,363	23.57%	584	5.97%	5(.22)	0(0)	26(1.15)	12(.53)	27.80%	2,630	11.3%
	Shenandoah	2914	6.94%	11.50%	5,887	14.31%	477	2.79%	9(.22)	1(.02)	30(.73)	22(.54)	30%	4,160	10.0%
	Smyth	2618	8.13%	20.30%	7,624	24.19%	865	6.50%	6(.19)	0	23(.72)	23(.72)	32.30%	4,390	13.6%
	Southampton	4232	22.79%	16.10%	3,479	20.13%	417	6.21%	3(.16)	0(0)	13(.70)	3(.16)	28.60%	2,930	15.8%
N	Spotsylvania Co	33,093	27.04%	7.7%	11,524	9.68%	743	1.77%	24 (.20)	4 (.03)	54 (.45)	89 (.74)	28.4%	10,470	8.6%
N	Stafford Co	36,486	28.29%	4.4%	6,284	5.22%	483	1.16%	9 (.07)	1 (.01)	44 (.35)	72 (.58)	29.9%	9,820	7.7%
	Staunton	1827	7.69%	15.80%	4,680	20.76%	78	0.74%	4(.17)	1(.04)	19(.80)	22(.92)	28.30%	3,150	13.2%
	Suffolk	16356	19.34%	11.40%	11,530	14.17%	382	1.24%	13(.16)	2(.02)	38(.45)	54(.65)	32.10%	11,620	13.9%
	Surry	1643	23.28%	8.50%	1,083	15.42%	140	4.97%	3(.42)	0(0)	5(.71)	1(.14)	34.80%	1,020	14.6%
	Sussex	3,495	28.92%	15.60%	2,691	23.98%	304	7.62%	5(.41)	0(0)	15(1.24)	5(.41)	32.80%	2,370	19.5%
	Tazewell	8237	18.27%	17.30%	10,354	23.44%	1,026	5.56%	8(.18)	3(.07)	37(.82)	33(.73)	32.50%	4,910	11.0%
	Virginia Beach	78720	17.97%	7.10%	39,542	9.29%	680	0.41%	73(.17)	6(.01)	184(.42)	402(.90)	26.70%	46,670	10.7%
	Warren	1917	5.10%	8.80%	4,458	12.22%	270	1.91%	4(.11)	1(.03)	25(.68)	21(.57)	28.60%	3,290	8.8%
	Washington	6863	12.51%	13.60%	11,145	21.07%	780	3.42%	13(.25)	2(.04)	47(.89)	35(.66)	27.40%	5,770	10.6%
	Waynesboro	3256	15.50%	19.90%	5,083	24.85%	97	1.08%	8(.36)	1(.04)	16(.72)	20(.90)	28.40%	3,060	14.6%
	Westmoreland	3074	17.61%	10.10%	2,659	15.51%	199	2.72%	5(.28)	0(0)	9(.51)	5(.28)	29%	2,180	12.5%
	Williamsburg	822	5.84%	16.10%	1,703	20.00%	15	0.32%	3(.24)	0(0)	11(.86)	15(1.18)	28.60%	2,660	19.4%
N	Winchester	6,501	24.81%	18.7%	5,279	20.78%	159	1.50%	11 (.42)	1 (.04)	18(.68)	49 (1.86)	29.0%	3,900	14.9%
	Wythe	1167	0.04%	12.80%	6,404	22.59%	387	3.10%	5(.17)	1(.03)	29(1.00)	28(.97)	28.90%	3,140	10.8%
	York	19,280	29.45%	4.10%	3,616	5.79%	238	0.99%	11(.18)	3(.05)	25(.41)	54(.88)	28%	5,100	7.8%

http://factfinder2.census.gov/faces/nav/jsf/pages/community_facts.xhtml from 2007-2011 American Community Survey 5-Year Estimates

Appendix B. The Virginia Food System Council

http://virginiafoodsystemcouncil.org

The Virginia Food System Council is a board of 24 volunteer directors representing all aspects of our food system — from local producers and consumers to social justice and environmental nonprofit organizations to dietitians and statewide organizations. The VFSC formally began working to strengthen Virginia's local and regional food systems in late 2007. Its mission is to help ensure that all Virginians have access to healthy, affordable food grown right here in Virginia by:

1. Educating and communicating to the public, the food system stakeholders, and key decision-makers about a sustainable food system's impact on health, economic development, natural resources, and social well-being.

2. Examining how food is produced, distributed, and consumed throughout Virginia's localities and regions in order to expedite connections and identify barriers to improvement.

3. Making policy recommendations and implementing networking strategies to improve the availability and accessibility of safe, nutrient-rich foods to Virginians in all areas.

Vision

The Virginia Food System Council envisions a sustainable food system that contributes to the health, economic vitality, and social well-being of all Virginians. The council is working to advance a nutrient-rich and safe food system for Virginians at all income levels, with an emphasis on access to local food, successful linkages between food producers and consumers, and a healthy, viable future for Virginia's farmers and farmland.

Mission

Specifically included in the mission are the following goals:

1. Address and strengthen Virginia's food system in a comprehensive, system-wide, and holistic manner. Bring together a wide variety of organizations and interests so the council will be in a unique position to bridge policy with on-the-ground activities and avoid initiatives that approach Virginia's food system in a piecemeal or divisive manner. Examine and identify opportunities for improving the food system for all Virginians.

2. Develop education, policy recommendations, and implementation strategies to improve the availability and accessibility of healthy, nutritious food for all Virginians.

3. Partner with and build the capacity of agencies, organizations, individuals, and communities to address local, regional, and state food and agriculture issues that relate to food availability and accessibility.

4. Educate and communicate to the public and key decision-makers the relationship of the food system to health, economic development, natural resources, and social well-being.

5. Encourage and create stronger links between farmers and consumers through efficient processing, storage, distribution, marketing, and education systems.

6. Assist and promote the development of local enterprises and business entities that support community-based food production and consumption.

7. Be a communications channel for and with existing local and regional food work groups or councils.

Food Deserts in Virginia

Recommendations From the Food Desert Task Force