



# Food Insecurity in Southwest Virginia

*Authored by Mia Jones, Undergraduate Student, University of Massachusetts-Lowell; Emily Gard, Undergraduate Student, Virginia Tech; Nicholas Hamilton, Undergraduate Student, Berea College; and Eric Kaufman, Professor and Extension Specialist, Department of Agricultural, Leadership, and Community Education, Virginia Tech*

Food insecurity is a pervasive issue in communities throughout the United States, impacting the health and well-being of many households. This publication highlights food insecurity — specifically in Southwest Virginia, which has particularly high food insecurity rates — and brings attention to initiatives and organizations striving to reduce its effects.

## What Is Food Security/Insecurity?

Food insecurity is the “limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways” (Sample 1990, 1598). A variety of factors can increase the likelihood of food insecurity, including low income levels and unemployment (Waxman et al. 2022). Additionally, there are different levels of food security. In the “high” to “marginal” categories there is little to no change in diet. The “low” and “very low” food security levels are considered food insecure, and quality and variety of food are reduced (USDA ERS 2025). The experience of food insecurity can lead to the use of coping strategies such as reducing food intake or forgoing other important health costs, like medications (Gundersen and Ziliak 2018).

Another factor influencing food security is access to food, which can be hindered by limited access to grocery stores (Food Desert Task Force 2014). Some rural areas do not have many stores to begin with, and urban areas can be flooded with cheap, unhealthy foods (Baxter and Park 2024). A lack of transportation compounds this issue as it decreases access and limits people’s ability to obtain the affordable, nutritious food they need (Hutton et al. 2022).

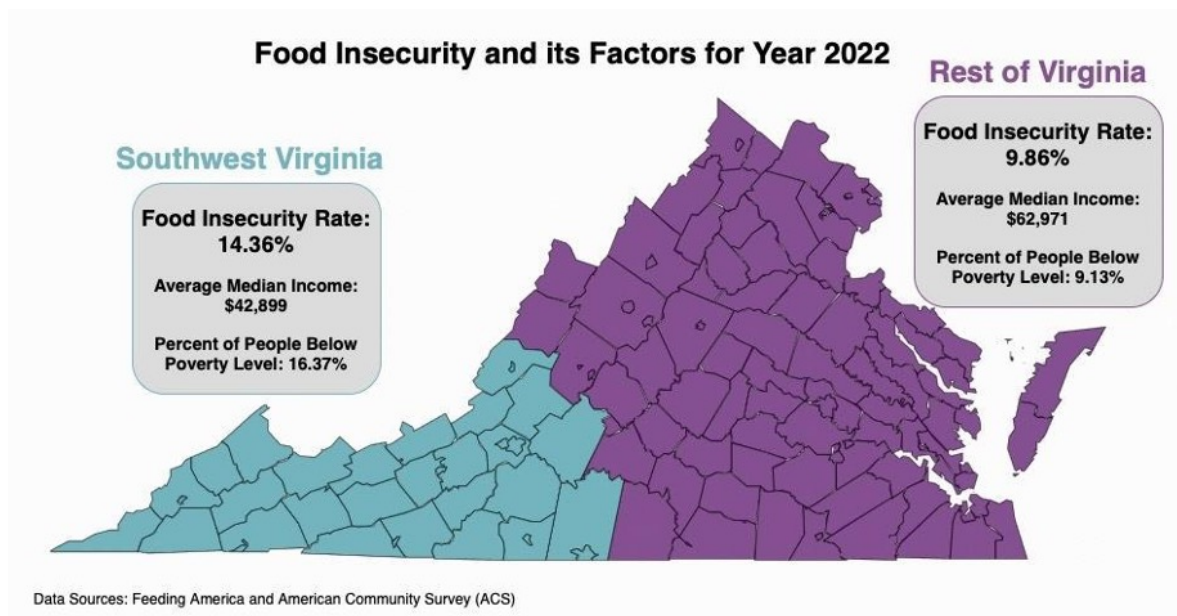
The pervasive nature of a lack of access to healthy food necessary for a well-rounded diet leads to a number of negative health outcomes. Regarding mental health, researchers have found that individuals who are more

food insecure have a higher risk of stress and depression (Pourmotabbed et al. 2020). Additionally, during the COVID-19 pandemic, the negative effects of food insecurity on mental health were three times that of losing a job (Fang et al. 2021). Food insecurity is also associated with unhealthy behaviors such as binge eating and drinking, poor diet quality, and substance use (Larson et al. 2020).

Such behaviors build long-lasting habits that can impact people for the entirety of their lives and can lead to chronic health problems. Across the United States, annual health care expenditures of adults experiencing food insecurity averaged \$1,834 higher than those of adults experiencing food security, showing that food insecurity can have a meaningful effect on a person’s life in ways outside of food (Berkowitz et al. 2019).

## Southwest Virginia

According to Feeding America (2025a), 18.5% of children and 14.4% of people in Southwest Virginia live in households that encountered food insecurity in 2022. This is much higher than the food insecurity rate in the remainder of Virginia, which was 9.86% in 2022. Southwest Virginia is within the Appalachian region of the U.S., which has historically been rural and isolated by the mountainous geography. Manufacturing, farming, and mining industries have been highly important for the region. However, employment in these sectors has been on a 30-year decline, with different non-traditional industries like tourism slowly developing in the area (Southwest Virginia Cultural Heritage Foundation and Friends of SWVA 2019). This means that there is little room for traditional economic growth. The slow economy has driven away many job opportunities in the area; therefore, young people have been leaving to find work, causing the median age of the working population to rise. Those who stay in the area often find work in low-skill and low-wage jobs, which increases the poverty rate (Virginia Tech CECE et al. 2021). The limited economy also means that there is not much



**Figure 1.** Food insecurity and its factors for 2022. (Note: The purpose of the above chart is to display a simplistic overview of the work demonstrated in the rest of the paper and does not reflect the full scope of variables related to food security in Southwest Virginia.)

infrastructure in place in the area, leaving few grocery stores and limited transportation options to reach those stores. This makes healthy food more scarce and, in turn, difficult to access. These factors may contribute to food insecurity rates in Southwest Virginia (fig. 1).

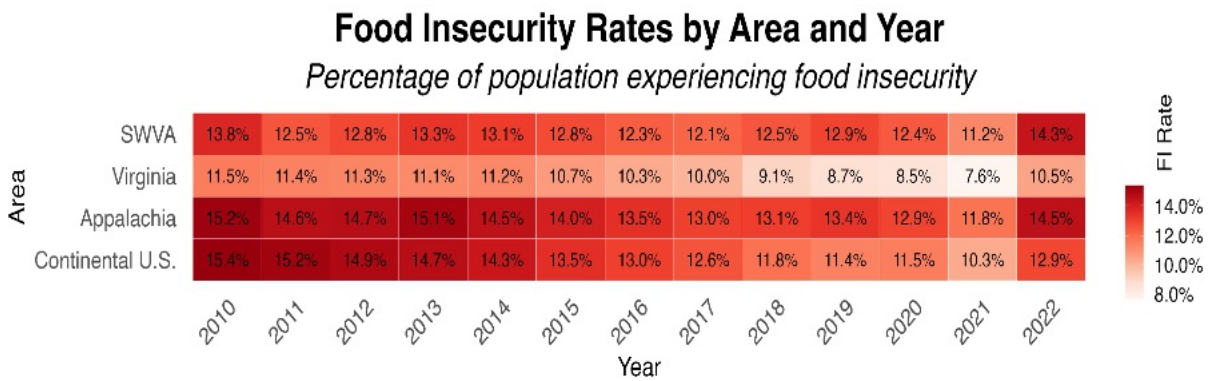
Feeding Southwest Virginia (2025) operates a network of food banks serving the 26 counties and nine cities in Southwest Virginia. It distributes 18.4 million pounds of food each year, works with 400 partner programs, runs 11 mobile food pantry sites, and has two kitchens producing free meals for hungry children. This publication uses Feeding Southwest Virginia's definition of Southwest Virginia, which includes the following counties and cities:

- Counties: Alleghany, Bedford, Bland, Botetourt, Buchanan, Carroll, Craig, Dickenson, Floyd, Franklin, Giles, Grayson, Henry, Lee, Montgomery, Patrick, Pittsylvania, Pulaski, Roanoke, Russell, Scott, Smyth, Tazewell, Washington, Wise, and Wythe.
- Cities: Bristol, Covington, Danville, Galax, Martinsville, Norton, Radford, Roanoke, and Salem.

## Comparative Analysis

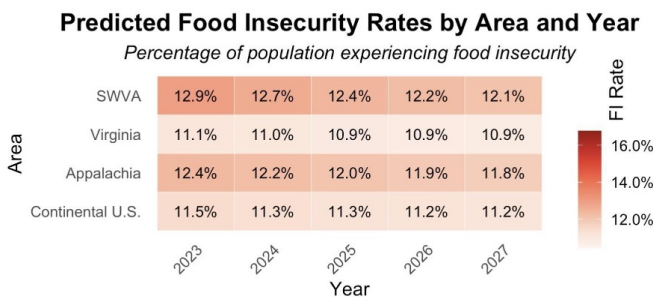
To better understand the food insecurity situation in Southwest Virginia, it is crucial to compare it with other relevant regions. Feeding America's (2025b) Map the Meal Gap project reports annual food insecurity rates for the U.S. and every state and county. Population-weighted rates for some areas in the U.S. for 2010 through 2022 are displayed in figure 2. Southwest Virginia, Virginia, Appalachia, and the continental U.S. all show an overall decline in food insecurity until 2022, which is likely due to the COVID-19 pandemic and the subsequent federal aid packages. As shown, the trend of food insecurity in Southwest Virginia is most similar to that of Appalachia. Southwest Virginia also has higher food insecurity rates than the Commonwealth of Virginia for all years.

Researchers at Virginia Tech developed a model to predict food insecurity rates for the years 2023 through 2027 using factors known to influence food insecurity (Hamilton et al. 2024). This analysis used data from the American Community Survey and Bureau of Labor Statics, which had data through 2022 at the time of research. Its statistical machine-learning analysis predicted that all the geographic areas included would



**Figure 2.** Food insecurity rates by area and year. (Source: Feeding America )

see a decrease in food insecurity, continuing the downward trend that existed before the COVID-19 pandemic (fig. 3). However, Southwest Virginia and Appalachia were predicted to remain as the areas with the highest food insecurity rates, demonstrating a need for support in that region.



**Figure 3.** Predicted food insecurity rates by area for 2023-2027. (Sources: American Community Survey, Bureau of Labor Statistics, and Feeding America.)

## Policy Implications

Virginia utilizes several state and federal policies and resources to combat food insecurity. Virginia Fresh Match (2024) enhances the USDA's Supplemental Nutrition Assistance Program (SNAP) and Women, Infants, and Children (WIC) program by doubling the amount of fresh fruits and vegetables those who qualify can purchase at farmers markets, farm stands, mobile markets, farm directs, community supported agriculture, and community food stores.

Another active program is the Virginia Food Access Investment Fund, which provides investment funds for low-income and low-food-access areas to improve their local food systems. The fund can be used for a variety of food-related projects that have accessible retail and community-engagement components that source from marginalized farmers in the commonwealth. These

businesses must accept SNAP and provide certain healthy items as outlined by the USDA (VDACS 2025).

A commonly recognized program, the National School Lunch Program, provides free or reduced-price lunches for school-age children nationwide. However, the number of children who qualify for the free lunches depends on the state. Research has found a correlation between having universal free meals in schools and a decrease in food insecurity (Schwartz and Rothbart 2019).

To aid in transportation, the U.S. Department of Transportation (2025) created the Rural Opportunities to Use Transportation for Economic Success (ROUTES) program. This program provides better and safer transportation in rural areas, providing better access to food. Highlighting the severity of food insecurity within Southwest Virginia gives organizations like Feeding Southwest Virginia and local and state governments the leverage to argue for investment and more resources in the region.

## Local Initiatives

Communities throughout Southwest Virginia offer initiatives that aim to reduce food insecurity. First, farmers markets throughout the region offer fresh produce from local sellers. Federal aid programs such as SNAP, WIC, and the Senior Farmers Market Nutrition Program offer vouchers to eligible families and older adults (Virginia Division for Aging Services 2025). This provides access to nutritious food at discounted prices for people in need.

Second, community gardens, such as the LEAP Community Gardens located in Roanoke, allow residents to grow their own food. This also offers the opportunity for healthier food options and can build



relationships among fellow gardeners for additional support.

Third, mobile markets travel across the area, bringing fresh groceries to underserved communities. In the Roanoke area, the LEAP Mobile Markets stop at locations that include senior centers and neighborhoods on a weekly basis to increase nutrition security (LEAP 2025).

These initiatives help to reduce food insecurity beyond food banks and pantries, and there are many things individuals can do to contribute as well. Donating to local food pantries is a simple way to directly benefit the community and ensure the organizations are able to continue their mission. Individuals can also host their own share pantries, typically located in neighborhoods, that encourage neighbors to leave food and take food as needed (Schonberger 2024). Many food pantries also offer volunteer opportunities for organizing and distributing donations. Participating in local programs, such as community gardens, and supporting policies that aim to reduce food insecurity are additional ways to make a difference. Lastly, sharing knowledge on the issue of food insecurity with others can show communities the severity of the problem and encourage solutions (Feeding America 2023).

## Acknowledgements

This work is supported by the Virginia Tech Data Science for the Public Good program. We would like to express appreciation to Dr. Michael Cary, Dr. Susan Chen, Piper Zimmerman, and Feeding Southwest Virginia for their support and guidance in developing this work.

## References

- Baxter, Connolly, and Yoo Min Park. 2024. "Food Swamp Versus Food Desert: Analysis of Geographic Disparities in Obesity and Diabetes in North Carolina Using GIS and Spatial Regression." *The Professional Geographer* 76 (4): 409-24. <https://doi.org/10.1080/00330124.2024.2306642>.
- Berkowitz, Seth A., Sanjay Basu, Craig Gundersen, and Hilary K. Seligman. 2019. "State-Level and County-Level Estimates of Health Care Costs Associated With Food Insecurity." *Preventing Chronic Disease: Public Health Research, Practice, and Policy* 16:e180549. <https://doi.org/10.5888/pcd16.180549>.
- Fang, Di, Michael R. Thomsen, and Rodolfo M. Nayga Jr. 2021. "The Association Between Food Insecurity and Mental Health During the COVID-19 Pandemic." *BMC Public Health* 21:e607. <https://doi.org/10.1186/s12889-021-10631-0>.
- Feeding America. 2023. "Community-Led Solutions for a Food Secure Future." [www.feedingamerica.org/sites/default/files/2024-02/FY24\\_Multi-Donor%20Food%20Security%20Equity%20Impact%20Fund%20Report.pdf](http://www.feedingamerica.org/sites/default/files/2024-02/FY24_Multi-Donor%20Food%20Security%20Equity%20Impact%20Fund%20Report.pdf).
- Feeding America. 2025a. "Feeding Southwest Virginia." [www.feedingamerica.org/find-your-local-foodbank/feeding-america-southwest-virginia](http://www.feedingamerica.org/find-your-local-foodbank/feeding-america-southwest-virginia).
- Feeding America. 2025b. "Map the Meal Gap: Food Insecurity Among the Overall Population in the Feeding Southwest Virginia Service Area." <https://map.feedingamerica.org/county/2022/overall/virginia/organization/feeding-southwest-virginia>.
- Feeding Southwest Virginia. 2025. "Our Impact: Feeding Southwest Virginia." [www.feedingswva.org/our-impact](http://www.feedingswva.org/our-impact).
- Food Desert Task Force. 2014. *Food Deserts in Virginia: Recommendations From the Food Desert Task Force*. Virginia Cooperative Extension publication VCE-294. [www.pubs.ext.vt.edu/VCE/VCE-294/VCE-294.html](http://www.pubs.ext.vt.edu/VCE/VCE-294/VCE-294.html).
- Gundersen, Craig, and James P. Ziliak. 2018. "Food Insecurity Research in the United States: Where We Have Been and Where We Need To Go." *Applied Economic Perspectives and Policy* 40 (1): 119-35. <https://doi.org/10.1093/aep/pxp058>.
- Hamilton, Nicholas, Mia Jones, Emily Gard, and Piper Zimmerman. 2024. "Projecting Food Insecurity." Virginia Tech Data Science for the Public Good. <https://aaec-vt.shinyapps.io/dspg24FoodInsecurity>.
- Hutton, Naomi S., George McLeod, Thomas R. Allen, Christopher Davis, Alexandra Garnand, Heather Richter, et al. 2022. "Participatory Mapping to Address Neighborhood Level Data Deficiencies for Food Security Assessment in Southeastern Virginia, USA." *International Journal of Health Geographics* 21:e17. <https://doi.org/10.1186/s12942-022-00314-3>.
- Larson, Nicole, Melissa N. Laska, and Dianne Neumark-Sztainer. 2020. "Food Insecurity, Diet Quality, Home Food Availability, and Health Risk Behaviors Among Emerging Adults: Findings From the EAT 2010-2018 Study." *American Journal of Public Health* 110 (9): 1422-28. <https://doi.org/10.2105/AJPH.2020.305783>.

- LEAP (Local Environmental Agriculture Project). 2025. "Mobile Market." [www.leapforlocalfood.org/mobile-market](http://www.leapforlocalfood.org/mobile-market).
- LEAP (Local Environmental Agriculture Project). 2025. "Community Gardens," [www.leapforlocalfood.org/community-gardens](http://www.leapforlocalfood.org/community-gardens).
- Pourmotabbed, Ahmad, Sajjad Moradi, Atefeh Babaei, Abed Ghavami, Hamed Mohammadi, Cyrus Jalili, et al. 2020. "Food Insecurity and Mental Health: A Systematic Review and Meta-Analysis." *Public Health Nutrition* 23 (10): 1778-90. <https://doi.org/10.1017/S136898001900435X>.
- Sample, Sue Ann, ed. 1990. "Core Indicators of Nutritional State for Difficult-to-Sample Populations." *The Journal of Nutrition* 120 (Supplement 11): 1555-98. [https://doi.org/10.1093/jn/120.suppl\\_11.1555](https://doi.org/10.1093/jn/120.suppl_11.1555).
- Schonberger, H. Lester. 2024. *Donating Food Through a Share Pantry*. Virginia Cooperative Extension publication FST-484NP. [www.pubs.ext.vt.edu/FST/fst-484/fst-484.html](http://www.pubs.ext.vt.edu/FST/fst-484/fst-484.html).
- Schwartz, Amy Ellen, and Michah W. Rothbart. 2019. "Let Them Eat Lunch: The Impact of Universal Free Meals on Student Performance." *Journal of Policy Analysis and Management* 39 (2): 376-410. <https://doi.org/10.1002/pam.22175>.
- Southwest Virginia Cultural Heritage Foundation and Friends of SWVA. 2019. *2018-2019 Regional Impact Annual Report*. [https://issuu.com/southwestvirginia/docs/swva\\_annual\\_report\\_2018\\_final\\_revis](https://issuu.com/southwestvirginia/docs/swva_annual_report_2018_final_revis).
- USDA ERS (U. S. Department of Agriculture. Economic Research Service). 2025. "Food Security in the U.S.: Measurement." [www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/measurement](http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/measurement).
- U.S. Department of Transportation. 2025. "Rural Opportunities to Use Transportation for Economic Success (ROUTES)." [www.transportation.gov/rural](http://www.transportation.gov/rural).
- VDACS (Virginia Department of Agriculture and Consumer Services). 2025. "Virginia Food Access Investment Fund Grants (VFAIF)." [www.vdacs.virginia.gov/marketing-food-access-investment-fund.shtml](http://www.vdacs.virginia.gov/marketing-food-access-investment-fund.shtml).
- Virginia Division for Aging Services. 2025. "Farm Market Fresh." The Division for Aging Services. [www.vda.virginia.gov/FarmMarketFresh.htm](http://www.vda.virginia.gov/FarmMarketFresh.htm).
- Virginia Fresh Match. 2024 "Virginia Fresh Match." [www.virginiafreshmatch.org](http://www.virginiafreshmatch.org).
- Virginia Tech CECE (Center for Economic and Community Engagement), the New River/Mount Rogers Workforce Development Board, and the Southwest Virginia Workforce Development Board). 2021. *The Big Picture: Workforce Challenges in Southwest Virginia*. [www.vcwnewrivermtrogers.com/wib2019/wp-content/uploads/2021/06/Workforce-Challenges-in-SWVA.pdf](http://www.vcwnewrivermtrogers.com/wib2019/wp-content/uploads/2021/06/Workforce-Challenges-in-SWVA.pdf).
- Waxman, Elaine, Julio Salas, Poonam Gupta, and Michael Karpman. 2022. *Food Insecurity Trended Upward in Midst of High Inflation and Fewer Supports: Findings from the Health Reform Monitoring Survey, June 2022*. Washington, D.C.: Urban Institute. [www.urban.org/sites/default/files/2022-09/HRMS%20Food%20Insecurity%20Brief\\_0.pdf](http://www.urban.org/sites/default/files/2022-09/HRMS%20Food%20Insecurity%20Brief_0.pdf).