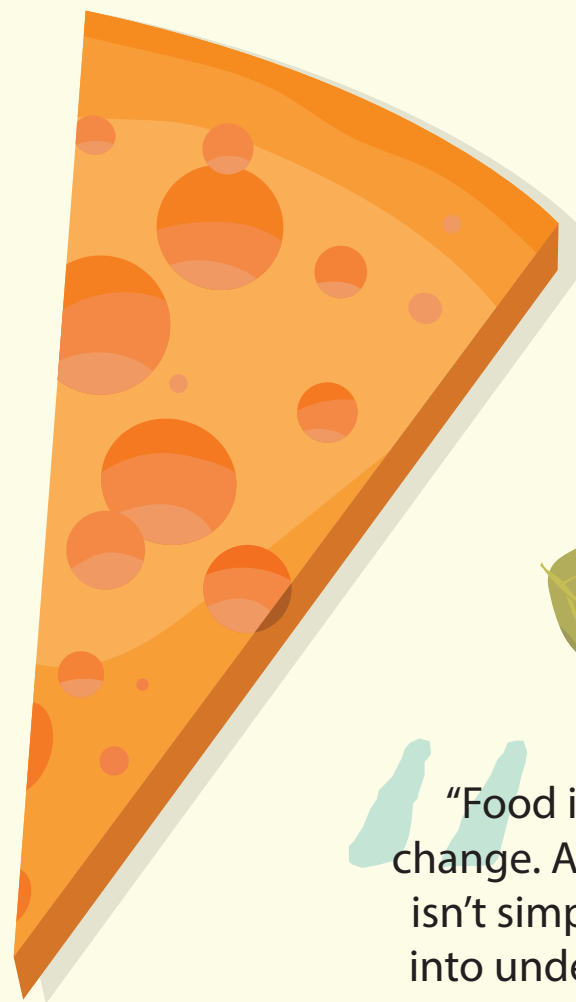


FOOD DESERTS

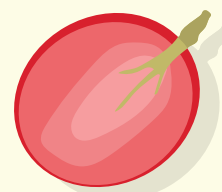
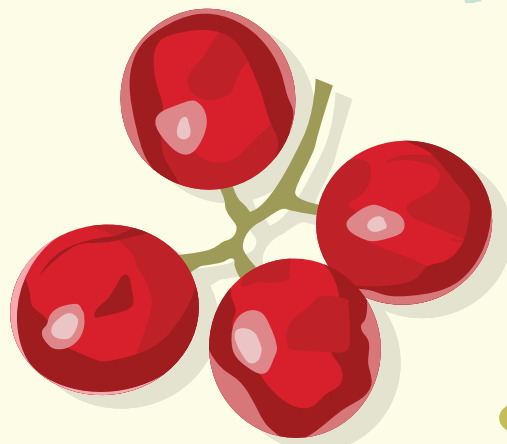
The Hidden Crisis of
Food Accessibility





“Food is a powerful tool for change. Addressing food deserts isn’t simply about getting food into underserved areas, it must be about creating jobs, strengthening bodies and building community.”

Robert Egger



Origins of Food Deserts 3

Definitions and Beginnings

Food Deserts in North Carolina 5

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Faces of Food Deserts 9

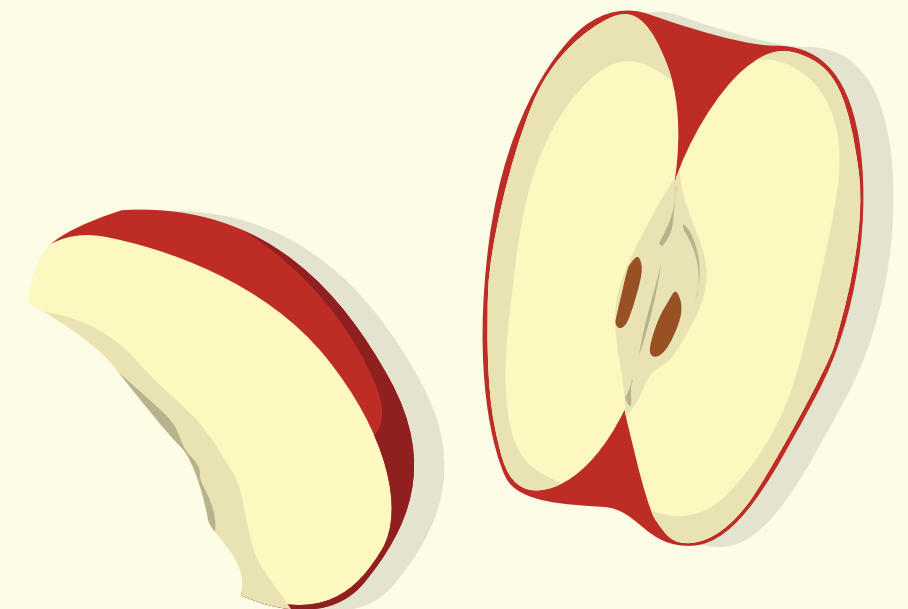
Impacted Demographics

Health and Financial Impact 11

Durham as a Case Study

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ORIGINS OF FOOD

DESERTS

Learn the interconnected concepts of food deserts, food apartheid, and food insecurity and how they have evolved through decades of policies and structural inequities. By understanding this progression, gain insight to how barriers to healthy foods have developed over time, **impacting millions of Americans.**

Definitions



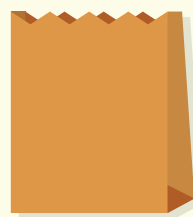
Food Apartheid

refers to **systemic inequality** and **institutional discrimination** in the food system that **disproportionately** affects low-income communities, particularly communities of color.



Food Desert

is an area, typically urban or rural, where residents have **limited access to affordable and nutritious food**, particularly fresh fruits, vegetables, and whole foods.

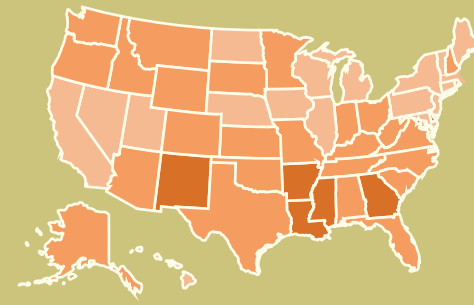


Food Insecurity

is the state of being **without reliable access** to a sufficient quantity of **affordable, nutritious food.**

Estimates of Low Income and Low Access Populations

The map categorizes states based on the **percentage** of their populations living in **Low-Income, Low-Access (LILA)** areas in 2015. LILA refers to areas where people face both **economic hardship** and **limited access to affordable, nutritious food.**

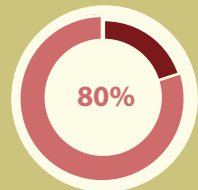


The point of the food desert literature has never been to suggest that distance from food retailers is the only factor leading to food insecurity. Rather . . . distance creates an additional burden on segments of the population that are already struggling to obtain food."

Brian J. Thomas

1930s-1940s Redlining Begins

The Home Owners' Loan Corporation created redlining maps that labeled minority neighborhoods as **"high-risk,"** leading to **disinvestment and limited retail**, including grocery stores, in Black communities.



Approximately **80%** of Black urban areas in the United States were deemed **"hazardous"** and redlined, which significantly reduced investment in these communities

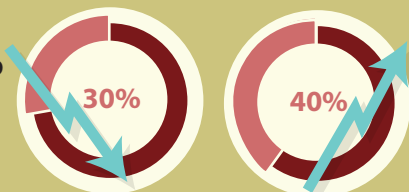
1 in 4 Black Americans lived in declining urban areas where disinvestment and grocery closures limited healthy food access.



1950s-1980s Legal Changes and Urban Disinvestment

From the 1960s to the 1980s, despite the **Fair Housing Act of 1968**, which aimed to combat housing discrimination, the **effects of redlining persisted.** Urban renewal projects **displaced minority communities**, while suburban supermarket chains expanded.

By the late **1960s**, cities experienced a **30% drop** in grocery stores while suburban store numbers **grew by 40%**



The combination of **continued economic segregation**, disinvestment, and the decline of local grocery stores contributed to the **rise of food deserts** in these decades.

1990s-2000s Federal Recognition



The US Department of Agriculture **officially recognized food deserts**, providing definitions and beginning to fund studies and pilot programs aimed at **addressing food access disparities.**

In **2005**, there were a total of **6,529** food desert census tracts identified across the U.S. These areas, marked by low income and limited access to grocery stores, **restricted millions** from obtaining affordable, nutritious food.



2010s-Now Urgent Problem to Address

Food deserts in the U.S. **remain a significant issue.** According to recent data from the USDA's Food Access Research Atlas, as of 2015, **approximately**

6.8 Million People

lived in food deserts, with limited access to healthy food and grocery stores. Areas with high poverty rates and insufficient transportation are disproportionately affected. Between **2010** and **2015**, the number of census tracts classified as **food deserts increased.**

FOOD DESERTS IN NORTH CAROLINA



1 in 8

North Carolinians are Food Insecure

16%

of North Carolina Census Tracts are Food Deserts

Food deserts in North Carolina reflect a legacy of systemic inequality and modern challenges, affecting the well-being of thousands. Many food deserts stem from historical practices like redlining and **Jim Crow laws**, which segregated neighborhoods and restricted economic opportunities. These practices often deprived communities - particularly communities with people of color - of access to fresh, affordable food.

Today, while discriminatory policies have changed, food deserts persist due to **modern issues** such as economic inequality, lack of investment in low-income neighborhoods, limited reliable transportation options, natural disasters (as elaborated on below), and the rise of large retail chains over smaller, local grocery stores. Highlighted are areas where North Carolina is greatly impacted by food deserts.

Case Study: Chapel Hill

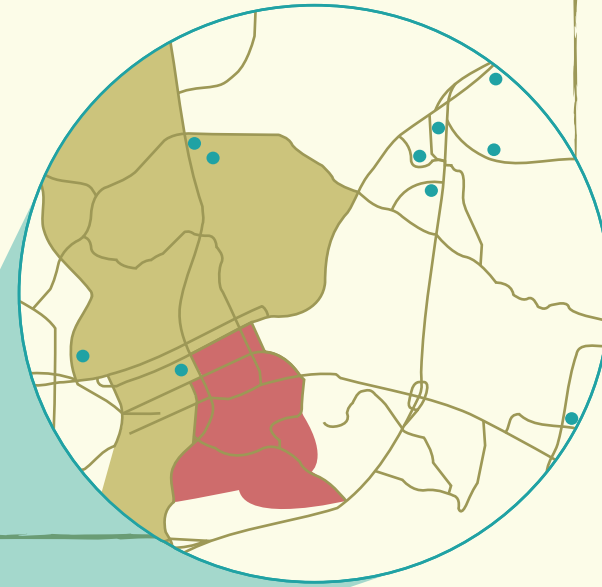
According to 2019 USDA Data

With a town population of around **59,800** and an additional **32,234 students** enrolled in the University of North Carolina at Chapel Hill, Chapel Hill has a lot of mouths to feed each year. But for students without cars or reliable means of public transportation, grocery shopping becomes daunting and sometimes impossible.

The local Franklin Street Target is the only store in a walkable distance to campus, and is still an estimated 41 minute (uphill) walk from Carolina Housing's farthest community - Baity Hill. Even worse, this Target enforces **"dynamic pricing"** where retailers can inflate prices by location, so a tube of toothpaste can be **\$7.69** on Franklin St. but only **\$5.99** at a different Target located in Durham.

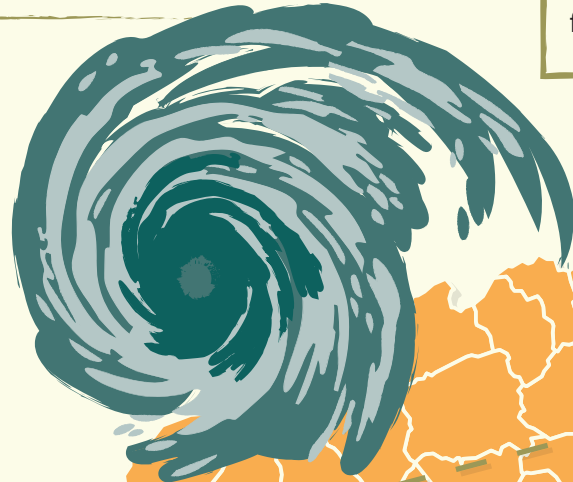
Dynamic pricing in accessible stores, as well as cornering the rest of the groceries together, all boils down to one food desert for the Chapel Hill community. Students without cars are forced to get meal plans or walk 40 minutes to spend inflated prices, and families in apartments off-campus must rely solely on their cars - for what might be a 15 minute or more ride - just to get bread.

- Low income census areas where at least **33%** of the population (in the zone) live farther than **0.5 mi** from a grocery store
- UNC-CH Campus
- Grocery Stores



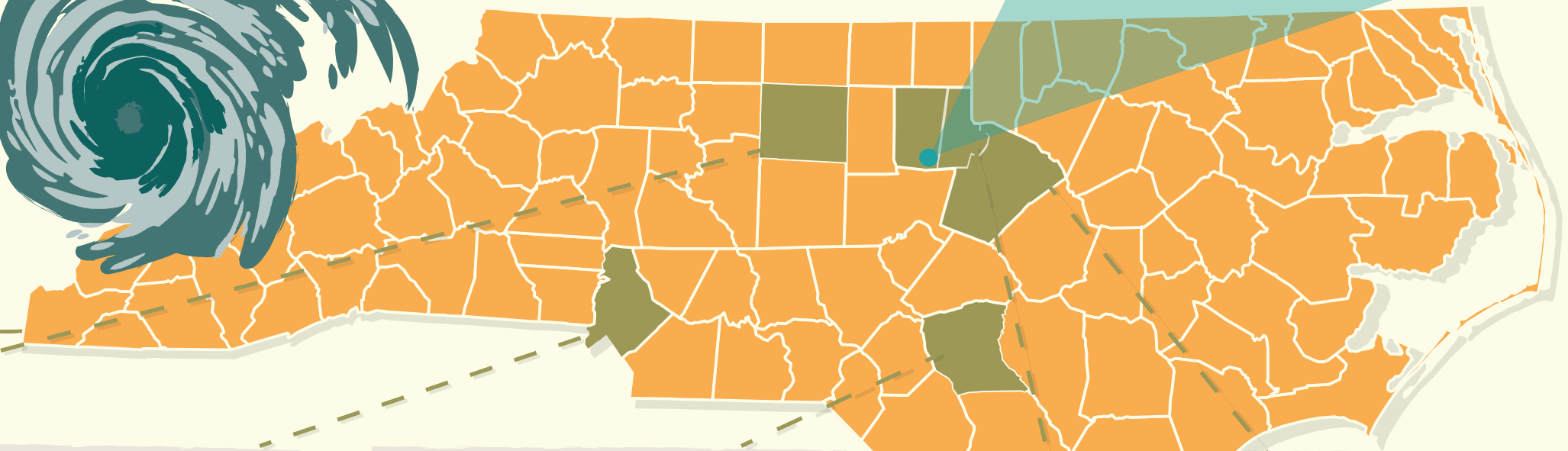
Hurricane Helene Aftermath

Hurricane Helene was never expected to reach Western North Carolina, and as such, these areas were not prepared for the devastation it would ensue when making landfall on September 26, 2024. Helene destroyed many crops and roads, making it difficult to deliver food and survival supplies to those in need. Some food relief measures include:



- Government-supplied **food assistance programs**, like the Disaster Supplemental Nutrition Assistance Program (D-SNAP) and Hot Foods Waivers
- The **North Carolina Air National Guard** has transported >100,000 pounds of food and water to Western North Carolina
- Re-installation of **MANNA food bank** in Asheville, N.C.

While these measures help provide immediate disaster relief, Helene's impact will last many years, deeming Western N.C. a massive food desert until it can rebuild.



Guilford

39%

Between High Point and Greensboro, there are **18 food desert** locations throughout Guilford County, accounting for **39%** of the overall county. While Guilford County has always been a food desert because of low

income, low education, and a mass grocery closure in 1998; the issue was recently exacerbated by the COVID-19 pandemic closing many businesses in the area and laying off thousands of workers.



Mecklenburg

About **15%** of the Mecklenburg County population is in a food desert. Many inner-city residents without cars are solely reliant on corner stores, among other issues.



From January to March 2022, CATS transportation buses missed almost **98 trips a day**.



Low wealth density outside of city areas makes it difficult for food stores to open up and reduces options for healthy food.

15%

Cumberland

According to census data from 2015, **19%** of Cumberland County is food insecure and **20 areas** in the county are considered food deserts. Many areas are contained in or near Fort Liberty, indicating that already low-income military families are impacted greatly by food inaccessibility. Another large portion is contained in Fayetteville - a victim of old **redlining practices** meant to prevent people of color from accessing financial services and homeownership. The effects of redlining span many generations and can explain why descendants in these areas are now facing the impacts of food deserts.

19%

Wake-Durham

12% of Wake County is food insecure, and its Durham County neighbor has around **16%** of the area living in a food desert. Why? **1 in 5 Durham residents lives under the poverty line**, in part caused

by former Jim Crow Laws and the recession of 2008, which displaced many residents and businesses.

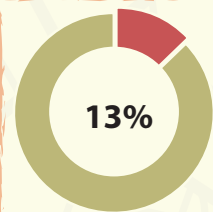
12%

16%

GEOGRAPHY OF HUNGER

Mapping Major U.S. Food Deserts

Across the United States whether the bustling cities or sprawling rural areas, food deserts are leaving millions of Americans without easy access to nutritious and affordable food. The areas where grocery stores are sparse leave citizens relying on convenience stores and fast-food outlets for their meals. This is not just a geography issue - rather a nationwide crisis rooted in socioeconomic challenges. There are many efforts being taken to address these inequalities through various policies, but the question remains of how can we as a society ensure that everyone has access to the resources they need to thrive? This map showcases some of the most severe food deserts across the nation while also highlighting some locations of major food banks.

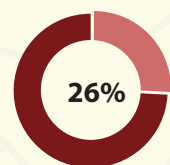


Did you know?

13% of Americans live within a food desert. That's **39 million people**, or roughly the size of the entire population of California!

San Bernardino, California

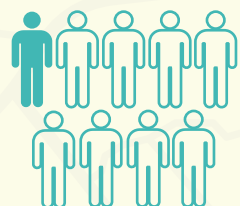
The city of San Bernardino, California is one of the most populous cities where food deserts are widespread and also contains some of the highest percentages of population living within food deserts. Food deserts are also prevalent across the county. Many factors, including poverty, few grocery stores, and a lack of walkability have led to this crisis.



26% of San Bernardino county residents are low-income and living at least a **1/2 of a mile** from the nearest urban grocery store or **10 miles away** from the nearest rural grocery store.

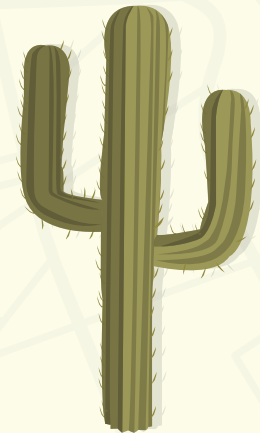
Alaska

As the state containing the highest percentage of land area in a food desert, Alaska is faced with many unique challenges. Due to its vast topography, the remote locations of many of its communities, the lack of roads and overall poor infrastructure, alongside harsh winter weather make food shipping and storage both difficult and expensive.

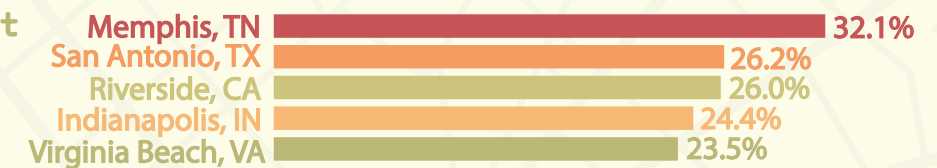


1 IN 9 ALASKANS SUFFER FROM FOOD INSECURITY

The growing season is severely shortened by the weather in Alaska, meaning that the vast majority of food **must be imported**. The prevalence of food deserts and bogged down supply chains leave many Alaskans **suffering from food insecurity**.



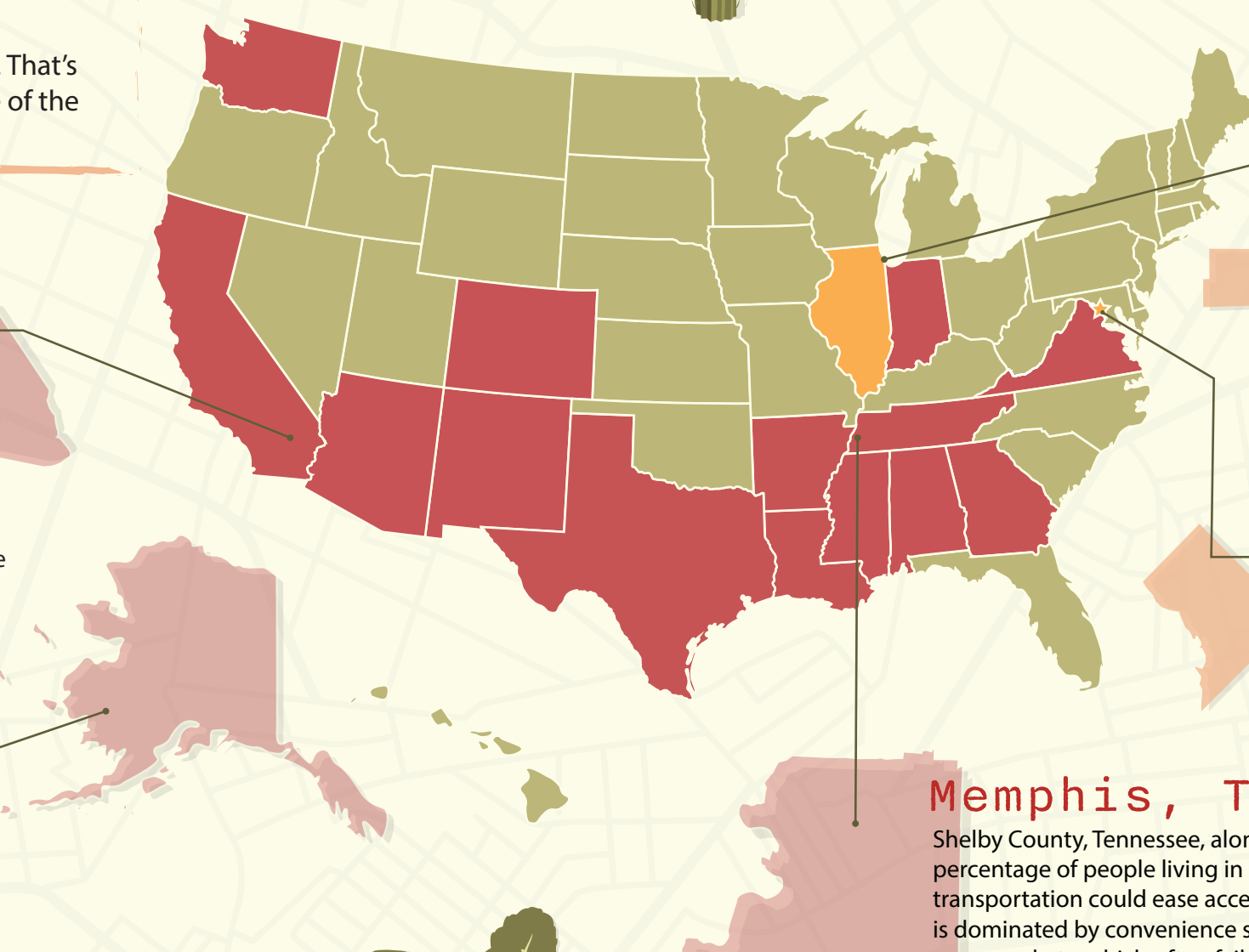
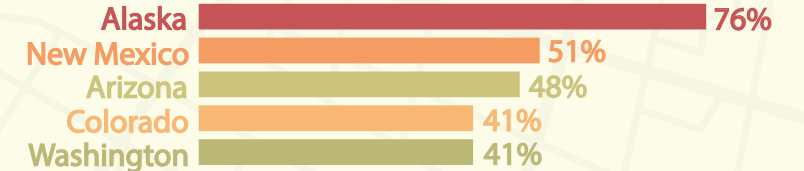
Top Cities by Percent of Population in a Food Desert



Top States by Percent of Population in a Food Desert



Top States by Percent of Area in a Food Desert

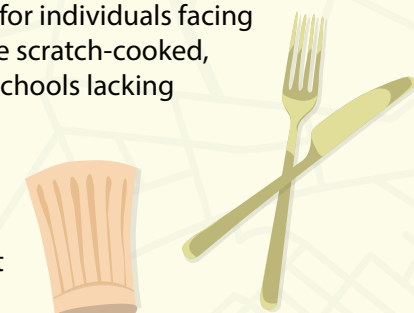


Greater Chicago Food Depository

In 1979, six people opened Illinois' first food bank to combat hunger and support their community. Now, the network includes over **800 pantries**, shelters, and meal programs. Launched in 1993, the Kids Cafe program offers hot after-school meals for low-income children. In 2024, the Food Depository completed the Nourish Project, expanding volunteer areas, cold storage, and warehouse facilities to further its mission of ending hunger.

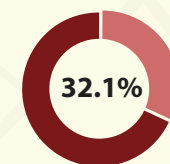
D.C. Central Kitchen

This nonprofit combats hunger and poverty by creating jobs and providing culinary training for individuals facing employment barriers. They also serve scratch-cooked, farm-to-school meals to D.C. metro schools lacking access to fresh produce.

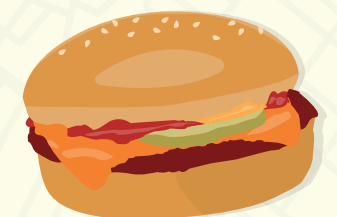


Memphis, Tennessee

Shelby County, Tennessee, along the Mississippi River, has the highest percentage of people living in a food desert in the U.S. While public transportation could ease access, socioeconomic issues persist. The area is dominated by convenience stores and fast-food chains, with few supermarkets, which often fail due to revenue loss. Limited accessibility and availability drive dietary choices, leading residents to choose convenience over health, making nutritious options scarce.



32.1% of Memphis, Tennessee, lives at least a **1/2 of a mile away** from the nearest urban grocery store or **10 miles** from the nearest rural grocery store



FACES OF FOOD DESERTS

Everyone eats.
Not everyone eats equally.

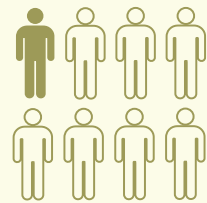
US Households

14%

states are above the food insecurity national average.

34%

states are below the food insecurity national average.



1 in 8

Americans are food insecure.

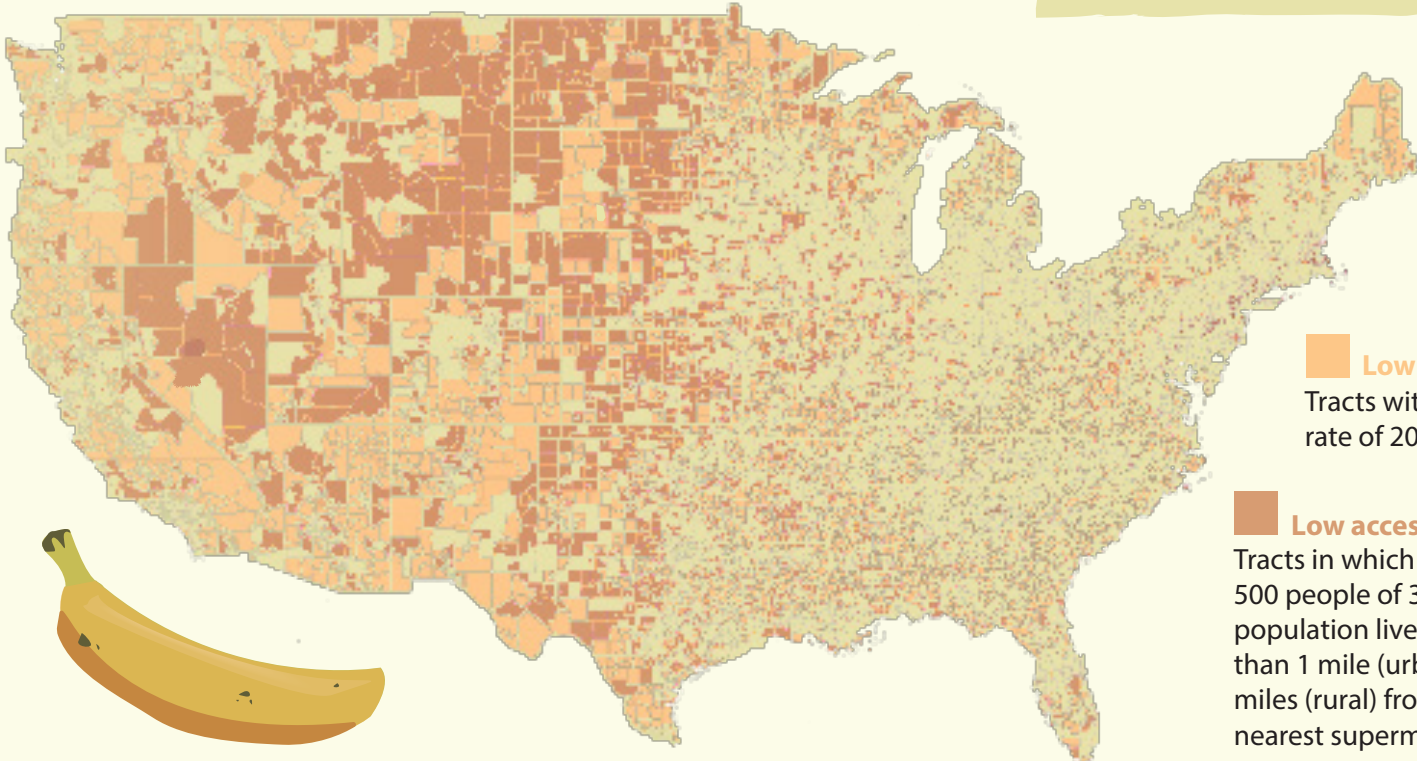
36%

food insecure Americans are above SNAP eligibility threshold.

52%

states are near the food insecurity national average.

TRACTS OF US HOUSEHOLDS BY LOW INCOME AND LOW ACCESS TO SUPERMARKET STATUS, 2019

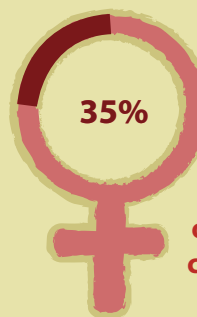


Low income (LI)
Tracts with a poverty rate of 20% or higher.

Low access (LA)
Tracts in which at least 500 people of 33% of the population lives farther than 1 mile (urban) or 10 miles (rural) from the nearest supermarket.



GENDER DISPARITY



female head of households with children and no spouse are food insecure. This is the highest percentage of any household composition group.

85%

US food assistance applicants identified as female in 2023.

52%

women requesting food assistance have skipped or cut their meals in 12 months (2022-23).

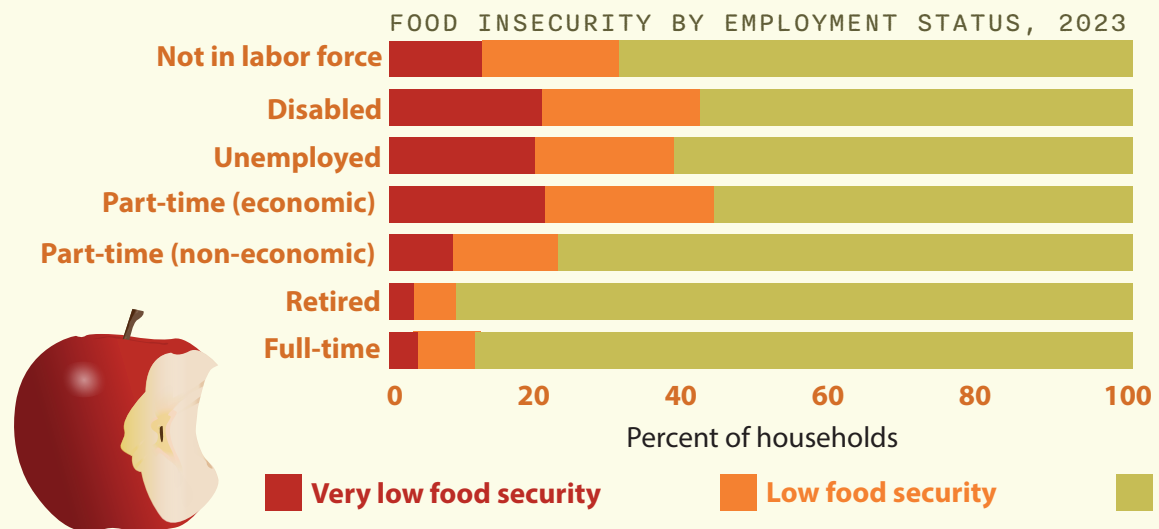
7.05x

women with very low food security are 7 times more likely to experience sexual or physical violence as women with high food security.

5.72x

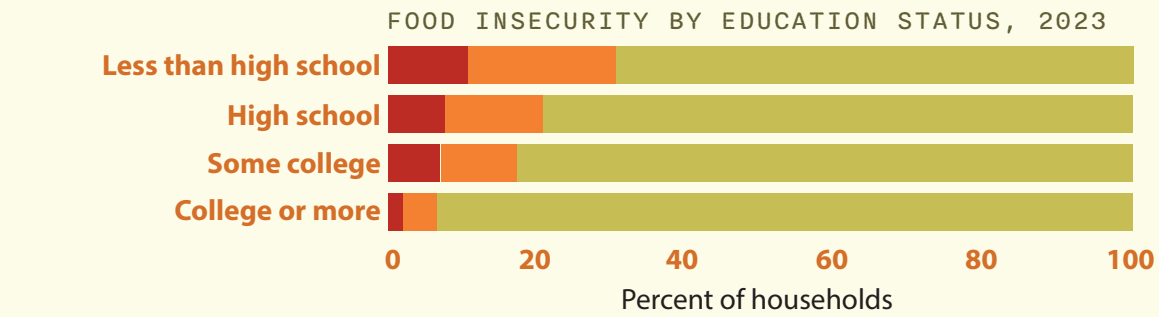
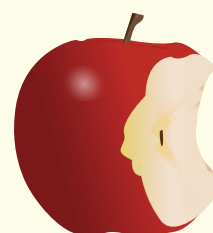
women with very low food security are nearly 6 times more likely to experience psychological violence as women with high food security.

Education & Employment



EMPLOYMENT

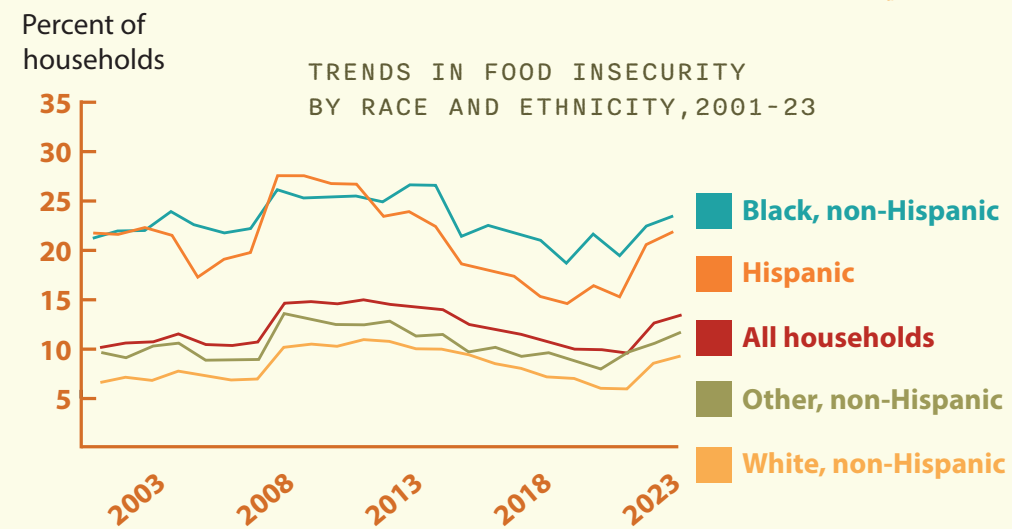
The part-time (economic reasons) population has the highest rates of both low (22.8%) and very low food security (21%). Part-time non-economic denotes those working under 35 hours per week due to preference. Retirees are the most food secure population (90.9%).



EDUCATION

Those who completed college and further higher education are the most secure food population (93.4%). Lowest food secure populations also have the lowest education level (69.5%).

Race & Ethnicity



RACE & ETHNICITY
The most secure population average across 2001-23 is the White, non-Hispanic (9%). Black, non-Hispanic population had the highest average level of food insecurity (23%). Hispanic population had the highest peak level (27%) and averaged the second highest food insecurity rate (21%).

LI & LA MAP

US census tracts provide information into counties so populations can be mapped by income status and food store accessibility. While LI and LA tend to overlap, many rural areas in the Midwest-West regions are not LI but considered LA due to limited vehicle access and supermarkets. Areas like the conjoined borders of Virginia, West Virginia and Kentucky are LI but have easy access to supermarkets.

CHILDREN

14 million US children are food insecure.

780,000+ American children have very low food security, including going without eating in 2022.

44% of American Indian and Alaska Native households with children are food insecure.

<2x food insecurity in Black and Hispanic children is more than double that of White children (14% vs 5.9%) in 2023.

HEALTH AND FINANCIAL IMPACT



In Durham, North Carolina

Due to the inability to afford and access healthy food, people living in food deserts often have diabetes. Durham, North Carolina is an example of a food desert in the United States. Because costs and services are different throughout the U.S. these health and financial impacts are exclusive to Durham's food desert.

Cost Breakdown: Chicken Burrito

The food Mini Marts provide are often cheaper, but are heavily processed and lack proper nutrients leading to health issues.

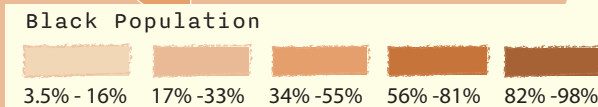
	Supermarket	Mini Mart
Protein	Boneless Skinless Chicken Breast \$7.99	Premade Chicken Burrito \$1-\$5
Grain	White Rice \$1.79 Flour Tortillas \$2.99	Includes: Tortilla, Rice
Vegetable	Canned Corn \$0.99	Includes: Beans, Corn
Total	\$13.76	\$1.00-\$5.00

Prices based on Harris Teeter

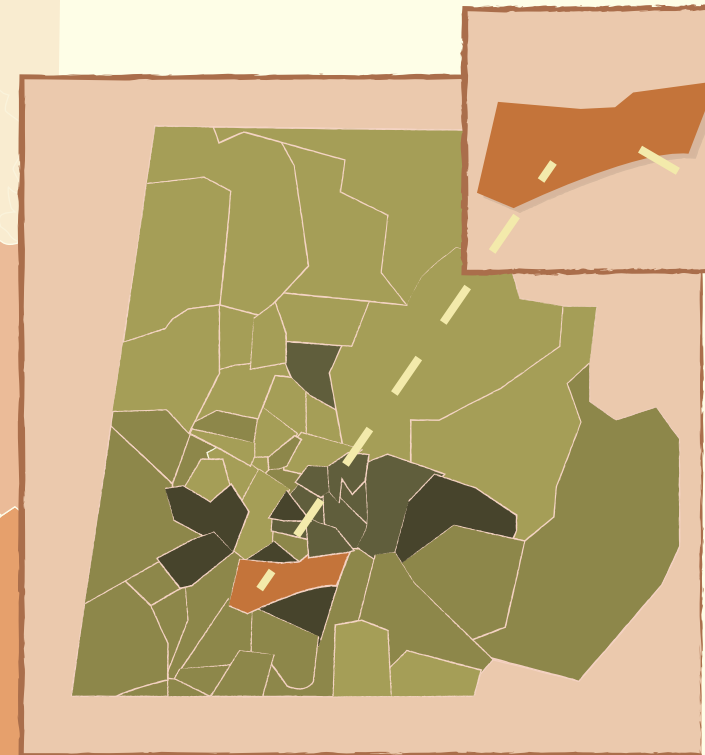
A Healthy Daily Diet

According to the American Heart Association

- Vegetables 2 1/2 cups
- Oils 29 grams
- Dairy 3 cups
- Fruits 2 cups
- Grains 6 ounces
- Protein 5 1/2 ounces



DIABETES IN THE REGION



Black populations in particular suffer from diabetes. Durham's census tract **13.04**, which has a black population of **58%**, has the highest percentage of people living with diabetes, which is **21.5%**.

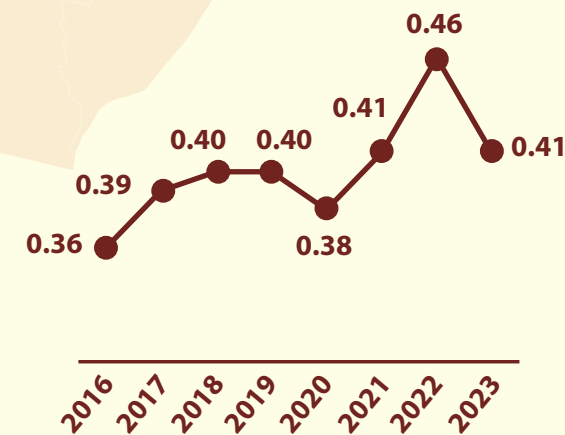
58% Black population
21.5% People living with diabetes

Insulin Costs

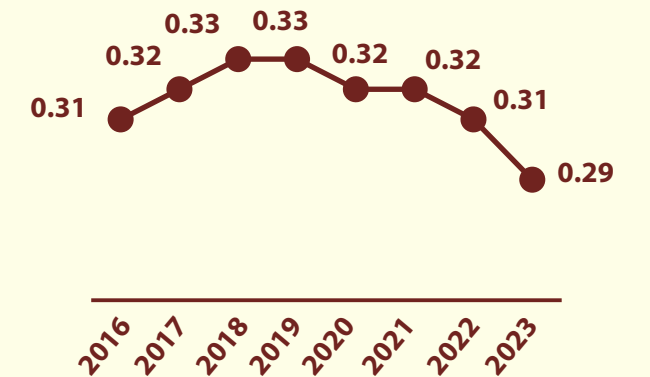


Despite a decrease in the average retail cost of insulin over the last two years, prices are still high. The price of Humalog - a popular brand of rapid-acting insulin - has risen significantly over the years. However, new generic insulins and insulin caps have the potential to lower overall costs.

Insulin Retail Price (average price per Insulin unit by quarter)



Retail Price of 3mL vial of Humalog Rapid-Acting Insulin



Trip to the Grocery Store



Massey Ave

17.8% - 45.8%
own a car in this area



Durham gas prices:
\$3.30 - \$3.50
per gallon

The cost from Massey Ave, to nearest supermarket:

10 mins + 5.4 miles = \$0.73



Publix

SOLVING FOOD DESERTS

Local Solutions

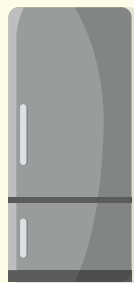


Community Gardens

Community gardens provide fresh, nutritious produce, empower residents with gardening skills, and foster environmental awareness. These gardens beautify neighborhoods and offer a direct investment in community health.

Farmers Markets

Community markets create direct links between consumers and local farmers, supporting small businesses and reinforcing healthy dietary habits. Street vendors selling produce and roadside carts further expand access while promoting cultural foods.



Food Sharing

Food-sharing alliances can reduce waste from wealthier areas and bring affordable, healthy food to food deserts. **Feed-Well Fridges**, a nonprofit organization in Chatham County, places fridges in designated areas around Pittsboro and Siler City as a tool for addressing food insecurity eliminating restaurant and commercial food waste.

10,000 lbs. of food rescued every month
3,000 meals prepared and delivered each month

31 Tons of edible food has been rescued and redistributed to Feed-Well's fridges since launching in August, 2023

Government Programs

WIC

The Special Supplemental Nutrition Program for Women, Infants, and Children provides nutritional support to low-income pregnant and postpartum women, infants, and young children. The program offers monthly vouchers for nutritious foods, healthcare referrals, and nutrition education. WIC **helps establish healthy eating habits early in life**, addressing food insecurity from a foundational level.

SNAP

The Supplemental Nutrition Assistance Program or SNAP offers monthly benefits to eligible low-income individuals and families to help buy groceries. Eligibility is based on factors like income, household size, and resources, meaning applicants must meet specific financial criteria. Expanding SNAP to include broader food options and delivery services could **improve food access for vulnerable communities**.

12.5% of the total U.S. population receive SNAP benefits



39% of all infants in the U.S. receive WIC benefits

Social Entrepreneurship

Social entrepreneurship is the practice of running a business to create social change through business-driven strategies. The aim is to **generate revenue** by selling goods or services and then **reinvest profits** back into the organization's social mission, creating sustainable, innovative solutions to address social, cultural, or environmental challenges.

Access. Information. Habits. Prices.

To combat food apartheid, we need to focus on four key areas: access, information, habits, and prices. For example, food pantries can help improve access and make healthy food more affordable. However, people may still choose unhealthy options due to **lack of information** or **long-standing habits**. Social entrepreneurship aims to address all these areas together.

DC Central Kitchen

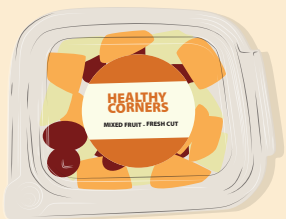
DC Central Kitchen (DCKK) a nonprofit and social enterprise founded in 1989 that combats hunger and poverty through job training and job creation.



Culinary job training: provides hands-on culinary job training for individuals facing high barriers to employment

Healthy corners: transforms corner stores into access points for healthy, affordable food

Healthy school foods: serves farm-to-school menus at DC public, private, and charter schools



Catering & cafes: serve fresh food while providing hands-on job training and career opportunities for adults and youth facing employment barriers

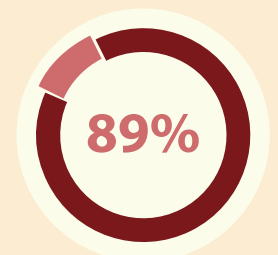
Community meals: prepares nutritious meals for nonprofits, youth programs, and shelters

Impact

30 Schools prepared for schools, shelters, and nonprofits

2.7 Million Meals of produce and healthy snacks delivered to 53 corner stores

390,000 Units receiving their healthy, scratch-cooked meals



Job Placement Rate for the 2023 graduates of their culinary job training program

CREDITS

Carrie-Anne Rogers, *Art Director*
Amina Williams, *Assistant Art Director*

Designers

Christian Baudet
MK Ferrell
Mila Horsley
Jared Larson
Hayley Laufer
Alyssa Moss
Calista Poarch
Allison Ranatza
Greta Sipes
Hannah Smith

Special Thanks

Terence Oliver, *Infographics Professor*
Sera Cuni, *Chef*
Robert Egger, *Author and Activist*
Michael Woods, *Advisor*

AAA Gas Prices
American Heart
Association
ArcGIS StoryMaps
USA Facts
Carolina Digital
Repository
Census Reporter
Cumberland County
D.C. Central Kitchen
Data USA
Decision Innovation
Solutions

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Food Policy Center
Federal Reserve Bank of
Chicago
Feed-Well Fridges
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GoodRx
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