

## Food Insecurity in North Dakota

Jiawei Liu, M.A.

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### Summary

In rural communities across North Dakota, a family might live just miles away from some of the richest farmland in the world yet struggle to put food on the table. From small towns to Native American reservations, access to affordable and nutritious food is far from guaranteed. In some communities, long distances to the nearest grocery store and rising food prices make it difficult for residents to meet their dietary needs. This research sheds light on food insecurity in North Dakota and how it impacts the state's health and well-being.

### Research Highlights:

- North Dakota consistently has lower general and child food insecurity rates compared to other states. Food in North Dakota is comparably **affordable** as indicated by cost per meal.
- While food insecurity has declined across most counties in North Dakota from 2009 to 2019, it remains persistent in areas like Rolette, Benson, and Sioux. Counties like Cass, Burleigh, Grand Forks, and Ward report the highest budget shortfalls.
- About **40% of households** that identify as food insecure in North Dakota are ineligible for SNAP.
- Food-insecure individuals are more **sensitive to unemployment, poverty, disability and inflation than to broader economic trends like median income**. Food insecurity rates dropped sharply during COVID-19 due to expanded aid but have since risen to historic levels as inflation impacts affordability.

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### Introduction

Defined by United States Department of Agriculture (USDA), food security (FS) means access by all people at all times to enough food for an active, healthy life.[i] Despite various efforts to alleviate hunger, millions of Americans still lack access to adequate food. Food Insecurity (FI) persists in American communities, which hinders development. According to the most recent study by the USDA[ii], in 2023 13.5% of American households were food insecure, which was slightly higher than 12.8% in 2022. Food insecurity is also a symptom of broader, systemic social issues, not just an isolated problem. Individuals and families who struggle to access enough food often face additional barriers in meeting other basic needs, such as affordable housing, healthcare, internet access, and reliable transportation. These interconnected challenges create a cycle of hardship that can be difficult to break.

Extensive research has been conducted on food insecurity in the United States, and Feeding America has developed methods to assess this issue across communities. Since 2009, the Map the Meal Gap project[iii] has utilized food insecurity data from the Current Population Survey (CPS) and

demographic indicators such as unemployment rates, poverty levels, and median incomes to model food insecurity for each state of the U.S. These models are then used to predict food insecurity rates at the county or congressional district levels, providing a detailed understanding of how food insecurity varies across regions. For detailed methodology, variables and other research results, please refer to the full report[iv].

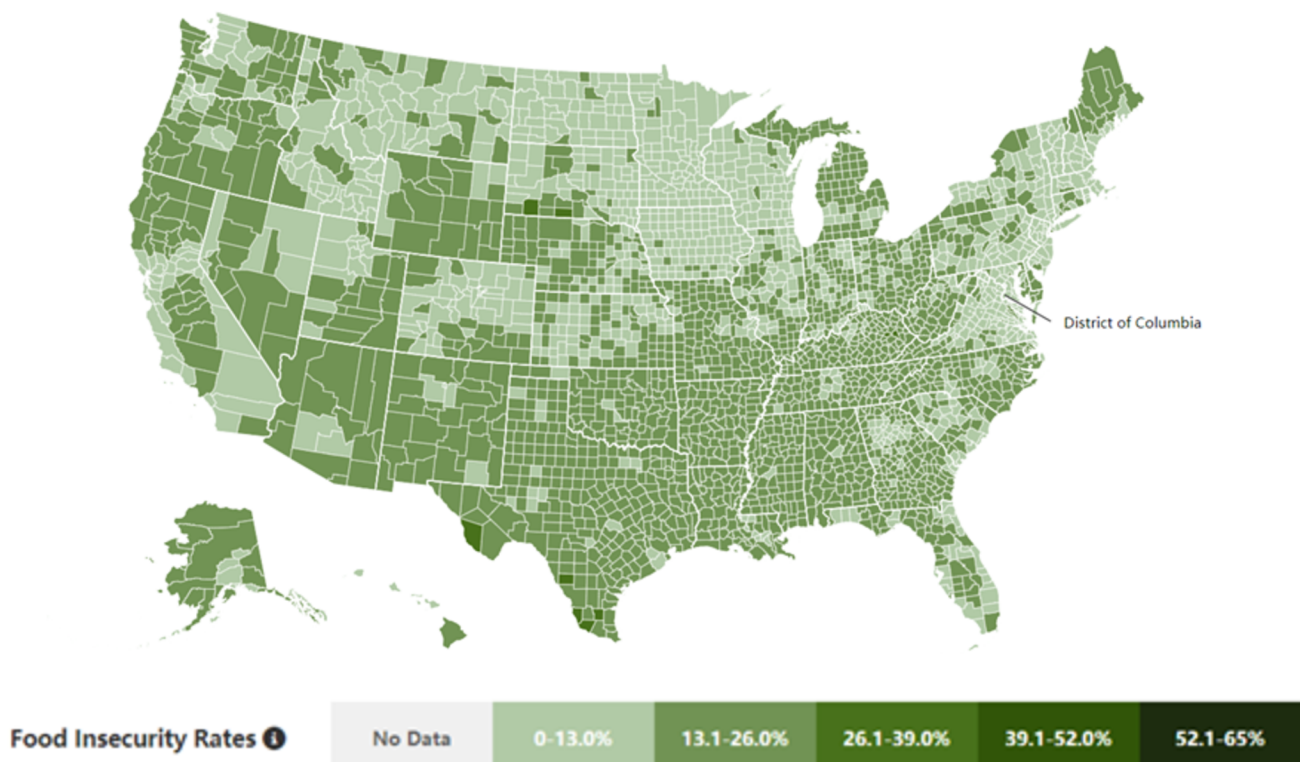
In this paper, we plan to take a closer look at food insecurity in North Dakota, comparing it to national trends, identifying potential causes, and offering recommendations to support the Great Plains Food Bank in its efforts to alleviate hunger statewide. The goal is to provide actionable insights that will enhance operations and contribute to reducing food insecurity across North Dakota.

### Food Insecurity in North Dakota and Other American Places

Food insecurity remains a persistent issue across the United States, but its prevalence varies significantly by region and population. On average, about 13% of the U.S. population experiences food insecurity. In North Dakota, the average FI rate is 8.5%

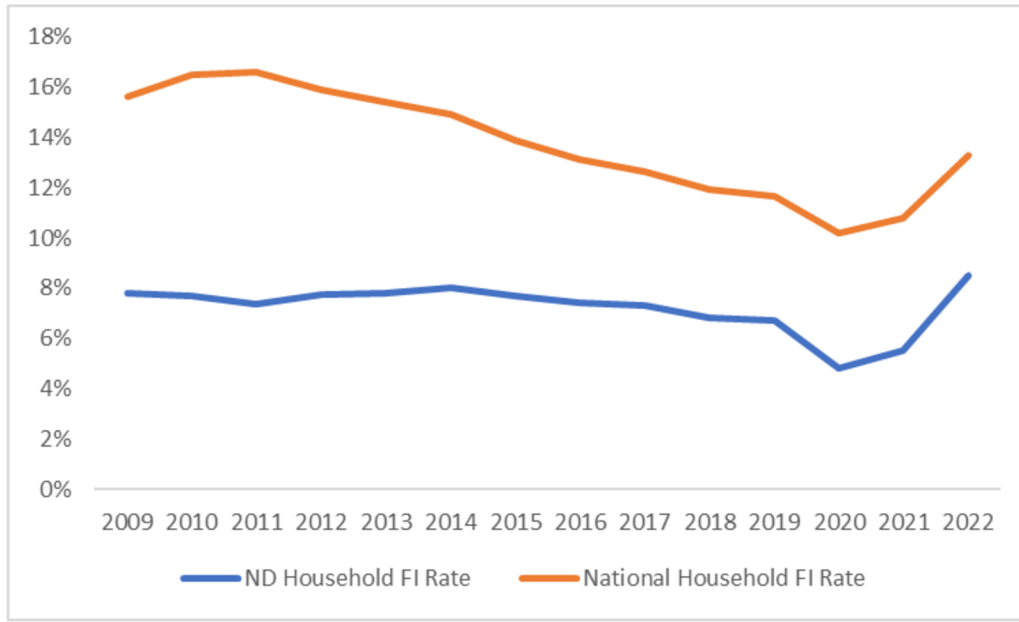
in 2022, ranging widely, from as low as 5.8% in Renville County to as high as 21.4% in Sioux County. As shown in Figure 1, food insecurity tends to be more severe in the southern and rural regions of the country. In fact, 8 out of the 10 counties with the highest food insecurity rates are located in the South, and 9 out of 10 are predominantly rural areas (Map the Meal Gap 2024: Executive Summary).

**Figure 1:** American Food Insecurity Rate by Counties, 2022 [v]

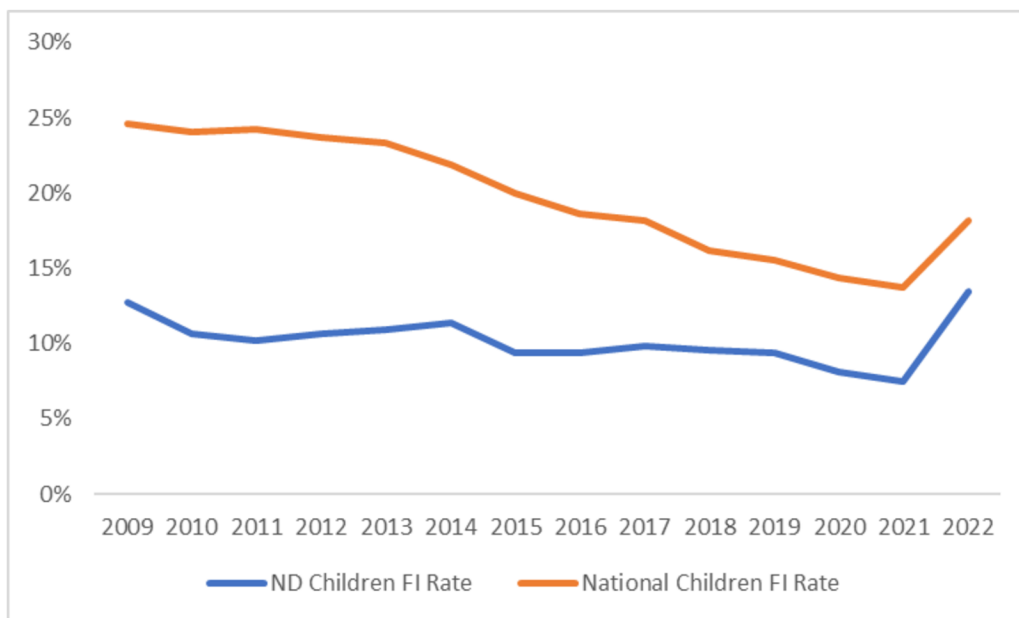


Figures 2 and 3[vi] compare food insecurity rates in North Dakota with the national average from 2009 to 2022, showing that North Dakota consistently has lower rates. General food insecurity rates in North Dakota fluctuated around 8%, while children’s food insecurity rates saw a general decline until 2021. Both figures show a significant drop during COVID, likely due to pandemic-related assistance programs[vii], but rates surged again in 2022 as economic challenges, including inflation, took hold.

**Figure 2:** Food Insecurity Rate in North Dakota and the United States

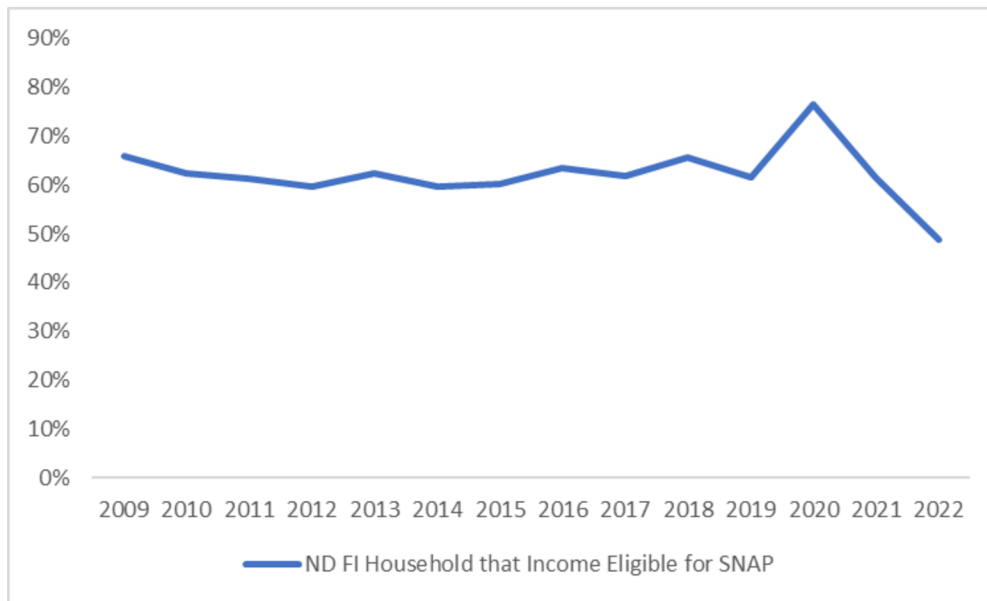


**Figure 3:** Children with Food Insecurity in North Dakota and the United States



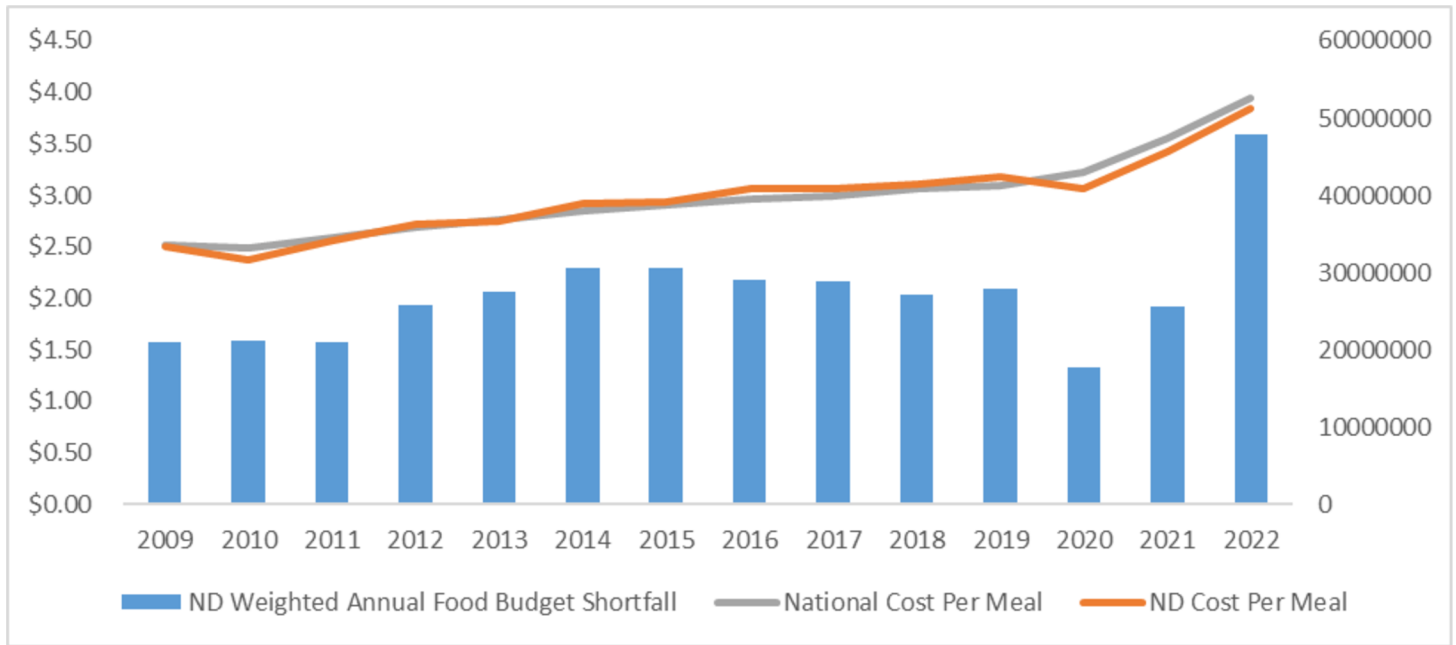
In Feeding America’s methodology, households are surveyed in Core Food Security Module (CFSM)[viii] to determine food insecurity with questions like “Whether your food would run out before you got money to buy more” and “You couldn’t afford to eat balanced meals.” They are classified as food insecure if they respond “yes” to three or more questions. This means that income levels can vary among food-insecure households. In North Dakota, the eligibility threshold for SNAP is set at 200% of the Federal Poverty Line (FPL), and over 60% of food-insecure households meet this requirement in most years (Figure 4).

**Figure 4:** Percentage of Food Insecure Household Income Eligible for SNAP (200% Poverty Line)



In addition to estimating food insecurity, Feeding America estimates the Cost Per Meal that food secure people usually spent and the total cost of meeting all the food needs of those experiencing food insecurity. The estimates of cost per meal in North Dakota have gradually increased over the past several years, though it remains slightly more affordable than the national average for most of the period. The ND Weighted Annual Food Budget Shortfall is estimated by considering the number of food-insecure individuals, the number of meals they require annually, and the average cost per meal. This shortfall highlights the total financial need to eliminate hunger in the state. For instance, in 2022, it was estimated that over \$47.8 million in contributions, support, and donations would be required to eliminate hunger in North Dakota (Figure 5).

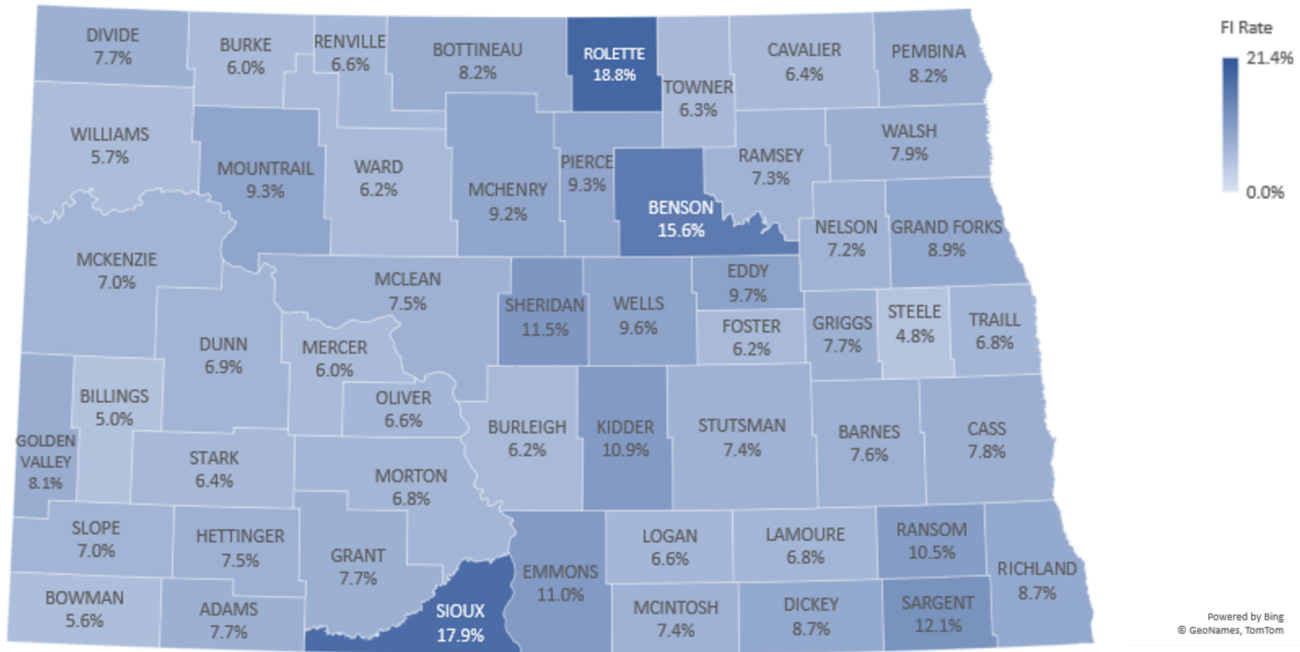
**Figure 5:** Cost Per Meal and Weighted Annual Food Budget Shortfall



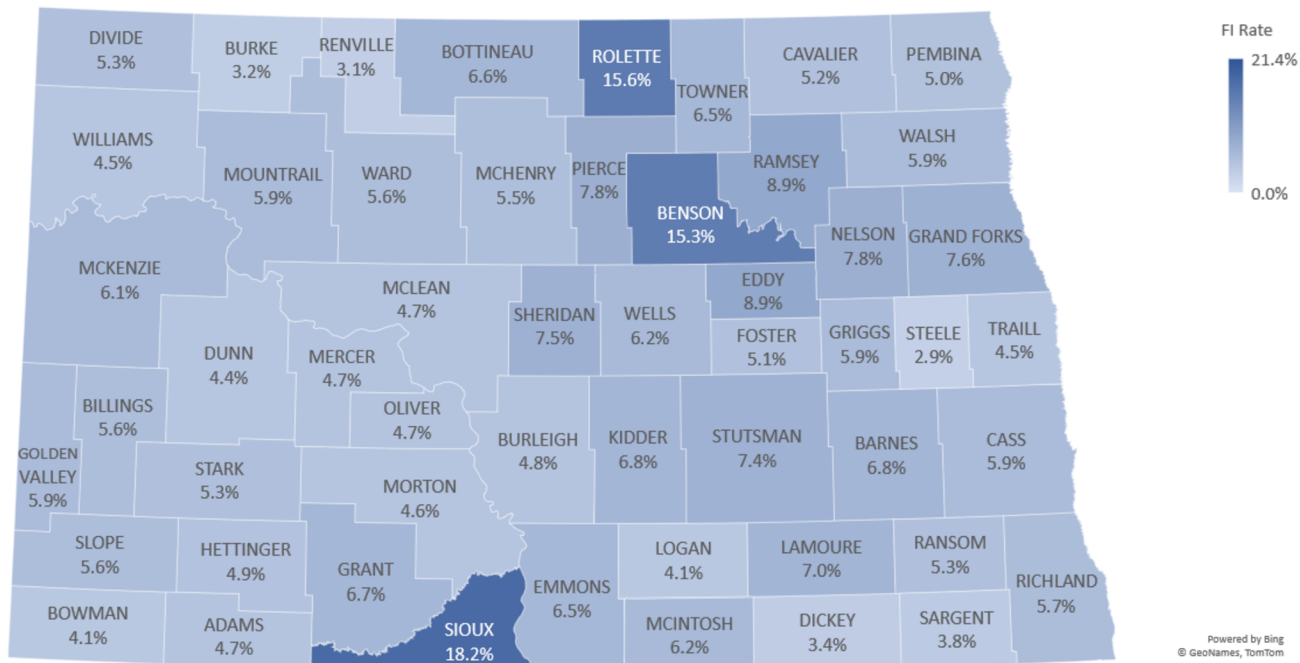
## Food Insecurity in North Dakota Counties

To better understand food insecurity in North Dakota, we mapped the food insecurity rates for each county in 2009 (Figure 6), 2019 (Figure 7) and 2022 (Figure 9) along with the changes between these years (Figure 8 & 10). In addition, the estimated food budget shortfall (Figure 11) and Great Plains Food Bank’s distribution (Figure 12) in 2022 were compared for more effective intervention. While food insecurity has generally declined across the state between 2009 and 2019, it remains persistent in counties such as Rolette, Benson, and Sioux and even increased in Ramsey, Nelson and Billings. After COVID, food insecurity increased again across most counties.

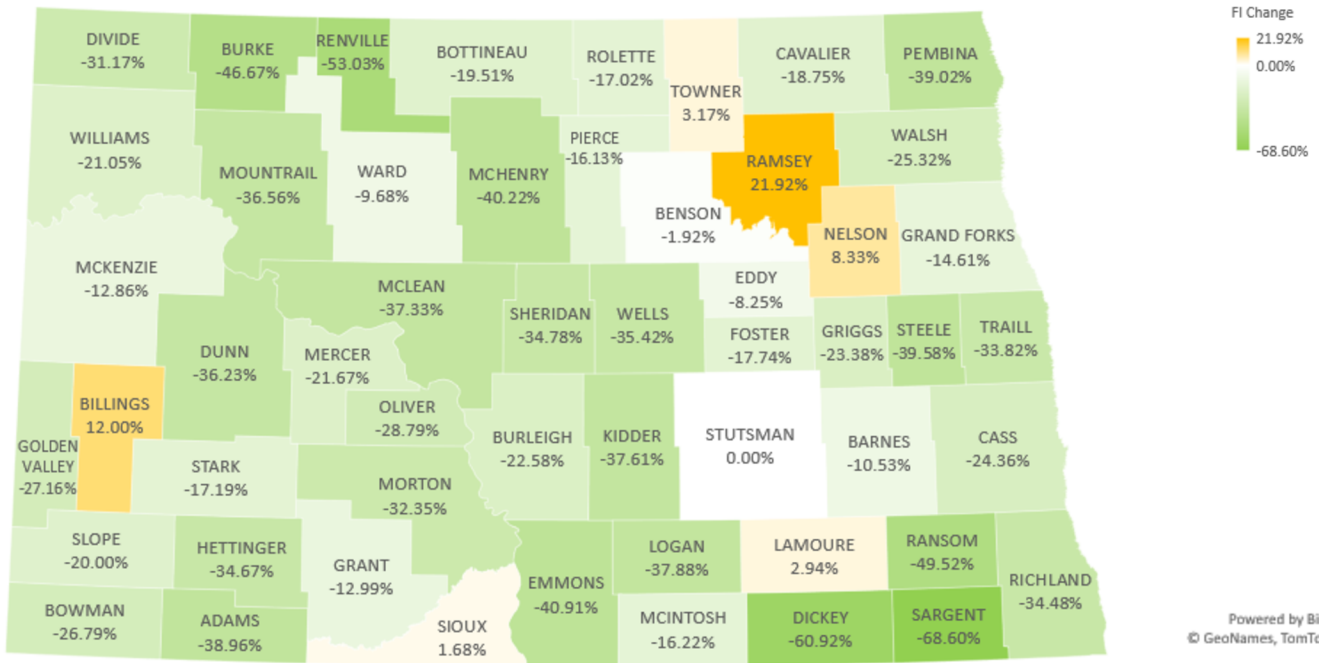
**Figure 6:** Percent of Population Experiencing Food Insecurity in North Dakota by Counties, 2009



**Figure 7:** Percent of Population Experiencing Food Insecurity in North Dakota by Counties, 2019

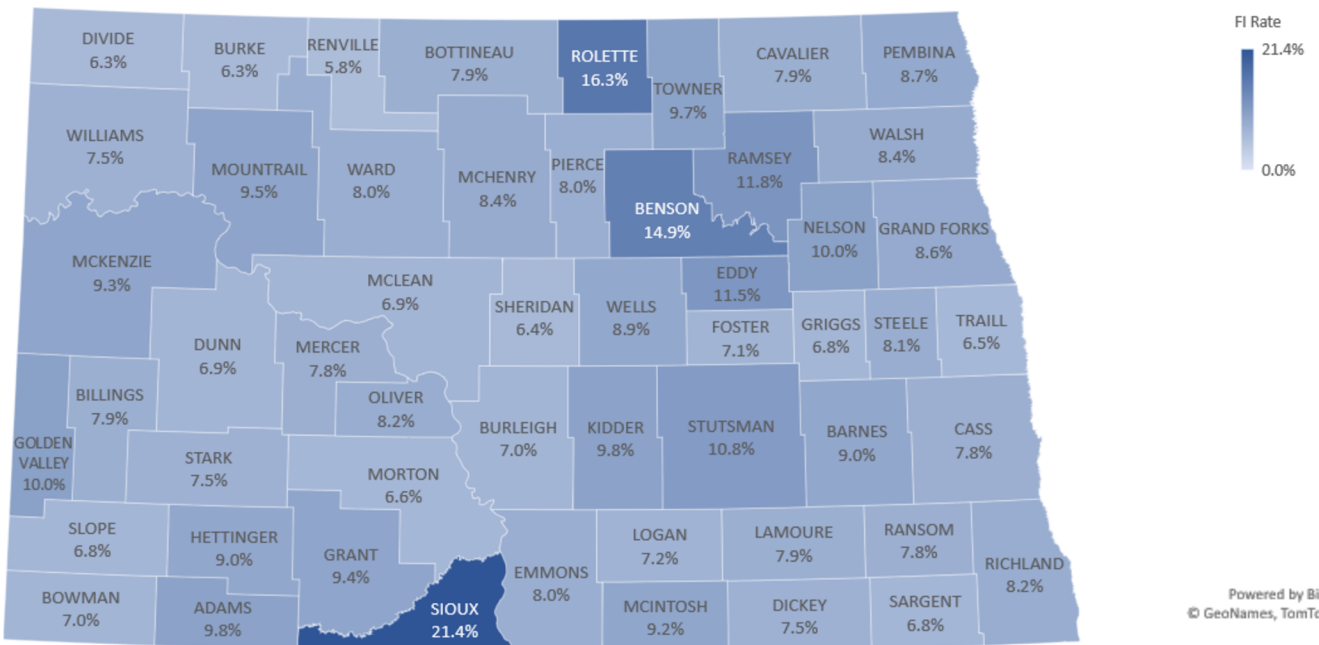


**Figure 8:** Change in the Population Experiencing Food Insecurity in North Dakota from 2009 to 2019.



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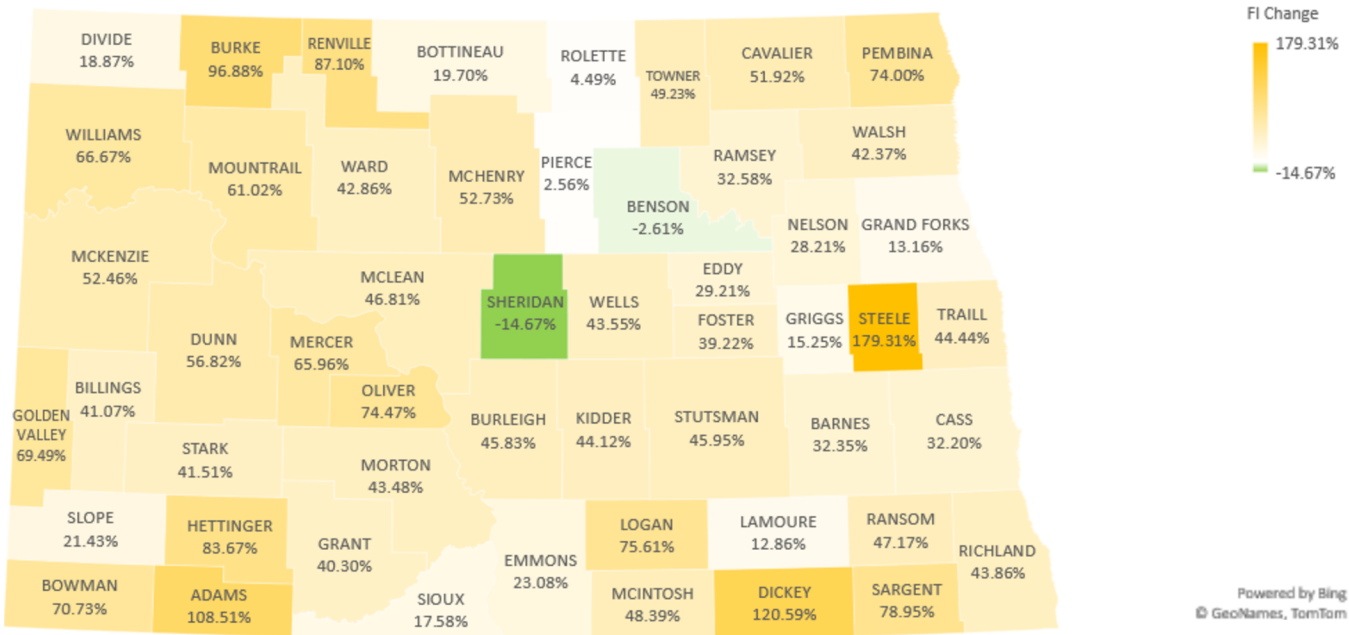
**Figure 9:** Percent of Population Experiencing Food Insecurity in North Dakota by Counties, 2022



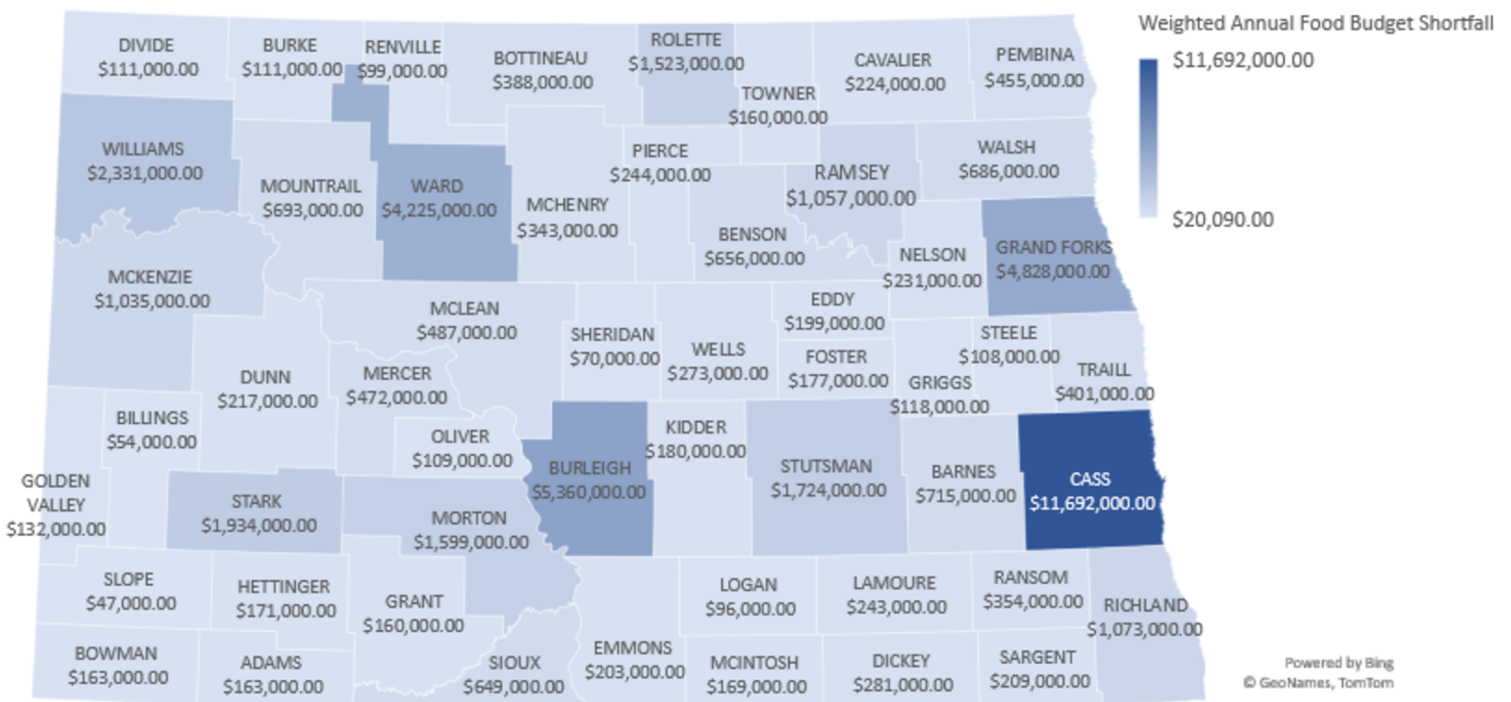
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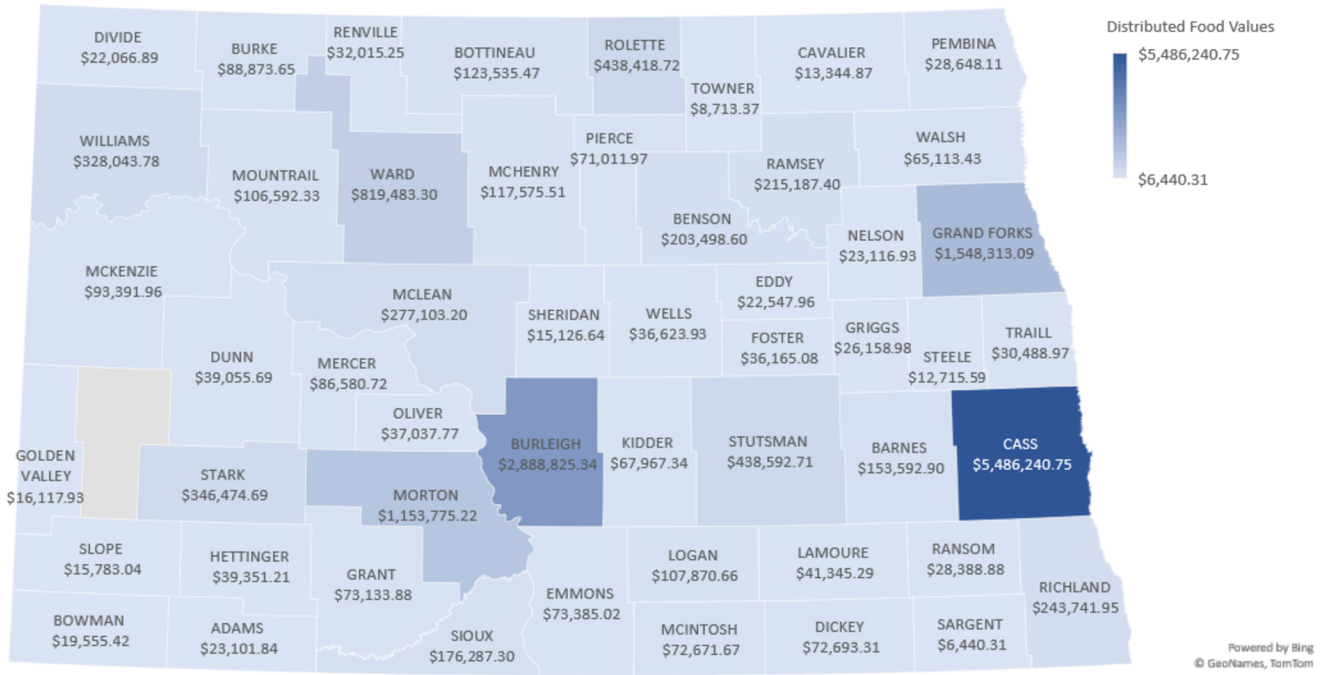
**Figure 10:** Change in the Population Experiencing Food Insecurity in North Dakota from 2019 to 2022.



**Figure 11:** Weighted Annual Food Budget Shortfall, 2022



**Figure 12:** Direct Food Distribution of Great Plains Food Bank, 2022



**Figure 13:** Food Budget Shortfall Coverage Rate by Great Plains Food Bank Direct Food Distribution

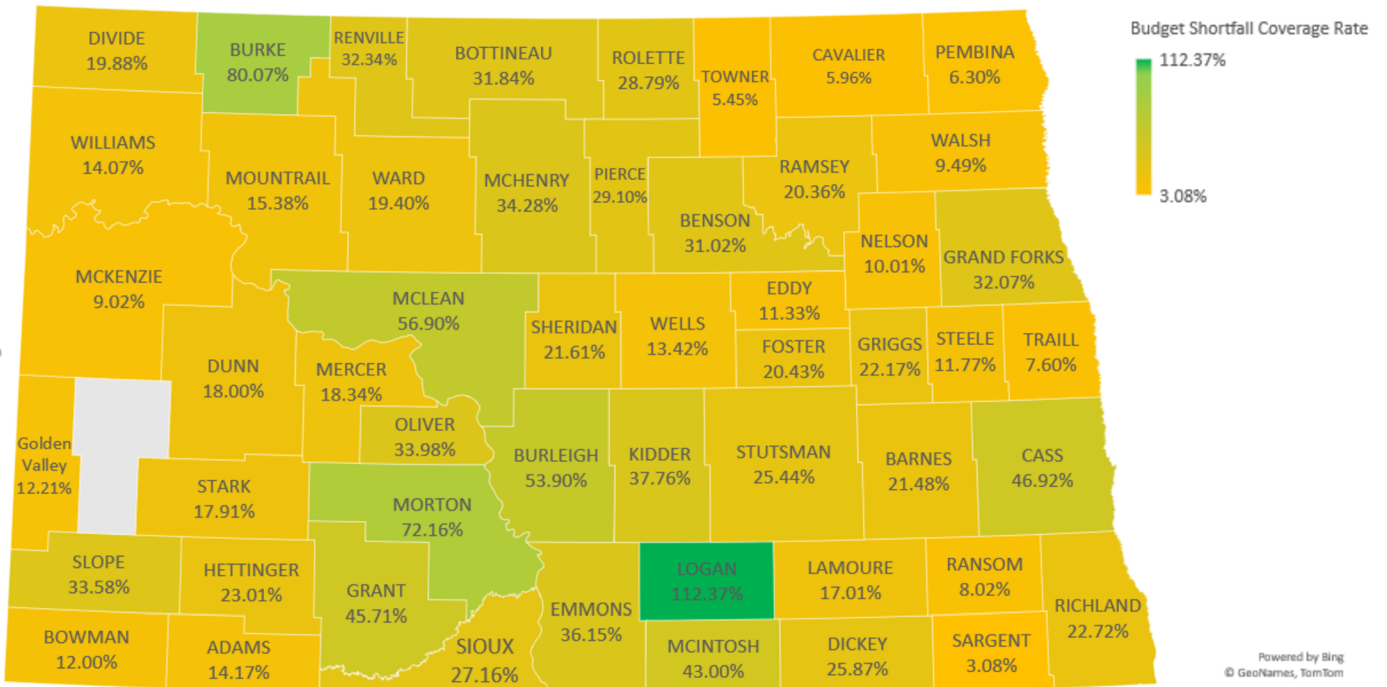


Figure 11 illustrates the estimated cost of meeting all unmet food needs in North Dakota counties. Cass County, which has the largest food-insecure population, recorded the highest budget shortfall, exceeding \$11 million in 2022—a historic high. This was followed by Burleigh, Grand Forks, and Ward counties, each with shortfalls of over \$4 million.

In 2022, the Great Plains Food Bank directly distributed over \$18 million worth of food, with Cass County receiving the largest share of \$5.48 million, followed by Burleigh and Grand Forks (Figure 12). On average, the Great Plains Food Bank covered 37% estimated food budget shortfall over the state. The Great Plains Food Bank also indirectly distributed \$900 thousand worth of food to partner agencies, which is also helpful to alleviate hunger. As figure 13 shows, the Great Plains Food Bank is targeting its distribution to many of the areas in highest need. However, in counties with the highest food insecurity rates, such as Sioux County, the Great Plains Food Bank's distribution met only 27% of the estimated budget shortfall, which is significantly below the statewide average. This suggests that while the Great Plains Food Bank is playing an important role in filling food needs, additional help is needed.

## Conclusions and Suggestions

North Dakota has consistently maintained lower food insecurity rates compared to national averages, both in general and for

children. However, food insecurity rose again after COVID-19 due to the increased cost of food. Despite a general decline in food insecurity across the state, it persists in specific counties such as Rolette, Benson, and Sioux, highlighting the need for focused intervention in these areas. To effectively reduce food insecurity in North Dakota, targeted support should be prioritized in counties and people with persistent issues, including initiatives like more food pantries and partnerships with local organizations. To respond to emergencies like COVID-19, it is crucial to implement continuous monitoring of food insecurity rates and develop fast-tracking reaction strategies to ensure resources are quickly allocated to those most in need. It is our hope that mapping and publishing the geography of food needs in North Dakota will raise awareness of unmet needs, so individuals, philanthropic organizations, and others can develop solutions to further decrease hunger in the State.

## References:

[i] <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/>

[ii] <https://www.ers.usda.gov/publications/pub-details/?pubid=109895>

[iii] <https://map.feedingamerica.org/>

[iv] <https://www.feedingamerica.org/sites/default/files/2024-05/Map%20the%20Meal%20Gap%202024%20Technical%20Brief.pdf>

[v] <https://map.feedingamerica.org/>

[vi] Data Source for All Figures: Dewey, A., Harris, V., Hake, M., & Engelhard, E. (2024). Map the Meal Gap 2024: An Analysis of County and Congressional District Food Insecurity and County Food Cost in the United States in 2022. Feeding America.

[vii] <https://www.whitehouse.gov/cea/written-materials/2021/07/01/federal-income-support-helps-boost-food-security-rates/>

[viii] <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/surveytools/>

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## About the Author



**Jiawei (Ethan) Liu, M.A.**, is a Research Specialist for the Challey Institute for Global Innovation and Growth. He obtained a Bachelor of Science in Finance degree at Southwest University of Finance and Economics in Chengdu, China, and earned a Master of Arts in International Economics and Finance at Brandeis University. His areas of interest include International Economics, International Business, and Applied Microeconomics. As a research specialist, he is responsible for digging into the data tied to regional concerns and explaining the findings for community members to enhance understanding and enable informed decision making.

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