



COMBATING FOOD INSECURITY IN THE US: A COUNTY-LEVEL ANALYSIS AND RECOMMENDATIONS

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WHO ARE AFFECTED BY FOOD INSECURITY?

41,508,120

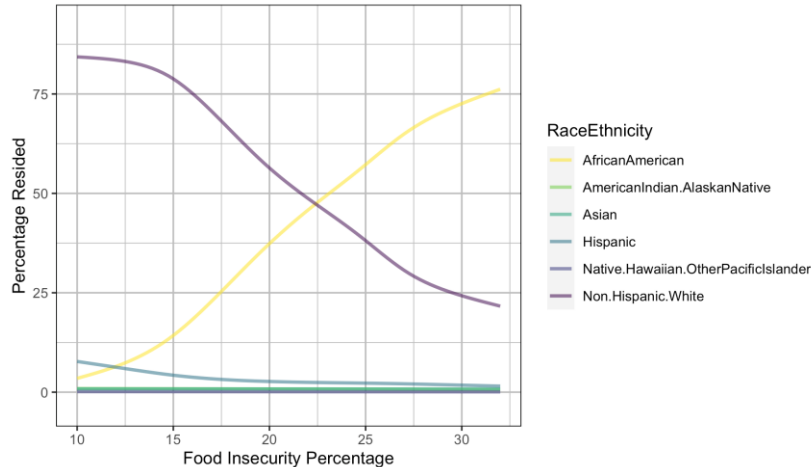


10.2%

U.S. citizens are food Insecure
(2019)

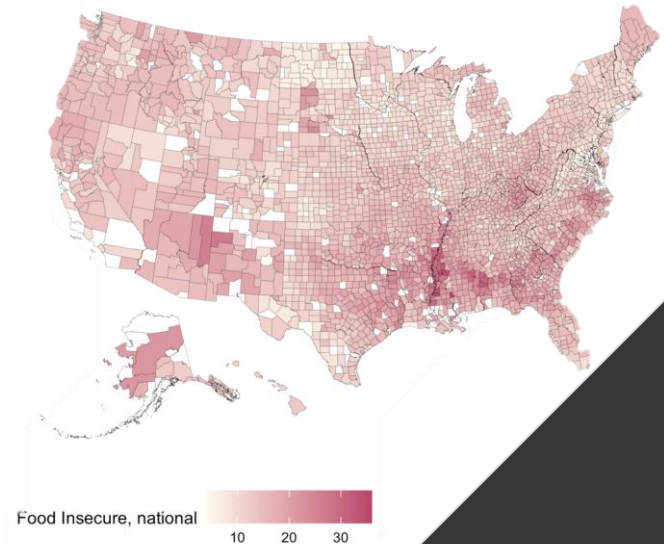
Of Total U.S. Population

Food Insecurity V.S. Race & Ethnicity



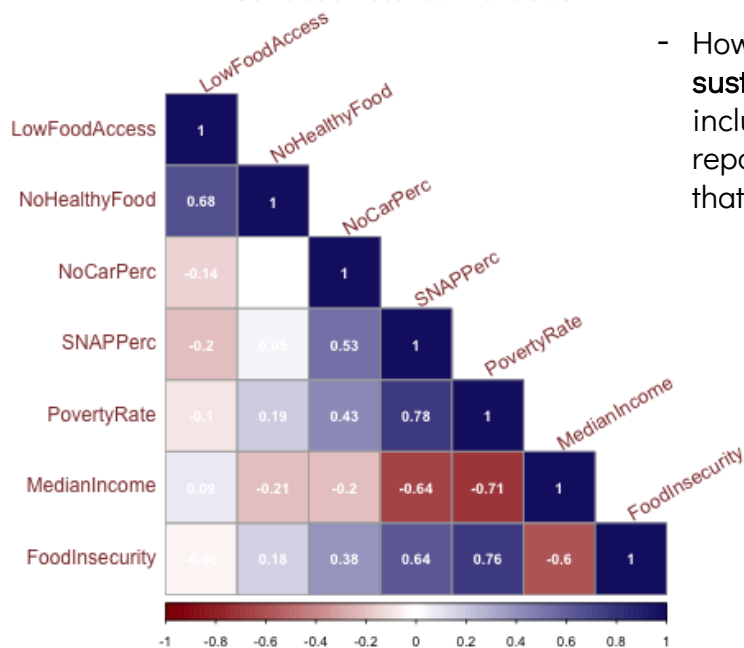
- African Americans are disproportionately residing in areas with **severe food insecurity problem**
- Non-Hispanic White are disproportionately living in places that have **light food insecurity problems**

National Food Insecurity Percentage

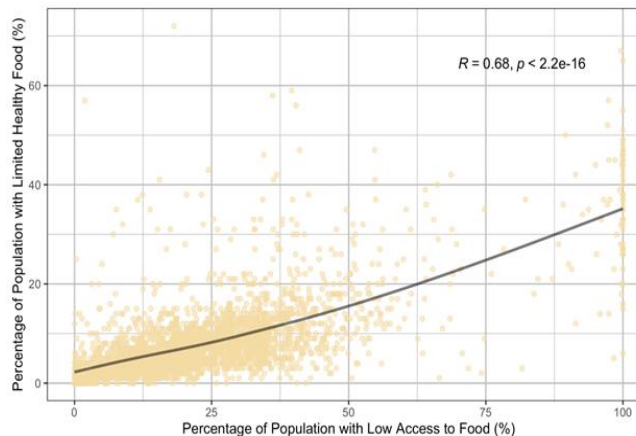


WHAT RELATES TO FOOD INSECURITY?

Correlation between Variables



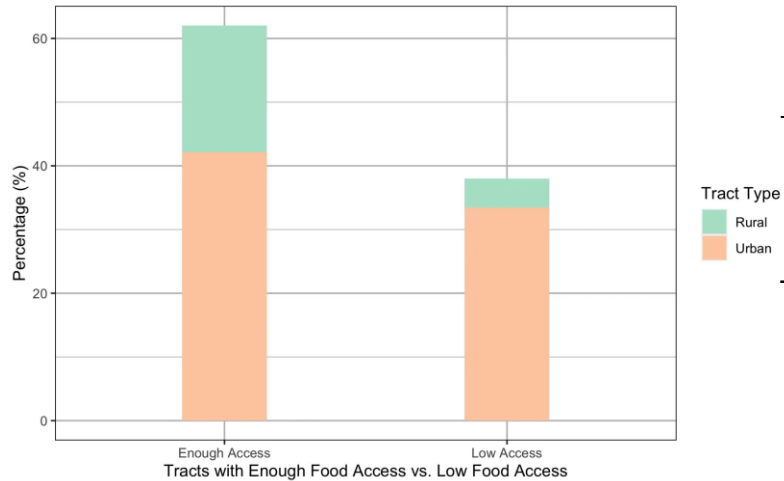
- However, **low access to food strongly relates to the sustained lack of healthy food**. As food insecurity includes the inability to acquire healthy food, this report also analyzes **the access to food** as a factor that influences food insecurity.



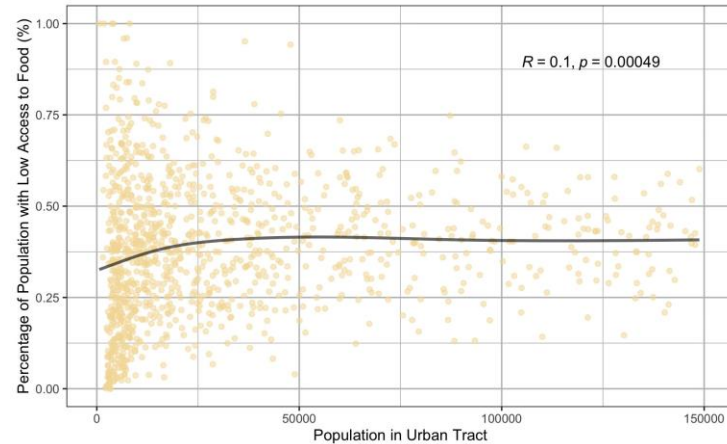
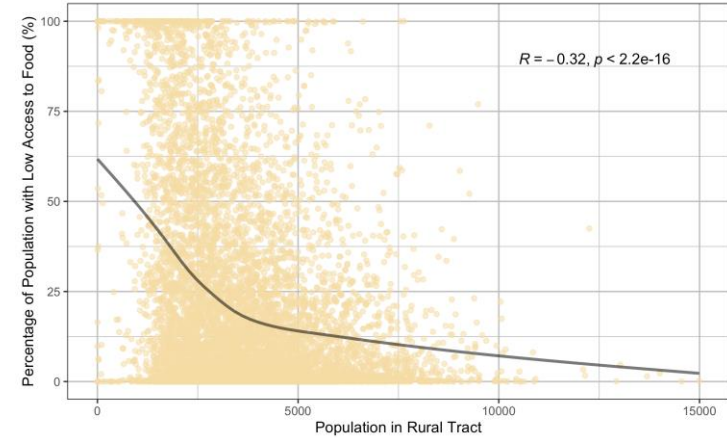
- Inconvenient traveling distances to supermarkets cause low access to food and healthier options of food.
- **Food insecurity** is heavily related to **poverty rate, median income, and percentage of people receiving SNAP**. These three factors are all related to **income**.
- Car access also correlates with food insecurity, since not having cars can worsen the access problem.

DISTRIBUTION OF AREAS WITH LOW FOOD ACCESS

- Low Food Access:
38% of all census tracts (~ 22.2% individuals)
88% of tracts with low food access are urban

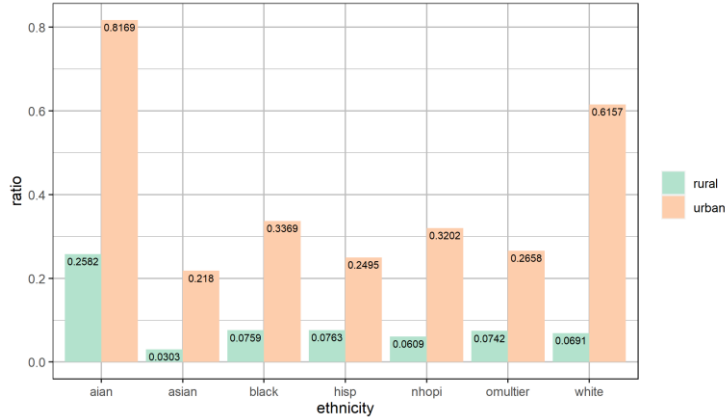


- Rural tracts with **small population have higher percentage of population with low access to food.**
- Supermarkets cannot make profits in small communities.
- They are **less willing to run business in tracts with small population size.**
- Urban tract population sizes however have no correlation with food accessibility.



WHAT STORY CAN AGE AND ETHNICITY TALK ABOUT FOOD ACCESS

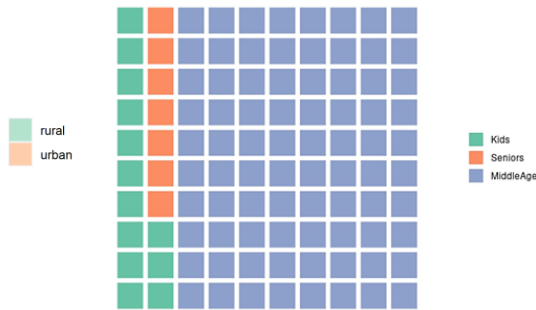
Share of People with Low Food Access in Ethnicity Groups



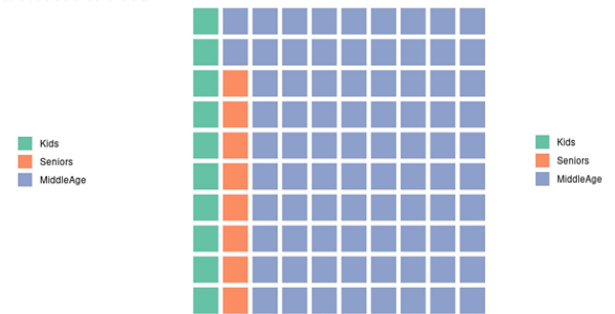
ETHNICITY

- **White** and **American Indian / Native Alaska** in **rural areas** have relatively extreme high ratios of people living in food deserts
- **American Indian / Native Alaska** in **urban areas** have the highest ratio of people living in food deserts

Kids and Seniors in Urban Tracts with Low Access to Food



Kids and Seniors in Rural Tracts with Low Access to Food

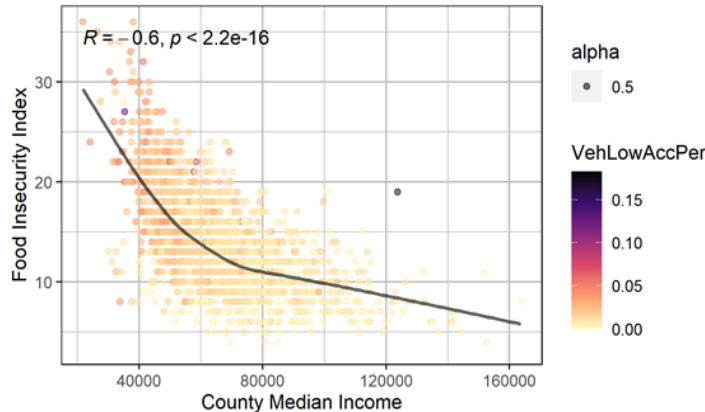


AGE

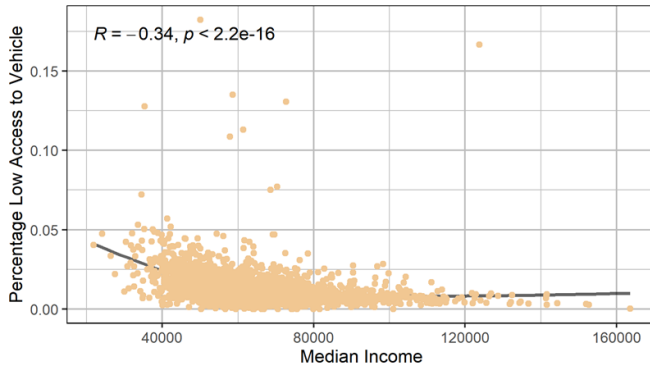
- **Kids** are more likely to be influenced in **urban areas**
- **Seniors** are more likely to be influenced in **rural areas**

VEHICLE ACCESS OR MONEY: WHICH IS PLAYING A MORE IMPORTANT ROLE?

Income vs. Food Insecurity



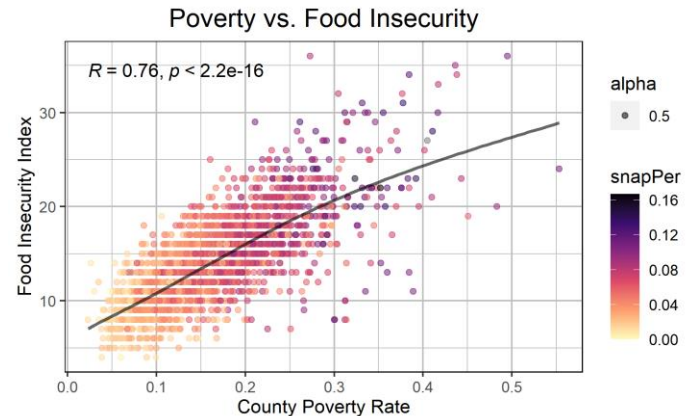
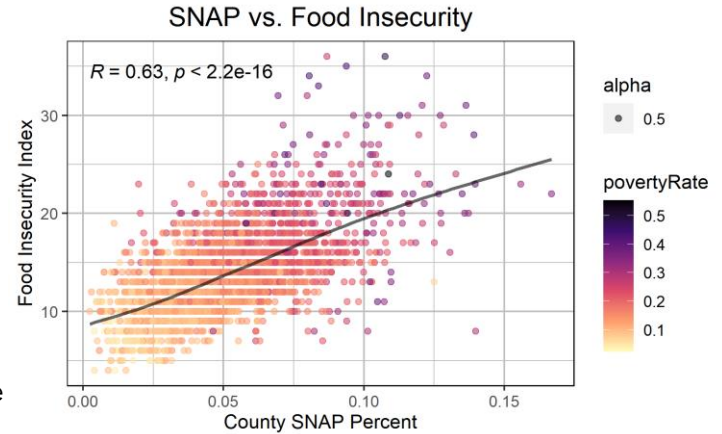
Median Income vs. Vehicle Access



- Based on the correlations between variables, there are two hypotheses: first, inconvenient travel can cause limited access to food (no transportation & long distance); second, without money, people cannot afford food even if they have access to it. But which one is the dominant factor to the issue of food insecurity?
- There is a relatively strong, negative relationship between the median income of a county and the food insecurity index of that county.
- The bottom graph suggests that counties across different median incomes have a similar percentage of people with low access to vehicles.
- Vehicle access across the country is fair: only 15 counties have more than 5 percent of people have low access to vehicles
- Therefore, the evidence above supports that income is the more important factor as it has a direct, negative association with food insecurity.

SNAP PROGRAM: DOES IT WORK?

- SNAP program aims to provide nutrition benefits to the **food budget needy family**.
- There are **strong, positive correlations** between the percentage population of a county receiving SNAP and the food insecurity index of that county, as well as the county's poverty rate.
- Households that receive food budget benefits are also very likely to be the families with food insecurity problem.
- The good news is that SNAP may solve poverty and food insecurity at the same time, but the bad news is that **SNAP is clearly not enough to solve the problem of food insecurity**.
- On average, the amount the SNAP that a family receives is about **\$240 per month** in the fiscal year of 2019 and 2020. In other words, this amount of money only means \$121 per person per month and **\$1.4 per person per meal**.
- \$1.4 per meal does not give people enough incentive to shop in proper supermarkets that are farther away than convenient places such as gas stations that provide unhealthy choices. **It also does not enable anyone who can only afford junk food to buy a healthy meal.**



RESULTS

- Urban regions face a more serious problem of low food access than rural areas.
- Money is the dominant factor that affects food insecurity when compared to vehicle access.
- Higher percentage of low food access is usually seen in rural counties with smaller population sizes.
- SNAP successfully targets people in need by poverty rate, but the provided food budget is not sufficient to support a whole family.
- Food insecurity and low food access are unevenly distributed among race, ethnicity, and age.

RECOMMENDATIONS

- Lower food pricing of supermarkets in poverty areas by **reducing taxation**
- **Increase the amount of SNAP** that a household can receive per month
- **Run pop-up food banks** or other forms of food transportation to rural communities
- Start a program that **gives grocery store food benefits**, which provides incentive for people to go to the grocery store and give them more available money on food
- **Offer subsidies to supermarkets** to be open at less- populated areas
- All suggested changes should be especially accommodated to the **people of white and Native American ethnicity**; further attention should be given to the **seniors and children** among these groups; it is suggested to carry out research on the reasons that cause these specific groups to be food insecure to better help these people in need.

BIBLIOGRAPHY

- [Key Statistics & Graphics](#)
- [County Health Rankings & Roadmaps](#)
- [Food Insecurity and Food Deserts: How Are They Related?](#)
- [A Quick Guide to SNAP Eligibility and Benefits](#)
- [The Prevalence of Food Insecurity in 2019 Is Down from 2018](#)
- [Hunger](#)