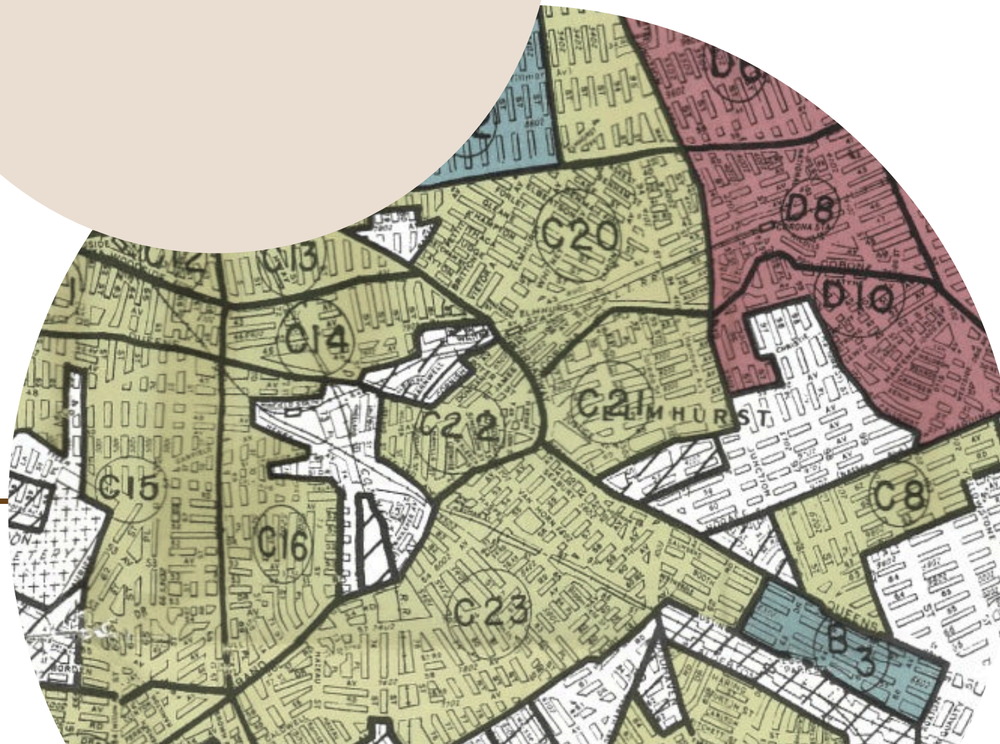
REDLINING’S LEGACY, 90 YEARS LATER

AMY TAN



AN OVERVIEW

WHERE WE'RE GOING:

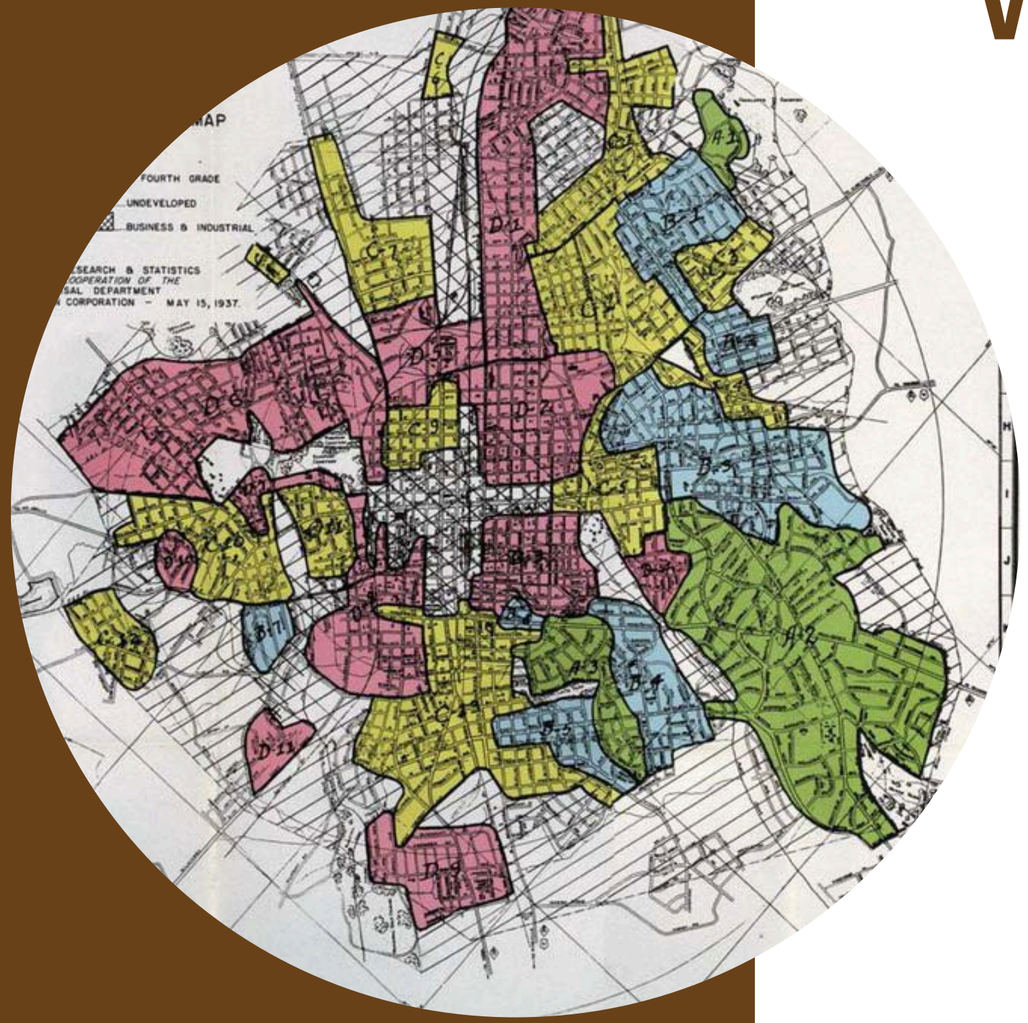
01 What is Redlining?

02 The Question(s)

03 The Data

04 EDA + Discussion

05 Limitations/Further Research



WHAT IS REDLINING?

REDLINING:

- a discriminatory practice that consists of the systematic denial of services such as mortgages, insurance loans, and other financial services to residents of certain areas, based on their race or ethnicity.
- Made Illegal in the Fair Housing Act of 1968

HOLC (HOME OWNER'S LOAN CORPORATION)

- graded neighborhoods based on their perceived mortgage-lending risk between 1930-1940

A - "Best"

B - "Desirable"

C - "Declining'

D - "Hazardous"

THE QUESTION(S)

1. After ~90 years, are previously redlined areas still segregated?

2. If so, what states, divisions, and regions are the most segregated (i.e. are there patterns to more/less demographic inequity?)

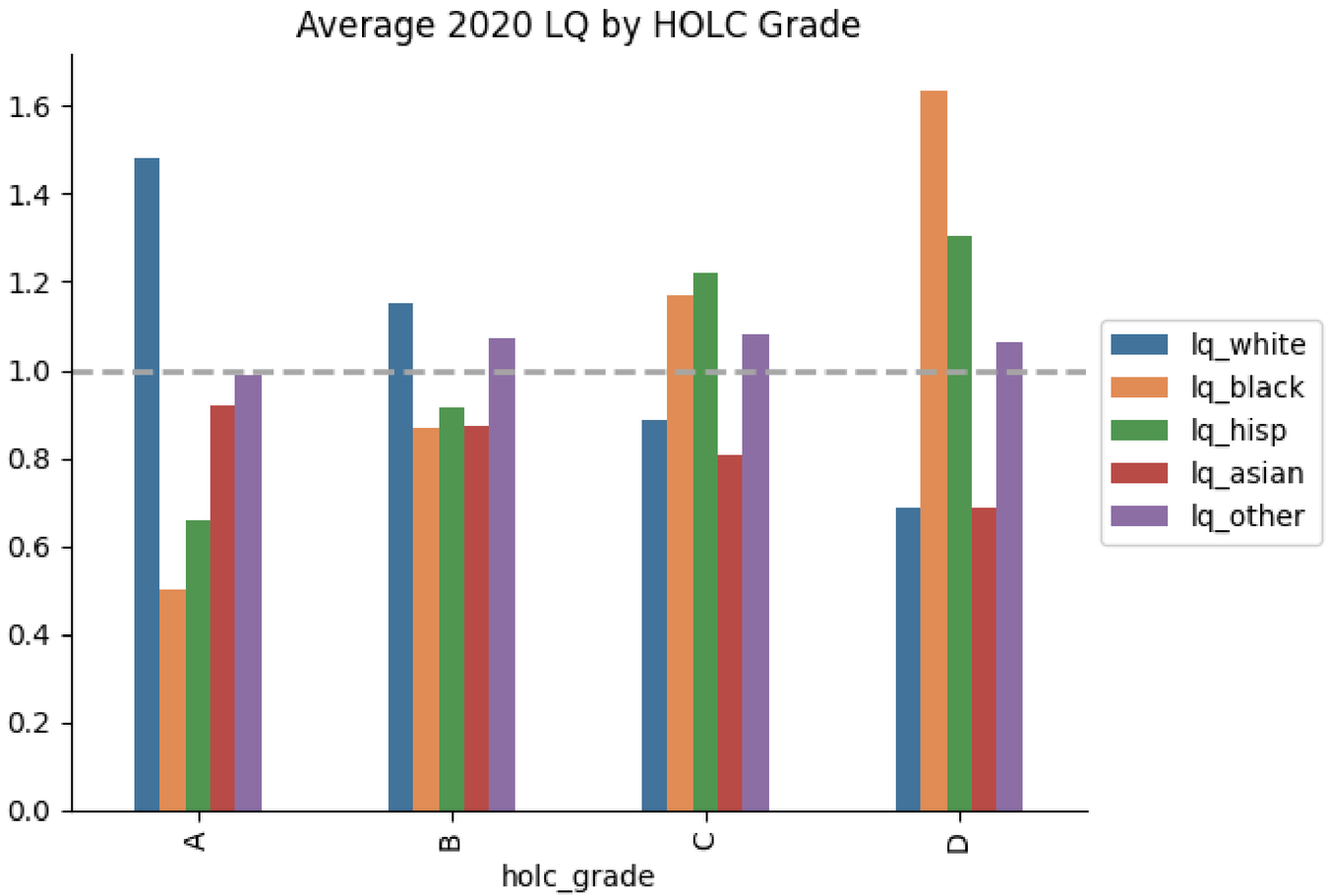
THE DATA

- 137 metro areas
- 38 states (lack of metro areas in “Mountain” Division)

- For each metro area:
  - Grouped by HOLC grade (A, B, C, D) - 1930s data
  - Further grouped by 5 demographic groups: White, Black, Hispanic, Asian, and Other - from the 2020 Census
    - Each group has a **LQ (Location Quotient)** for that specific HOLC grade
      - proportion of a group in a smaller area / proportion of that group in the larger surrounding area
      - 1 --> perfect representation
      - > 1 --> over representation
      - < 1 --> under representation

	metro_area	holc_grade	lq_white	lq_black	lq_hisp	lq_asian	lq_other
420	San Diego-Chula Vista-Carlsbad, CA	A	1.80	0.24	0.40	0.36	1.08
421	San Diego-Chula Vista-Carlsbad, CA	B	1.64	0.40	0.53	0.45	1.11
422	San Diego-Chula Vista-Carlsbad, CA	C	1.06	1.06	1.03	0.71	0.97
423	San Diego-Chula Vista-Carlsbad, CA	D	0.35	1.70	1.76	0.92	0.67

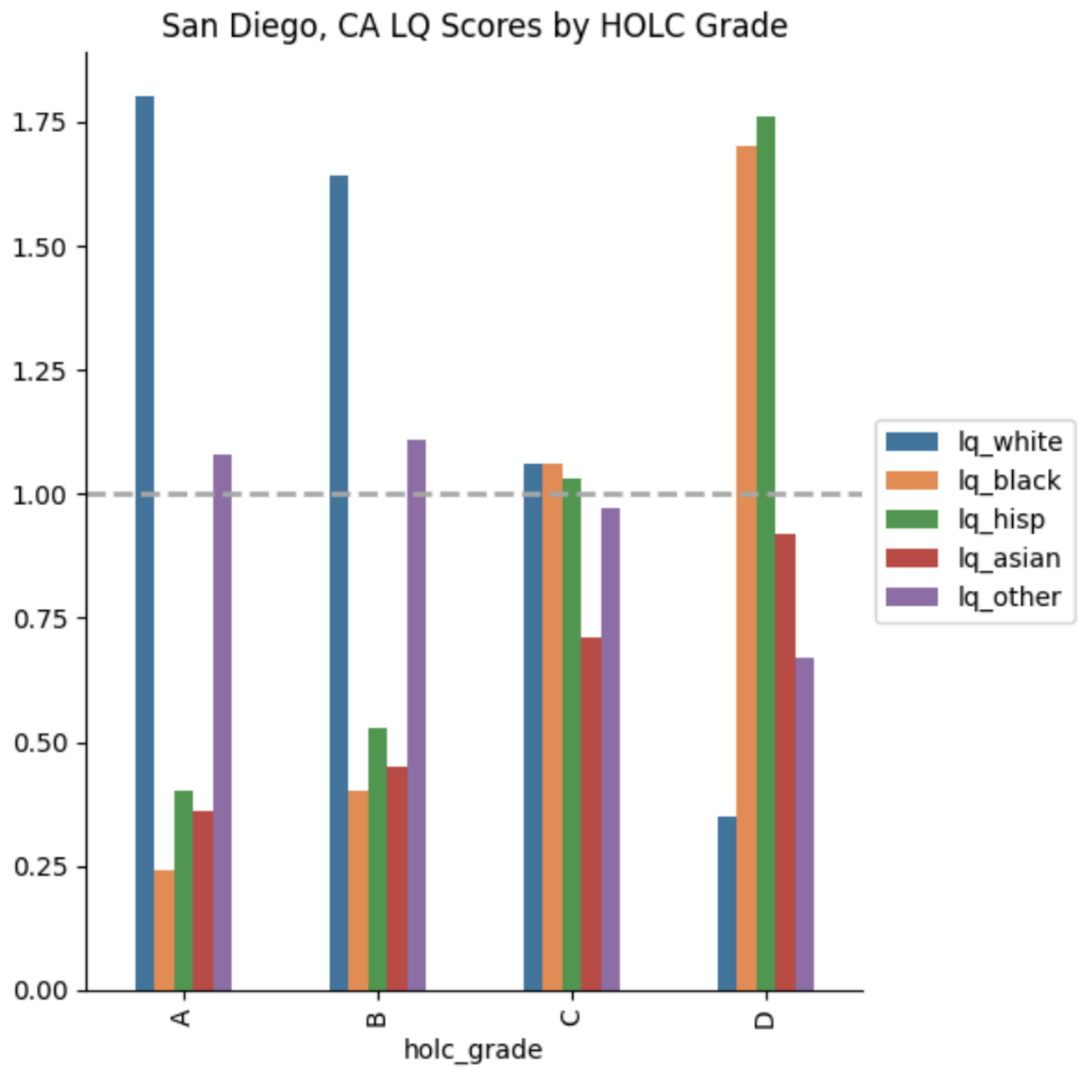
1. AFTER ~90 YEARS, ARE PREVIOUSLY REDLINED AREAS STILL SEGREGATED?



- Yes

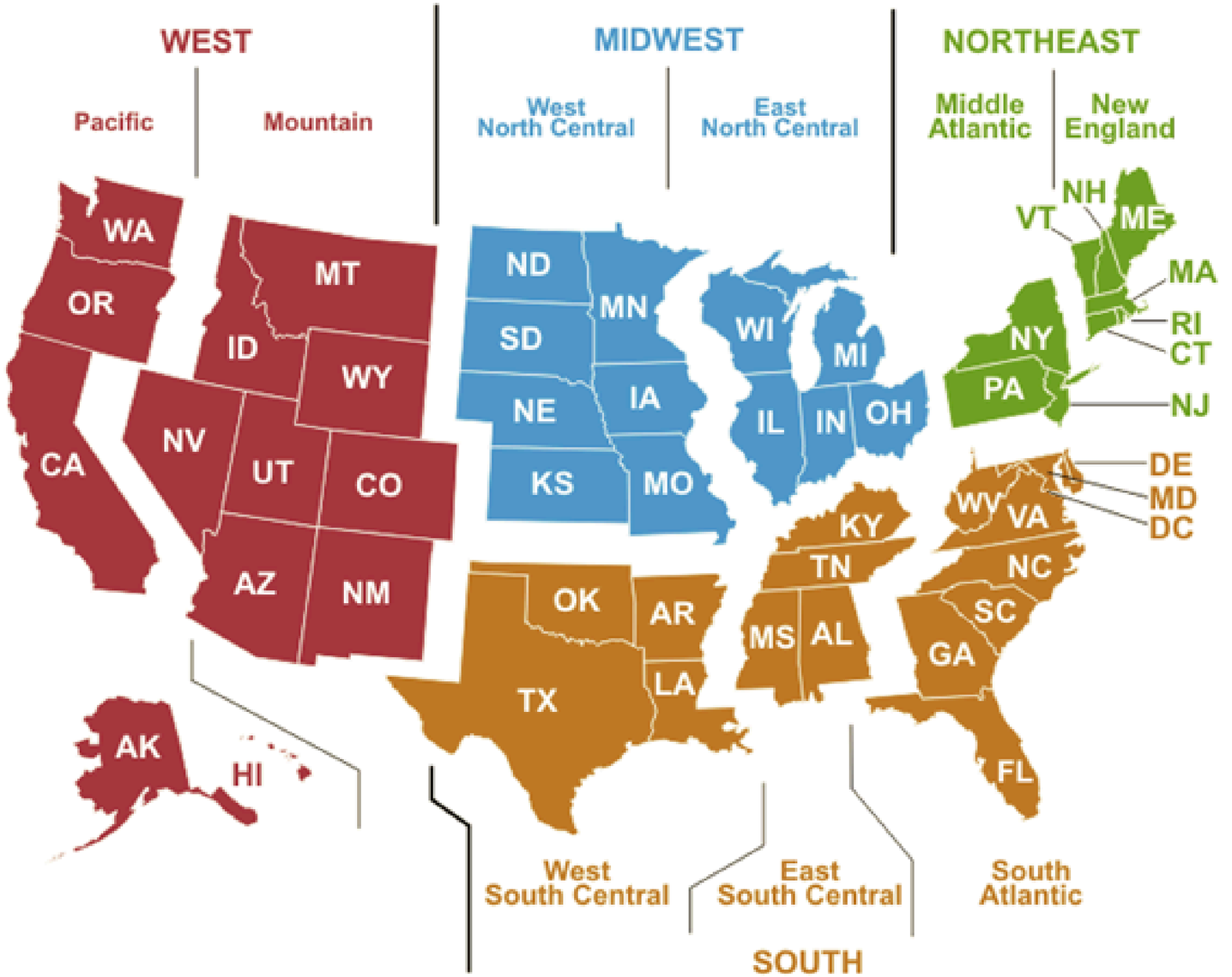
- Overrepresentation of white folks in redlined A and B areas
- Overrepresentation of Black and Hispanic folks in redlined C and D area - most drastically impacting black folks

TAKING A LOOK AT SAN DIEGO



- We see the same pattern!

WHAT STATES, DIVISIONS, AND REGIONS ARE THE MOST SEGREGATED?



CREATING A BROADER INEQUITY COEFFICIENT

THE BIG IDEA:

Find a way to combine LQs across demographic group and HOLC grade into a single inequity measurement for a metro area. This will allow us to compare states, divisions, and regions!

THE MATH:

For each metro area: $\sum(1 - \text{LQ score})^2 \quad / \quad 20$

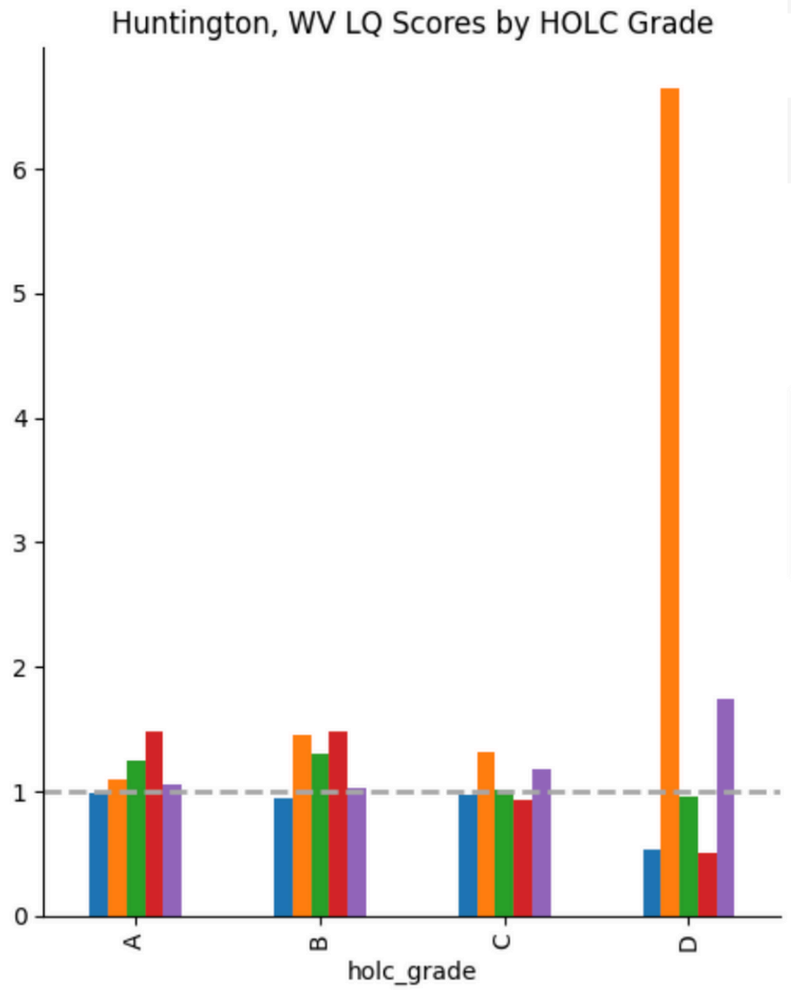
THE INTERPRETATION:

The closer the inequity coefficient is to 0, the less demographic inequity the metro area has.

The larger the inequity coefficient is, the more demographic inequity the metro area has.

WE CAN USE THIS COEFFICIENT AND FIND ITS AVERAGE ACROSS STATES, DIVISIONS, AND REGIONS!

WEST VIRGINIA?



metro_area	city	state	lq_variance	division	region
Charleston, WV	Charleston	WV	0.140800	South Atlantic	South
Huntington-Ashland, WV-KY-OH	Huntington	WV	1.689085	South Atlantic	South
Wheeling, WV-OH	Wheeling	WV	0.241125	South Atlantic	South

- Research into this doesn't offer an explanation for this LQ score > 6?
- Could just be a data/calculation error?
- Remove from the dataset to not skew results

TO RECAP

MOST EQUITABLE

LEAST EQUITABLE

STATE:

- Maryland
- Colorado
- …
- New Jersey
- Mississippi

DIVISION:

- Mountain
- West North Central
- **…**
- South Atlantic
- Middle Atlantic
- East South Central

REGION:

- Midwest
- West
- South
- Northeast

LIMITATIONS

- Only 38 states - particularly lacking states from Mountain Division
- Some metro areas cross states - reducing the accuracy of regional judgements
- “Other” Demographic group captures a huge range of ethnicities and groups
- West Virginia?

FURTHER RESEARCH

- Using software like ARCGIS to better map/visualize demographic inequities
- Pair mapped demographic data by HOLC grades with mapped food insecurity, social vulnerability, life expectancy, etc.
- Map across time - census data across years