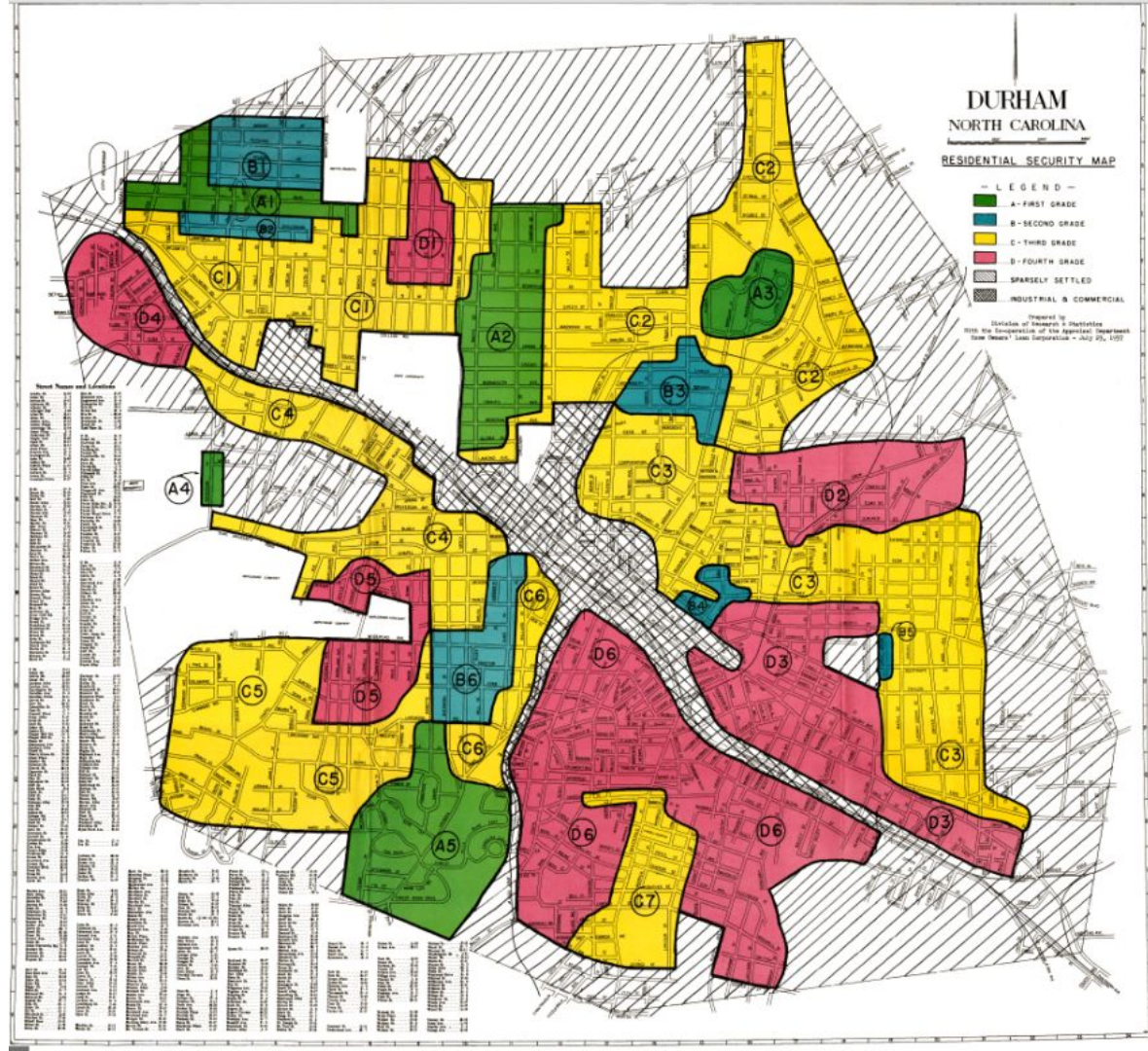


# REDLINING

Ethan Byrne, Sara Oberle, Hannah  
Pechet & Aaron Siegle



# Topic & Motivation

- **Redlining** – the practice of classifying neighborhoods as hazardous to investment
- **HOLC Grading System**
  - ◆ A, B, C, D
- Impacted minorities' ability to accumulate generational wealth and financial security
- Has resulted in lasting racial segregation





# Data Sourcing

- FiveThirtyEight
- 551 observations
- 28 variables
- HOLC maps from 1935–1940
- 2020 U.S. Census





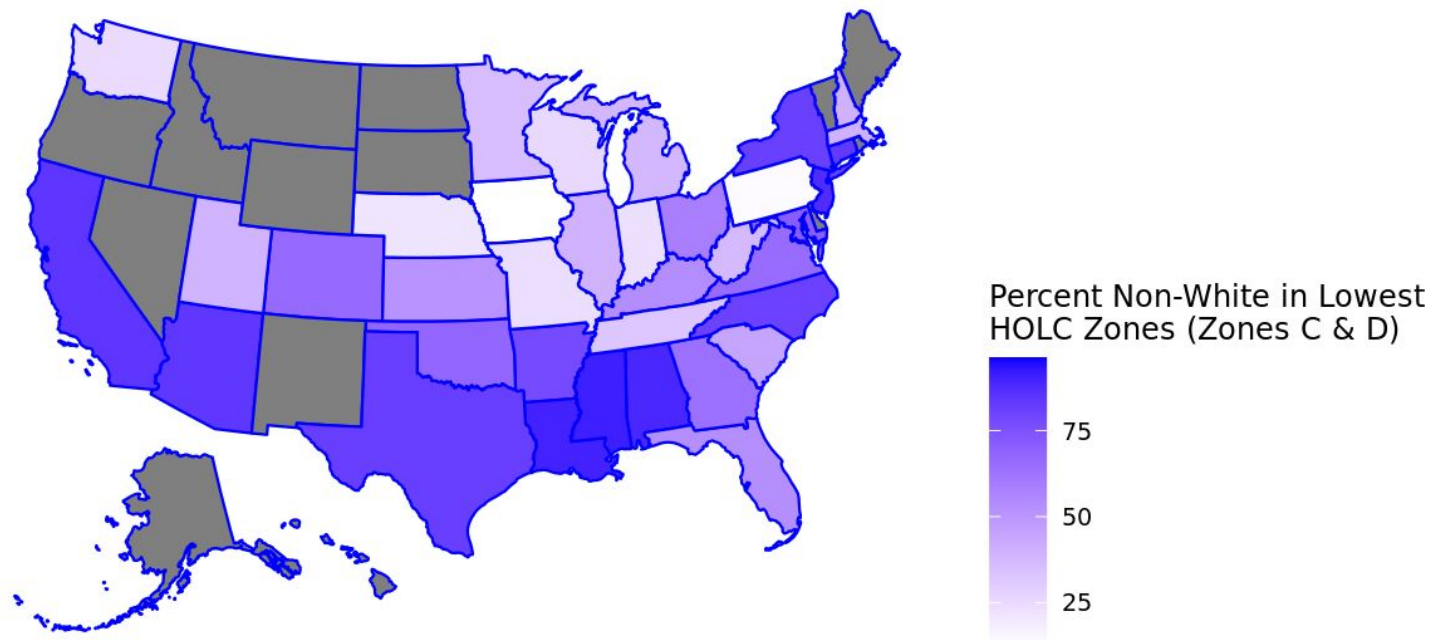


The background is a detailed map of a city, likely Chicago, showing various colored regions (yellow, blue, green, red) and a large text overlay. The text "EXPLORATORY DATA ANALYSIS" is prominently displayed in the center. The map includes labels for "L A K E" and "TOTAL POPULATION".

# EXPLORATORY DATA ANALYSIS

## Proportions of Non-White Population in HOLC Zones C & D Across the US\*

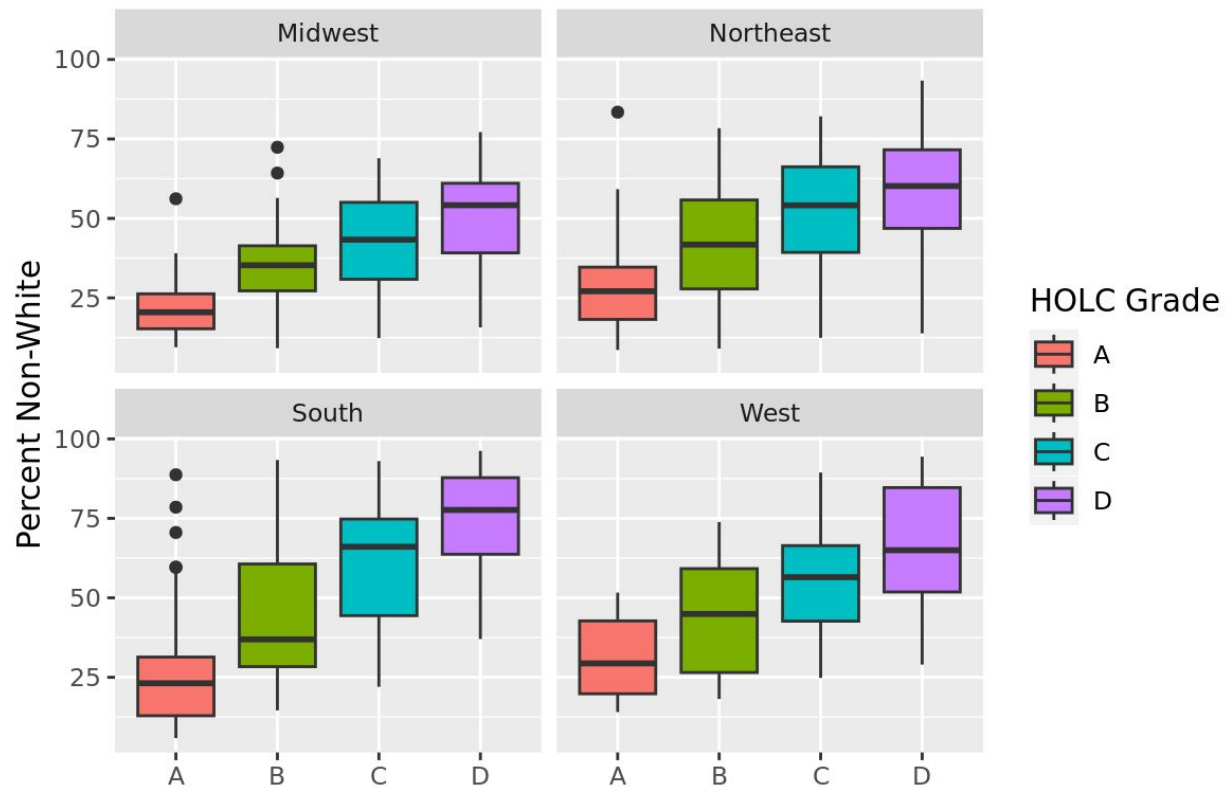
States shaded grey indicate a lack of metropolitan statistical areas (MSA)



**Figure 1**

Data from 2020

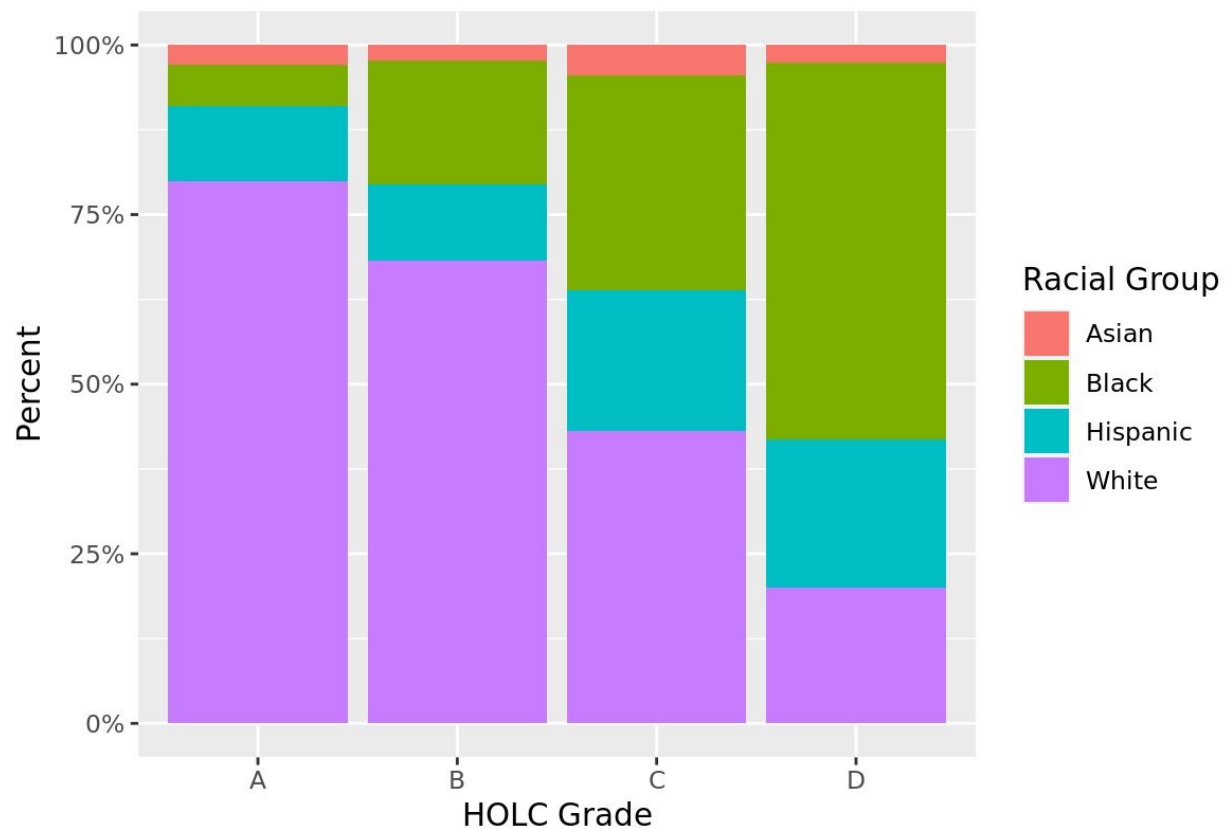
## Percent Non-White Population by HOLC Zones in the 4 Major US Regions



Data from 2020

**Figure 2**

## Racial Breakdown of Durham-Chapel Hill, NC, HOLC Zones



Data from 2020

**Figure 4**



# INFERENCE, MODELING & OTHER ANALYSES

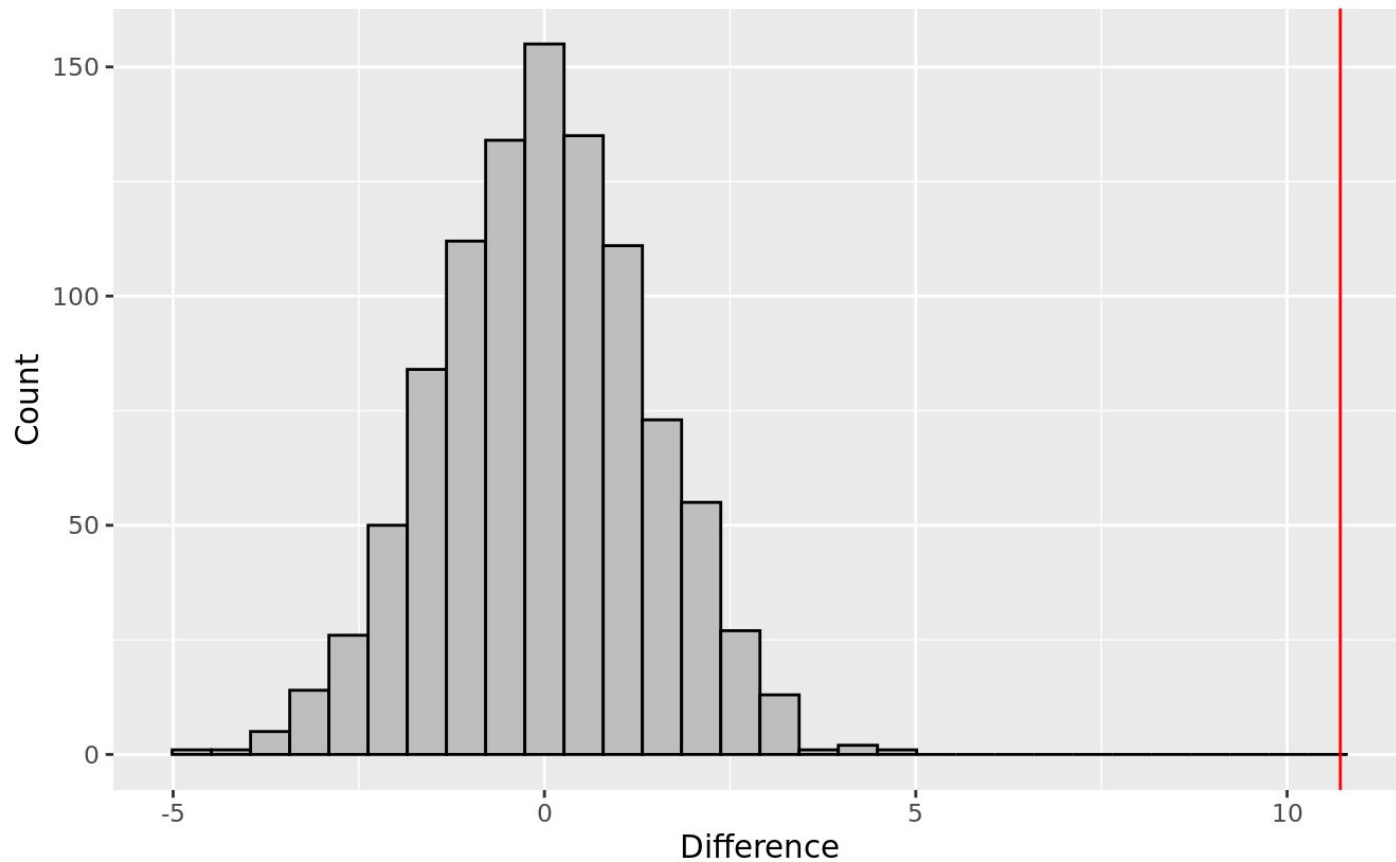


$$H_0 : \mu_{surrounding} - \mu_{inzone} = 0$$

$$H_A : \mu_{surrounding} - \mu_{inzone} \neq 0$$

## Null Distribution

Difference in Proportion of White Populations Across  
HOLC Zones and Surrounding Areas

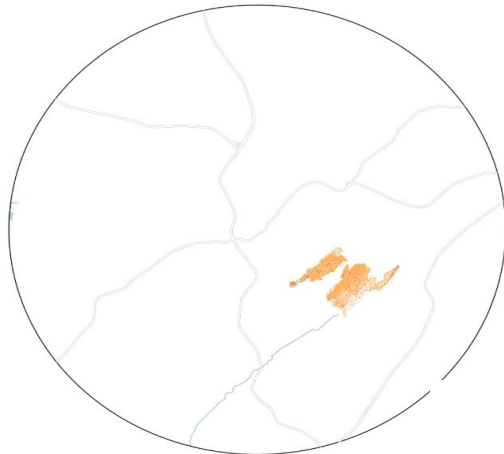




# Future Work

## A

BIRMINGHAM'S "BEST" ZONES:



## B

BIRMINGHAM'S "DESIRABLE" ZONES:



## C

BIRMINGHAM'S "DECLINING" ZONES:



## D

BIRMINGHAM'S "HAZARDOUS" ZONES:

