

# Violence and Enforcement

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# V&E Agenda

## 1. Github Overview

## 2. Review of Datasets

- Police Sentiment – Riley
- Traffic Crashes – May
- 2021 Crimes – Nicole
- Gangs – Hanyin

The image features the GitHub logo, which is the word "Github" in a white, sans-serif font. It is centered on a dark purple background that has several diagonal stripes of varying shades of purple. To the right of this background is a solid white vertical bar.

Github

# Github Overview

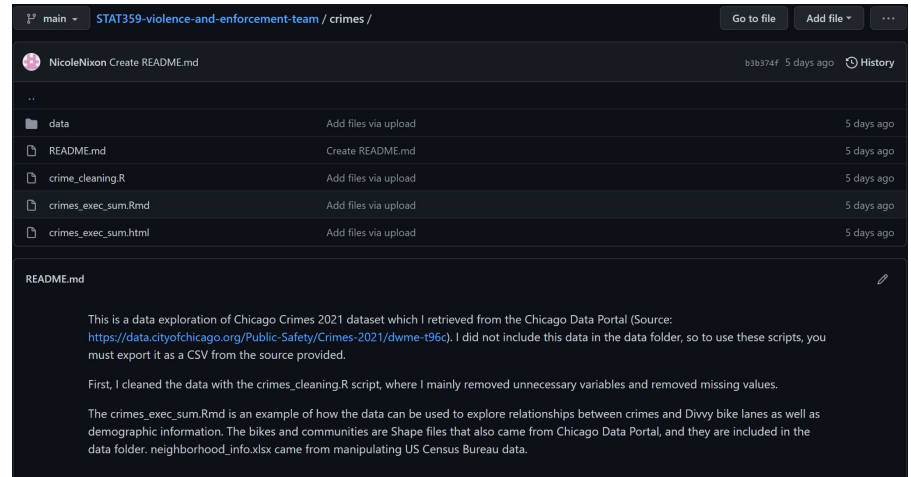
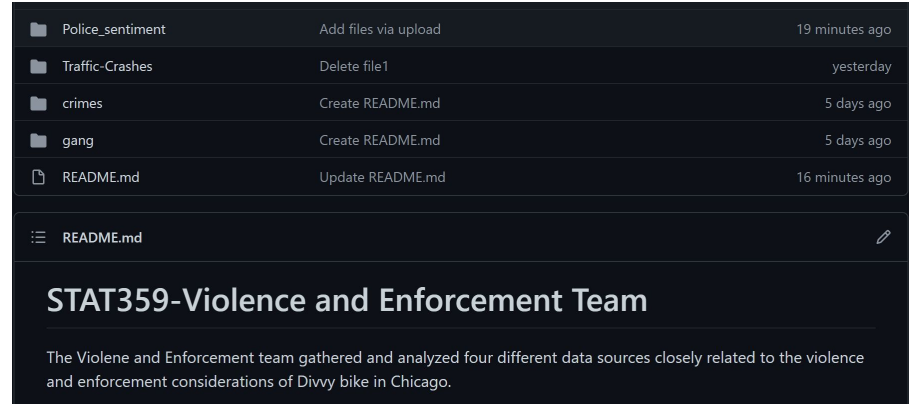
Link to Github is [here](#)

## Layout:

Each dataset has its own folder

Within each folder:

- Data cleaning from data source
- Exploratory Data Analysis (EDA) and main findings
- Visualizations of data mapped to the 77 Chicago Communities



# Police Sentiment

# Chicago Police Sentiment Data (2017-2021)

- Provided by Chicago Police [here](#)
- Created by CPD partner, Elucd – Data FAQ [here](#)

## Safety Score\*

When it comes to the threat of crime, how safe do you feel in your neighborhood? (Level of safety from 0-10)

## Trust Score\*

How much do you agree with these statements? (Level from 0-10)

1. The police in my neighborhood listen to and take into account the concerns of local residents.
2. The police in my neighborhood treat local residents with respect.

\*Trust and Safety scores are NOT a percentage. A score of 65 means that average response to the questions is 6.5 out of 10.

# Chicago Police Sentiment Variable Demographics

Race – African American, Asian American, White, Hispanic, Other

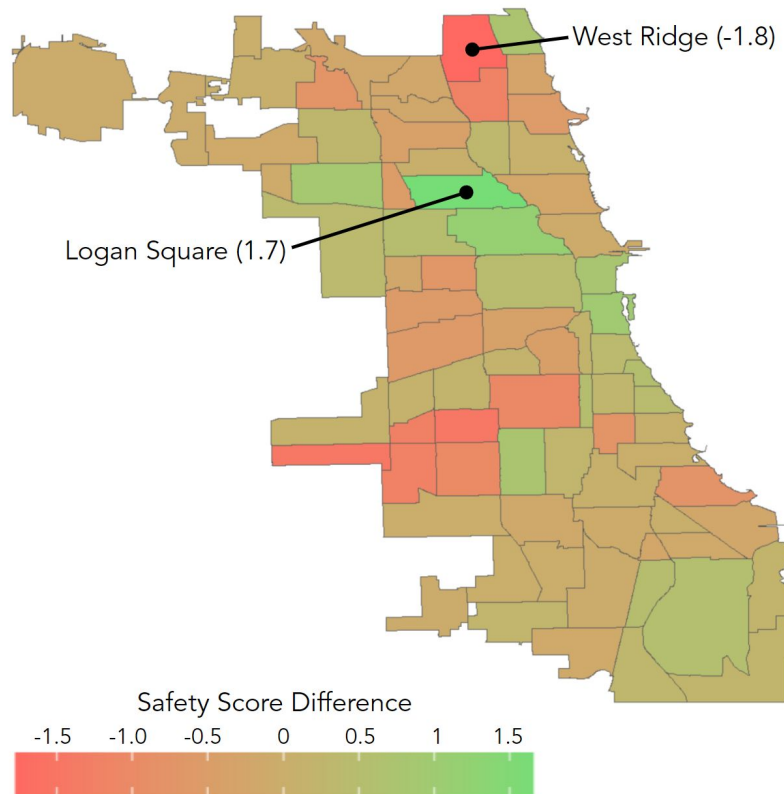
Age – Low (18-34), Medium (35-54), High (55+)

Sex – Female, Male

Education – Low (up to high school graduate), Medium (some college or college degree), High (advanced degree)

Income – Low (household income up to \$30,000), Medium (\$30,000 to \$100,000), High (\$100,000+)

# Safety Score Difference between Community Average and African Americans 2021



## Example Maps (Safety or Trust)

- Demographic differences with community or city average (as shown)
- Difference in scores between demographics
- Yearly changes by demographic
- Visualize safety and trust scores in same map
- Interactive with ggplotly package
- Etc... in [Github](#)

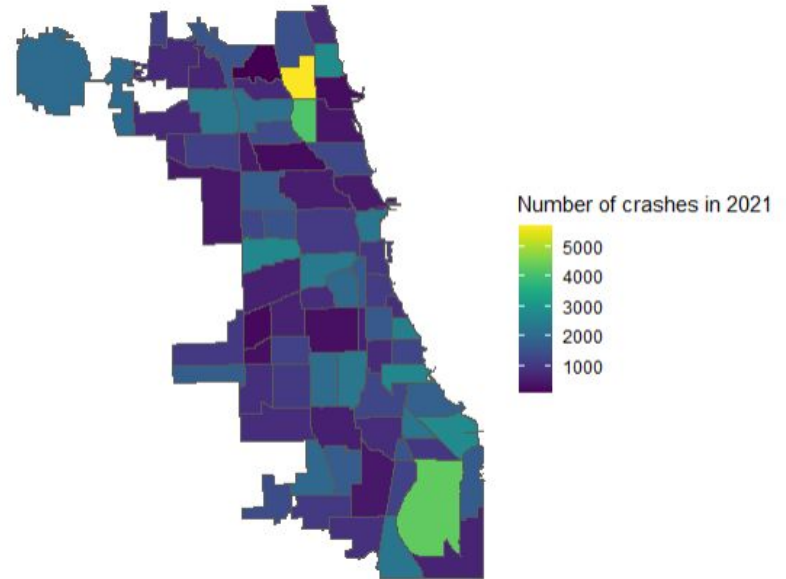
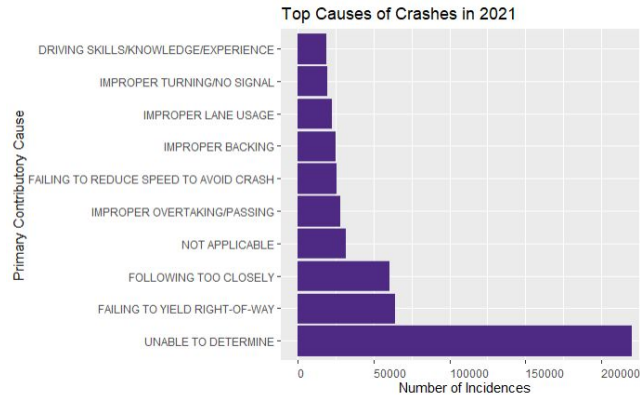
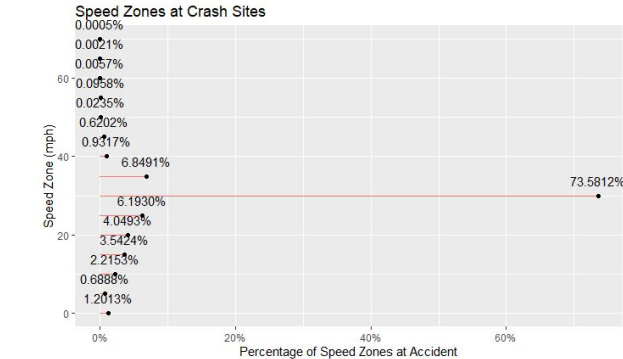
Identify and analyze communities & demographics of interest for Divvy

Join with other datasets by Community




# Traffic Crashes

# Main Findings



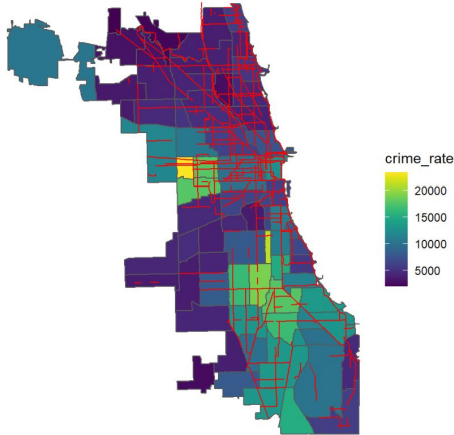
# Divvy Applications

- Easier to target neighborhoods with high traffic amounts
  - Easier to encourage more uptake of Divvy bikes
  - 30mph zones are most prevalent for traffic crashes
- 
- A decorative graphic at the bottom of the slide consisting of several overlapping, semi-transparent purple shapes in various shades, creating a modern, abstract geometric pattern.

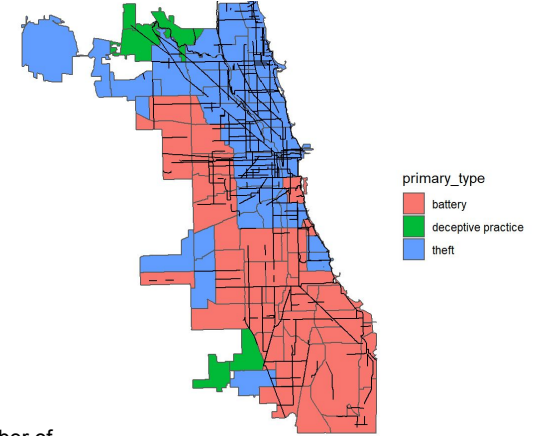
# 2021 Crimes

# Main Findings

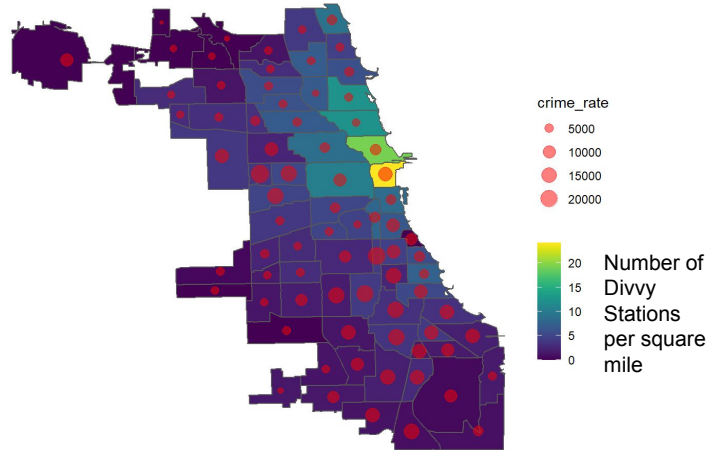
Crime Rate by Community



Most frequent crimes in each community with bike lanes

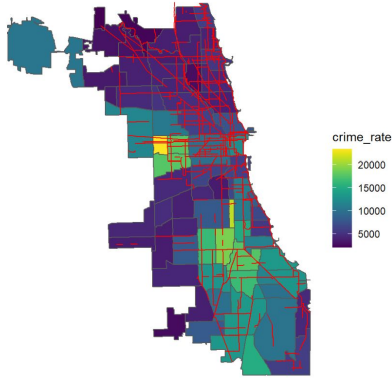


Number of Divvy Stations per square mile with Crime Rates

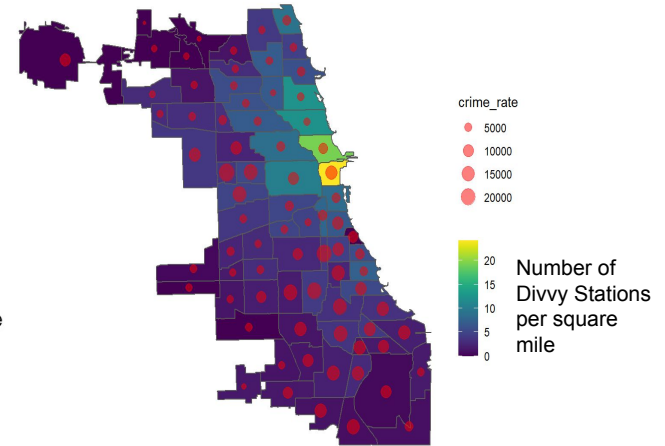


# Divvy Application

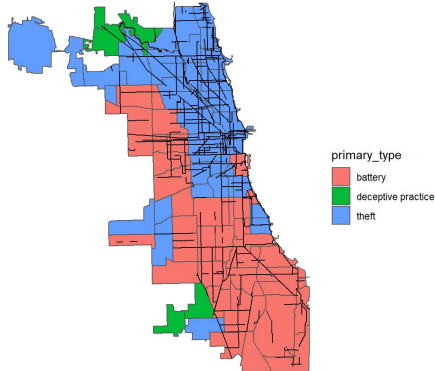
Crime Rate by Community



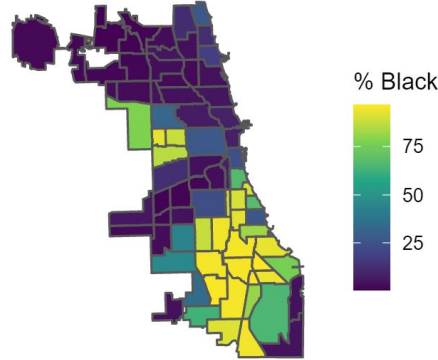
Number of Divvy Stations per square mile with Crime Rates



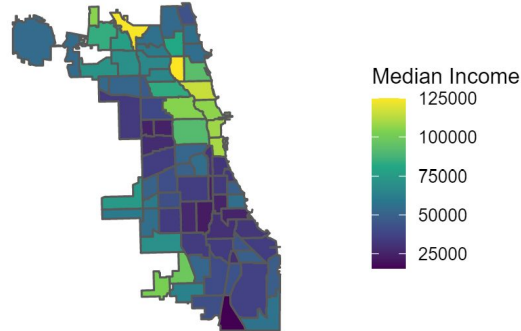
Most frequent crimes in each community with bike lanes



% Black

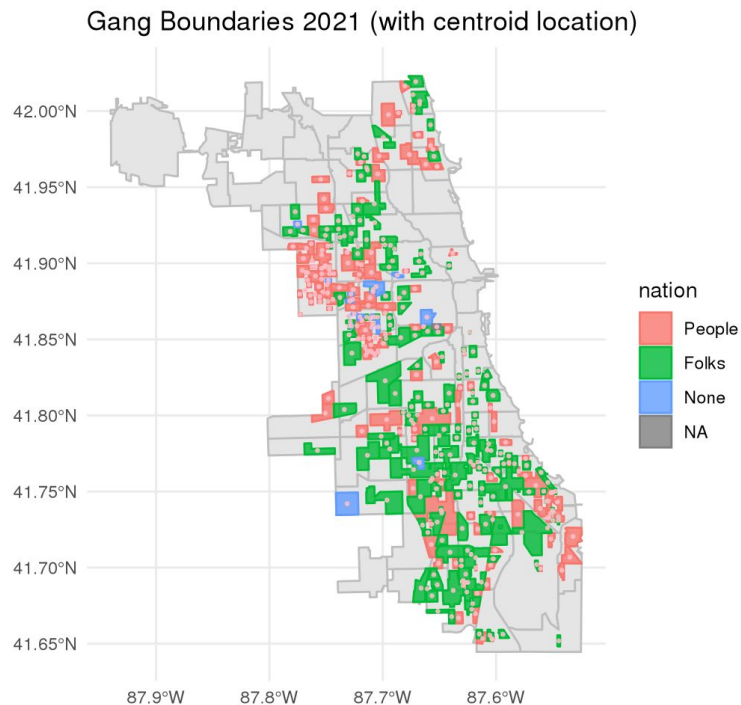
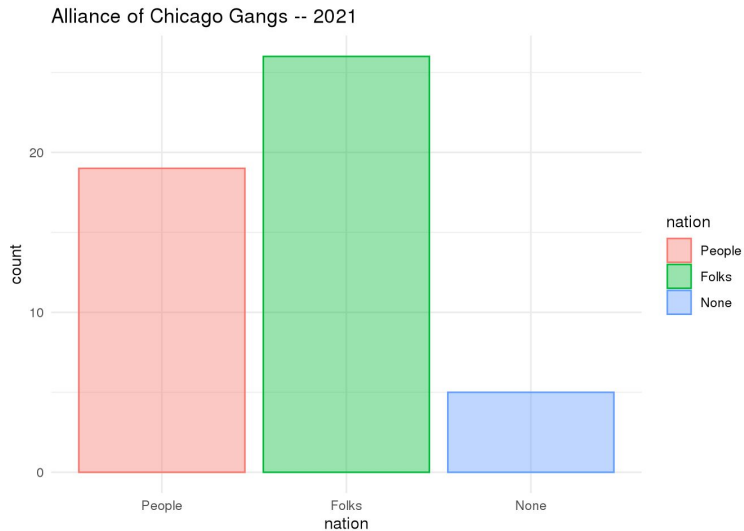


Median Income



# Gangs

# Main Findings

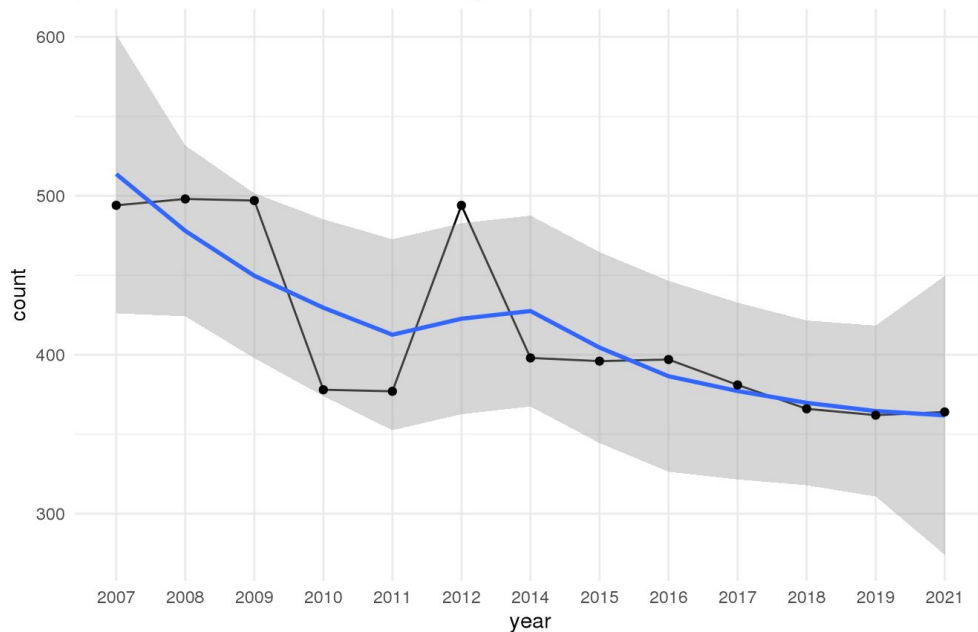




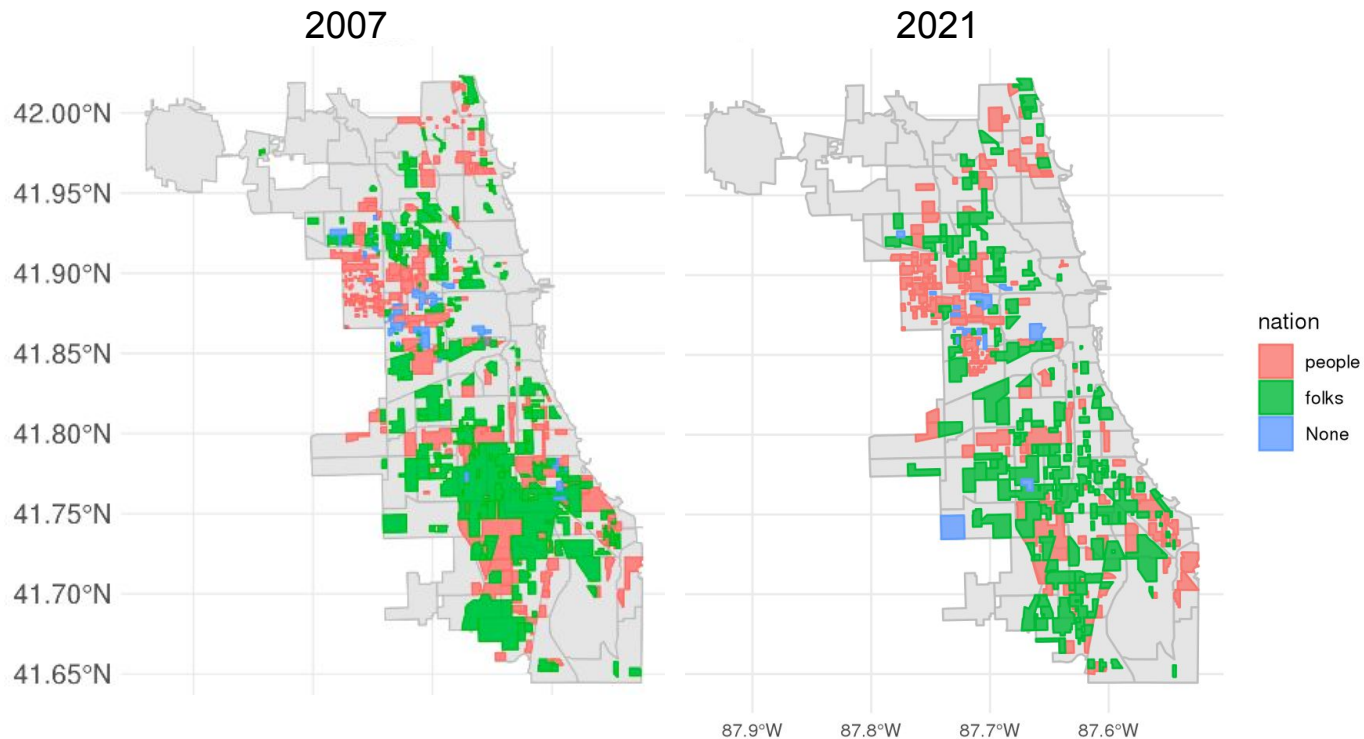
# Main Findings

Number of Gangs Territories in Chicago during 2007 and 2021

(Note: data for 2013 and 2020 are missing)

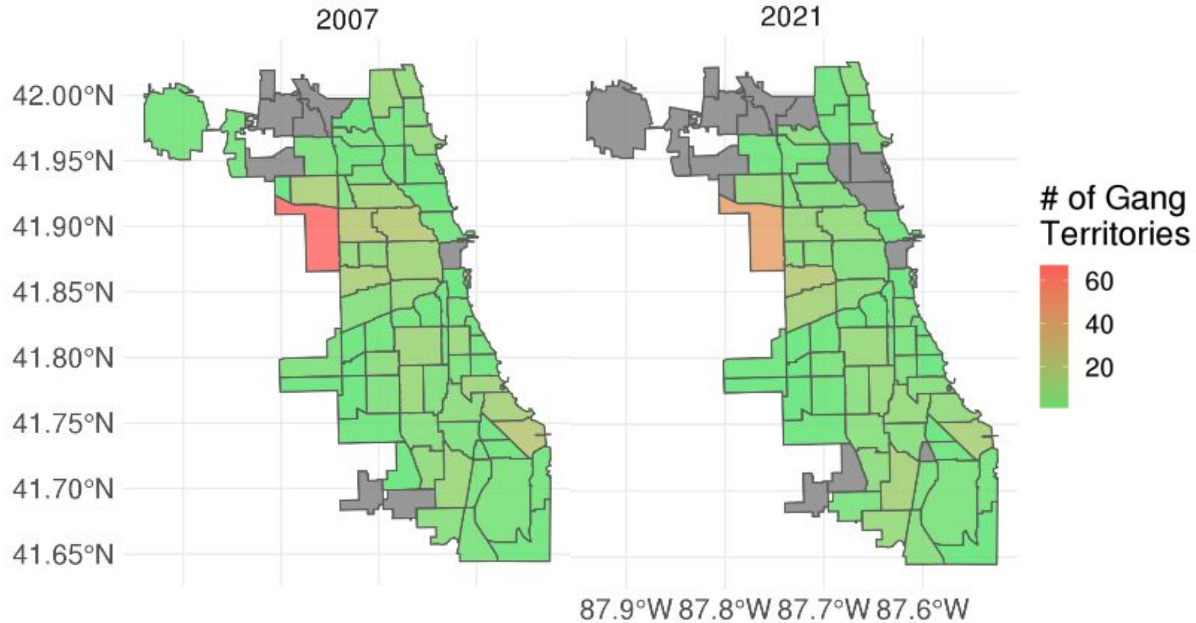


# Main Findings

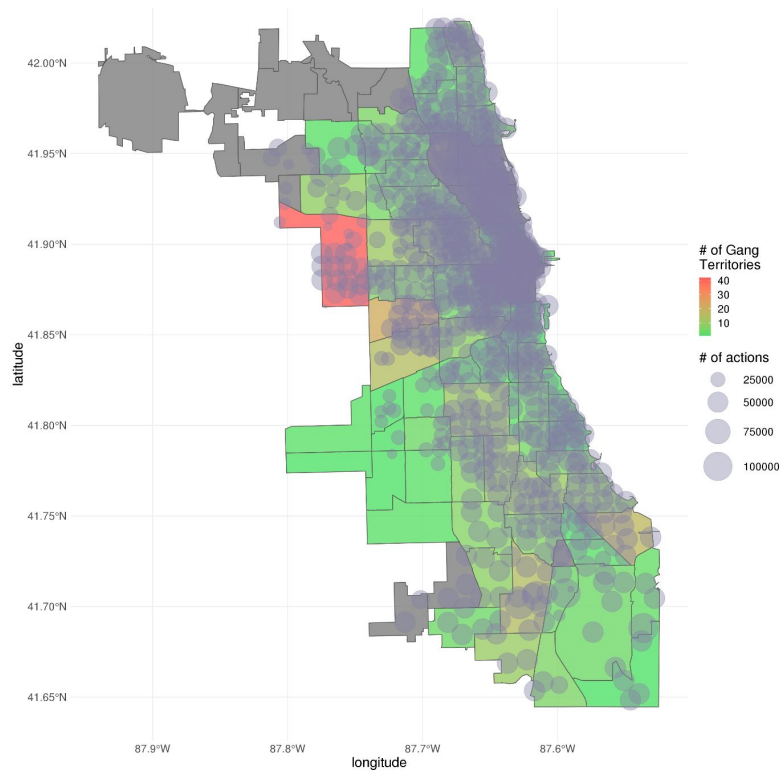


# Main Findings

- **Most gang territories: Austin**
- **Never had a gang territory:**  
Forest Glen, Norwood Park,  
Edison Park, Mount  
Greenwood, Loop



# Divvy Application



***# of actions:***  
Number of renting or  
returning events at a  
given station

Thank you!