

Spatial Analysis of Resident Responses for the Chicago Neighborhood Project

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Background

The city of Chicago has used its 77 Community Areas as neighborhood-level units of statistical analysis for around 100 years. How do these Community Areas compare to Chicagoans' perceptions of their neighborhoods, and how do Chicagoans define their home communities?

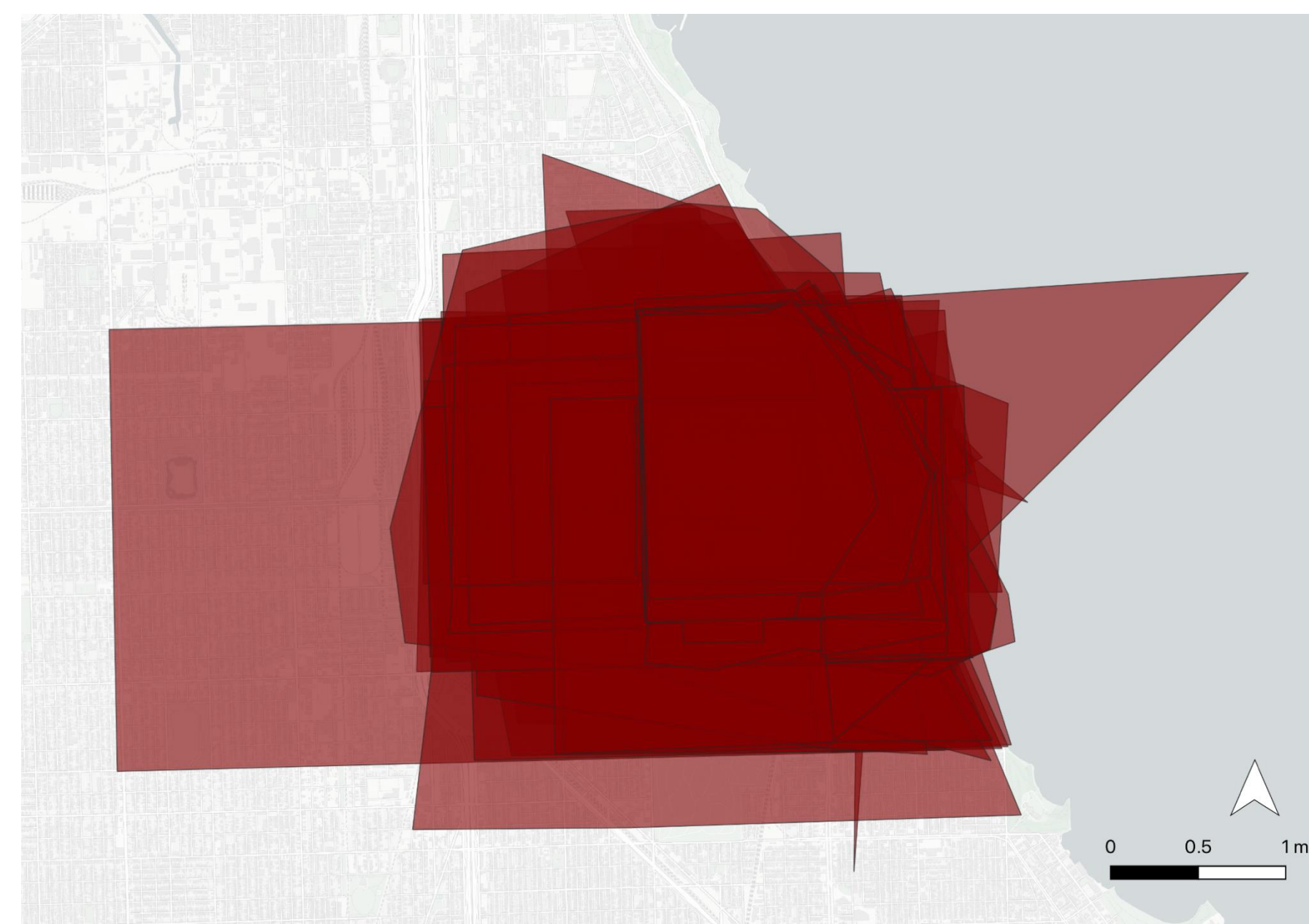
To measure this phenomenon, the Chicago Neighborhood Project released a survey which collected responses from over 6,000 Chicago residents from November 2023 to March 2025. Respondents were asked to draw their home neighborhood and provide its name. They were also asked to mark their approximate home location and complete demographic data.



An existing paper of preliminary results highlights how both Community Areas, and to some extent resident responses, violate theoretical principles of the neighborhood (Talen et al. 2026). Both often have a higher population than would be expected, with the majority of respondents' drawings containing over 10,000 people and the most populous Community Areas exceeding 100,000 people. Additionally, they do not always have a clear central point around which the neighborhood is organized, and few have clear geographic boundaries. This difference between theory and responses could be attributed to the impact of Community Areas.

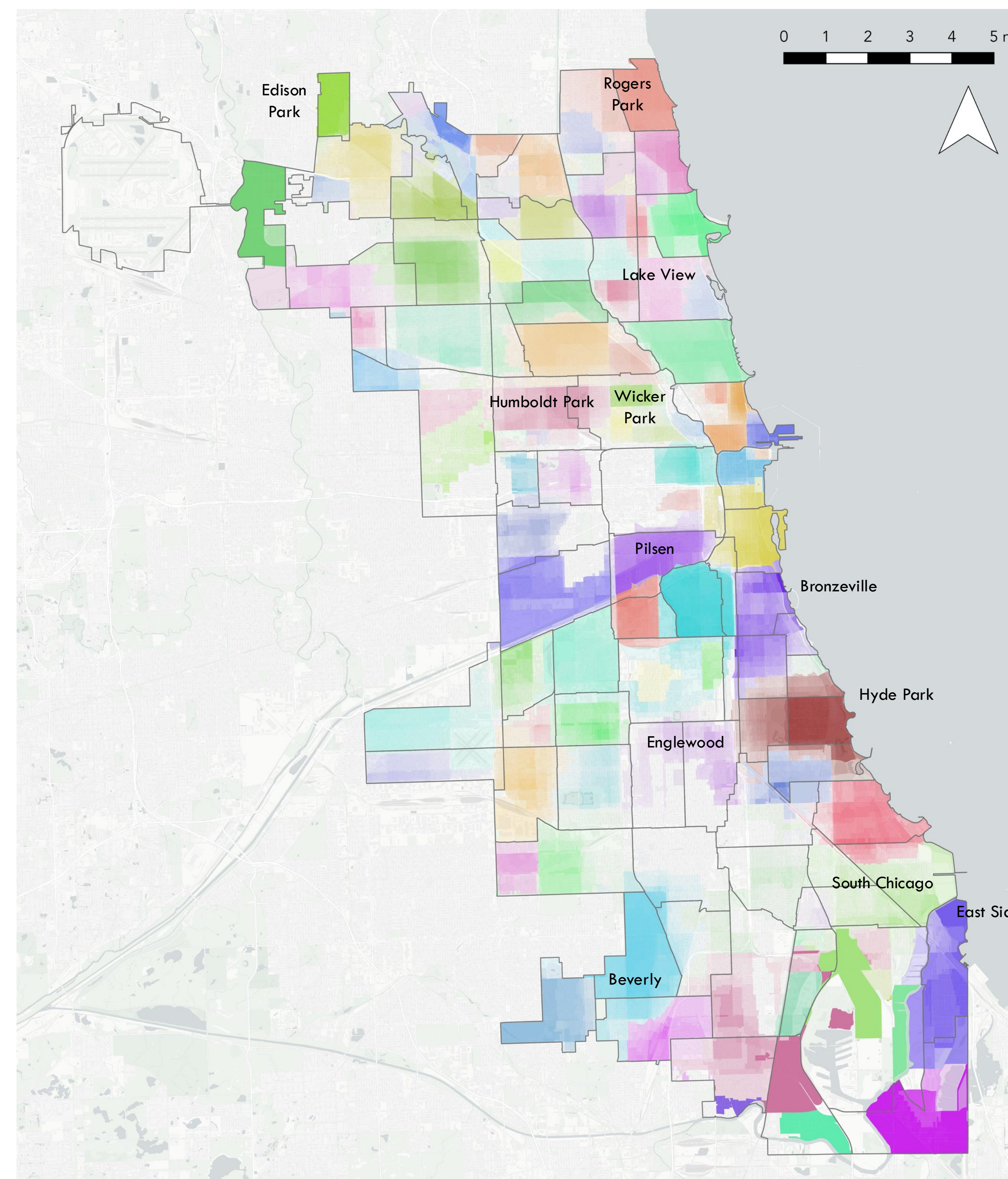
My Role in the Chicago Neighborhood Project

I began in my role as a Research Assistant in November 2025, after the survey stopped accepting responses. My tasks have involved cleaning unique responses, matching census blocks to their top ten assigned names, and analyzing the difference between the mean locations of responses and the centers of the official Community Areas.



All 299 responses that were given the name "Hyde Park." Made using QGIS, data from the Chicago Neighborhood Project.

Most Frequent Name Given by Census Block, Shaded by Percentage of Agreement



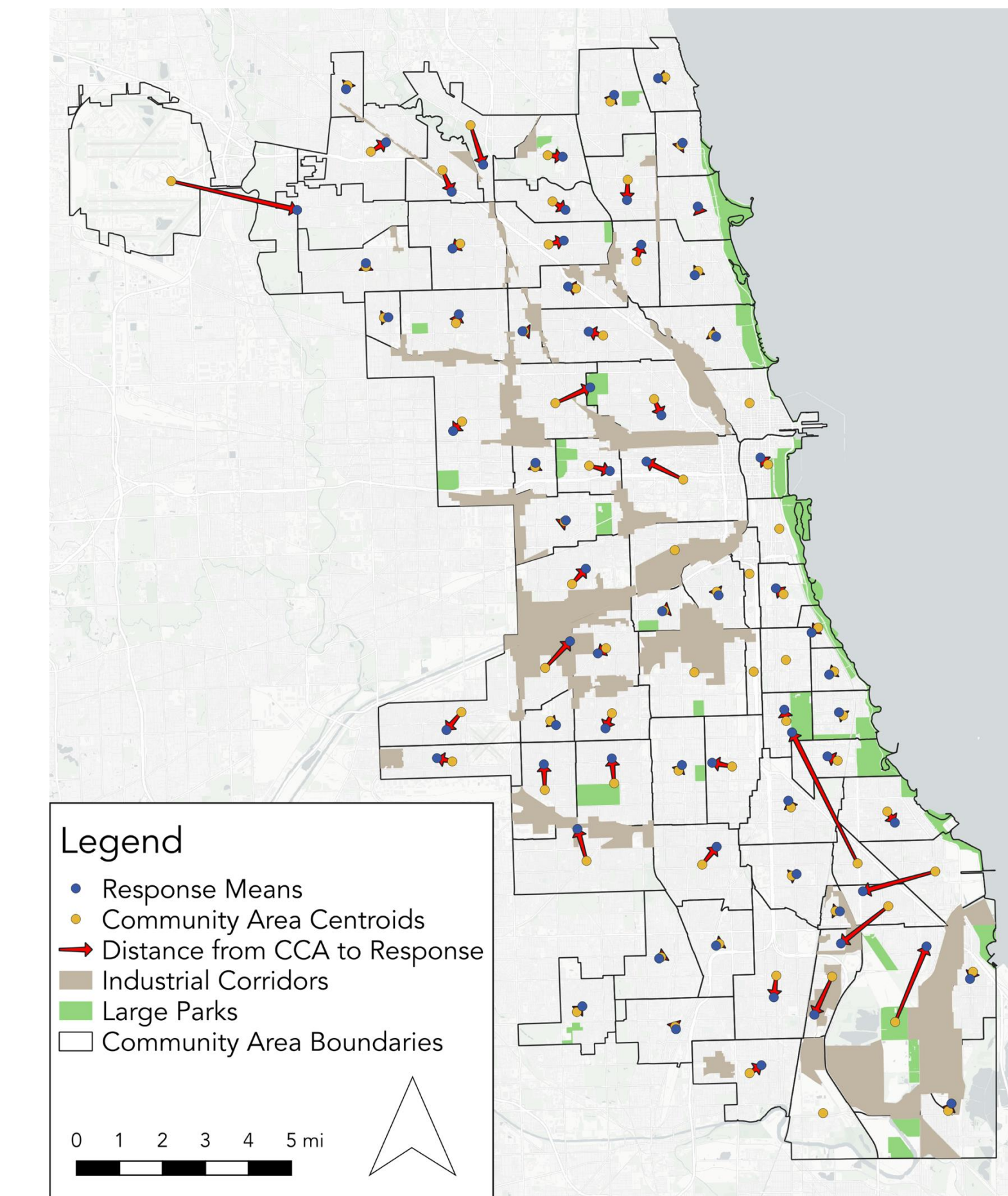
Calculated in R and mapped in QGIS. Data from the Chicago Neighborhood Project, Community Area boundaries from the Chicago Data Portal. Selected notable respondent neighborhoods are labeled.

Map Analysis

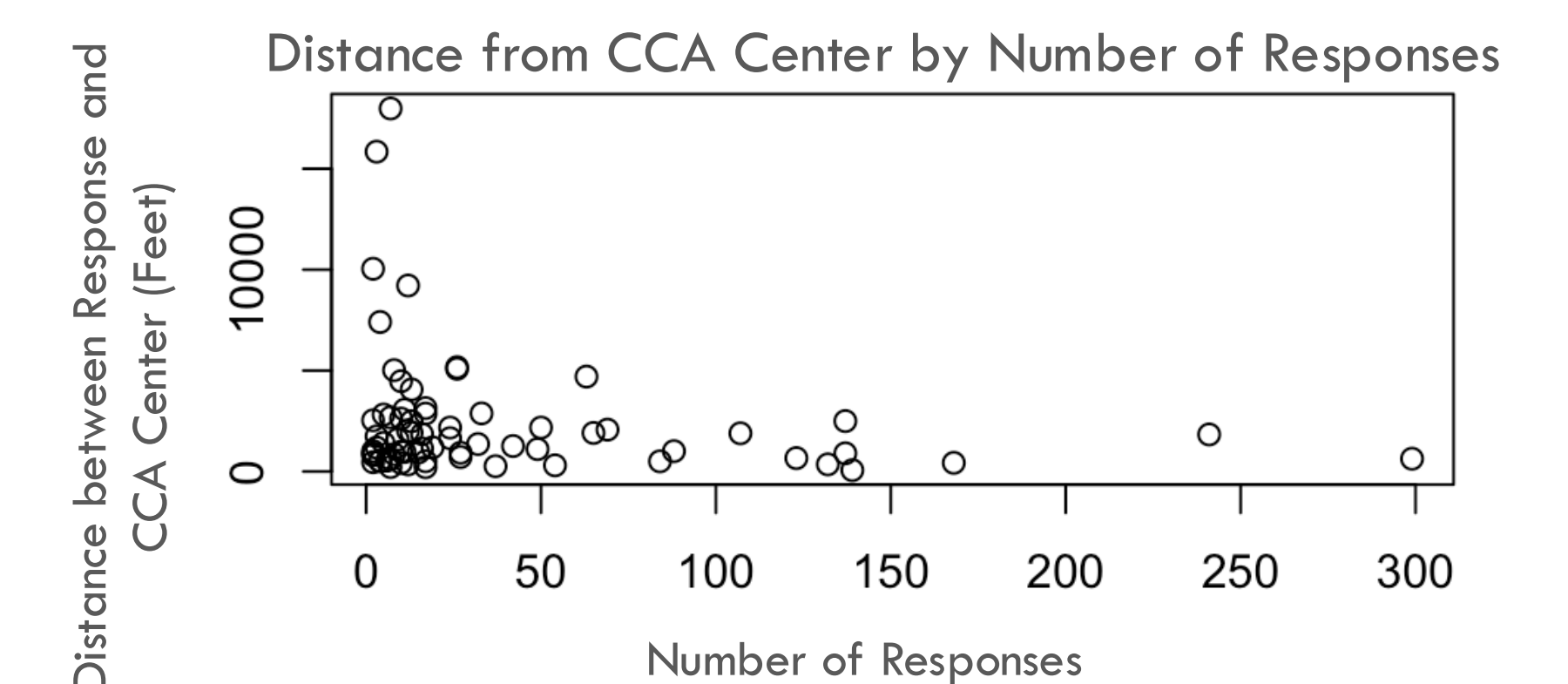
Overall, the Community Area boundaries (shown in gray) only sometimes align with residents' perceptions of their neighborhoods. Often, this alignment occurs when there is some sort of geographic or larger political boundary.

- The north part of East Side perfectly aligns with the Calumet River, while Edison Park is surrounded on three sides by the Chicago city boundary.
- The large and central West Town includes large areas covered by the names Humboldt Park, Wicker Park, and Ukrainian Village.
- Large swaths of the map, especially on the South Side, have relatively few responses, and therefore have a plurality of respondents providing no name.

Centroid Analysis



Calculated in R and mapped in QGIS. Survey data from the Chicago Neighborhood Project, all other data from the Chicago Data Portal.



There is no clear, universal explanation for differences in Community Area centers and response means. We considered parks and industrial areas (mapped above), as their lack of population could result in their exclusion from drawn neighborhoods, but there is no obvious relationship. There is also only a limited connection between the number of responses and distance. A high number of responses indicates closeness between the two centers, and a large distance between the two centers indicates a low number of responses, but most Community Areas have few responses and their centers and response means are close.

Future Work

Subsequent research will focus on the respondents' indicated home areas and analyzing nested neighborhoods, which are subsections of neighborhoods listed as "West," "Old," etc.

Acknowledgements

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