

Understanding Chicago's Vacant Lands: Patterns and Socioeconomic Associations

Liujun Hua, Katika Klinkaew, Liling Shen



Source: [Zillow](#)

Motivation



Over 30,000

Vacant lots in Chicago

Another 16,634

On the way to being city-owned

- Reduce **walkability**
- Increases in **crime**
- Reduce nearby **property values**
- Increased exposure to **environmental hazards**
- Vacancy can seem **contagious**

Sources: [Architect Magazine](#), [Wall Street Journal](#), [UChicago Business Law Review](#)

Research Question

What is the relationship between vacant lands and socioeconomic characteristics in Chicago?

Analyze the socioeconomic characteristics, spatial distribution, and environmental factors of areas surrounding vacant lands in Chicago.

Methods

- **API data retrieval**
- **Data cleaning and processing**
 - Converted and processed geospatial datasets (GeoJSON, CSV, shapefile, txt, etc.)
- **Geospatial analysis**
 - Data harmonization to align geographic identifiers (zip codes, community area names, geometry, etc.)
 - Spatial mapping and clustering analysis
- **Interactive visualization**
 - Map tools such as filters, tooltips, and toggles

Data

- **City-Owned Vacant Lands Data**
 - [Department of Planning and Development, City of Chicago \(COC\)](#)
 - [ChiBlockBuilder, land sale programs data from COC](#)
- **Cook County Parcels Data**
 - [Cook County Assessor's Office \(CCAO\)](#)
- **Socio-economic and Demographic Data**
 - [Chicago Data Portal](#)
 - [Institute for Housing Studies, Sepaul University](#)

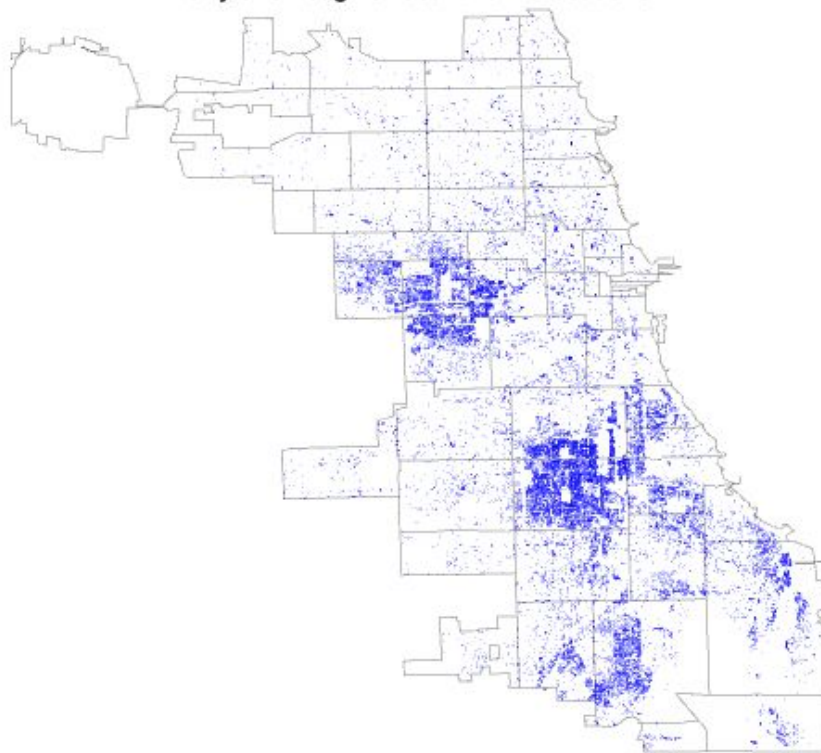
Exploring Vacant Lots: Distribution

- Predominantly Found in Chicago's **West** and **South** Sides

40,036

Total Vacant Lots
Across Chicago

City of Chicago's Vacant Land Locations

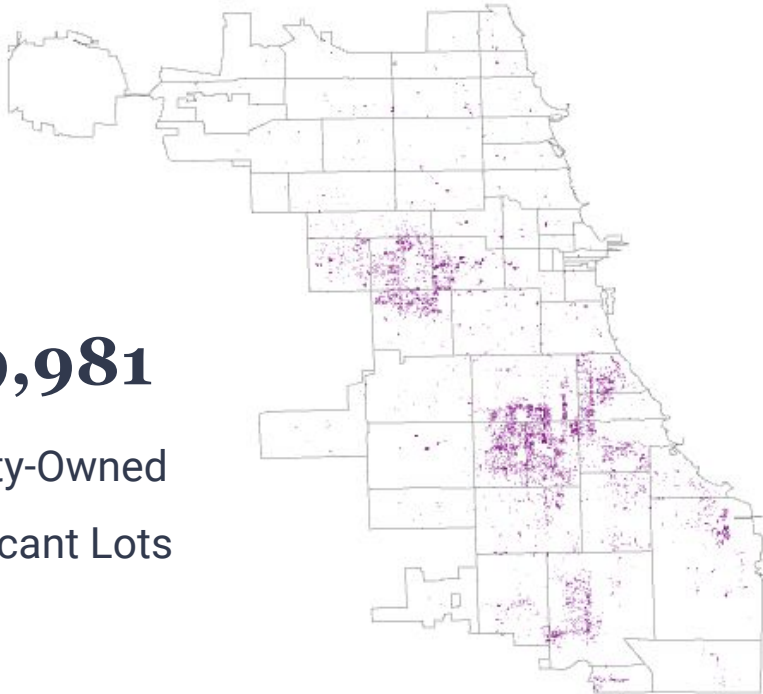


Exploring Vacant Lots: Ownership

- **75%** privately-owned
- 25% city-owned

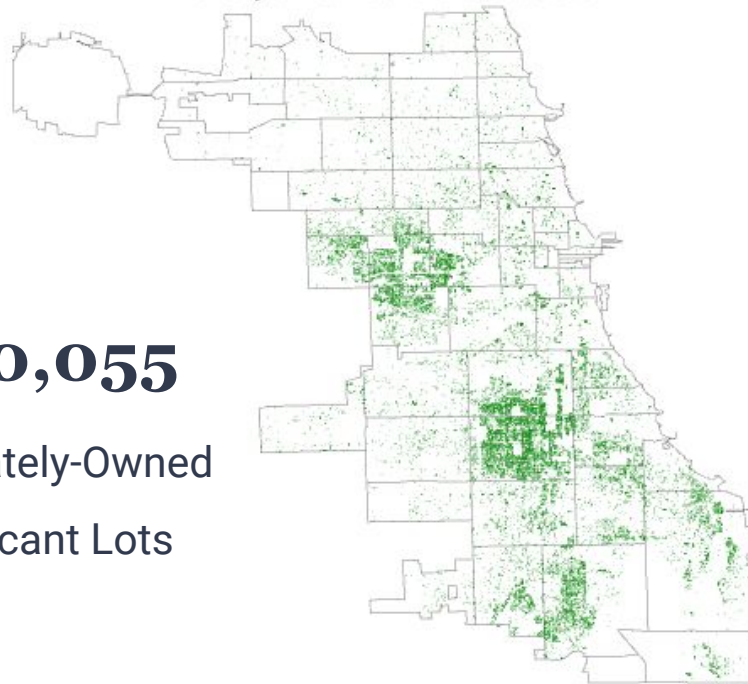
City-Owned Vacant Land Locations

9,981
City-Owned
Vacant Lots



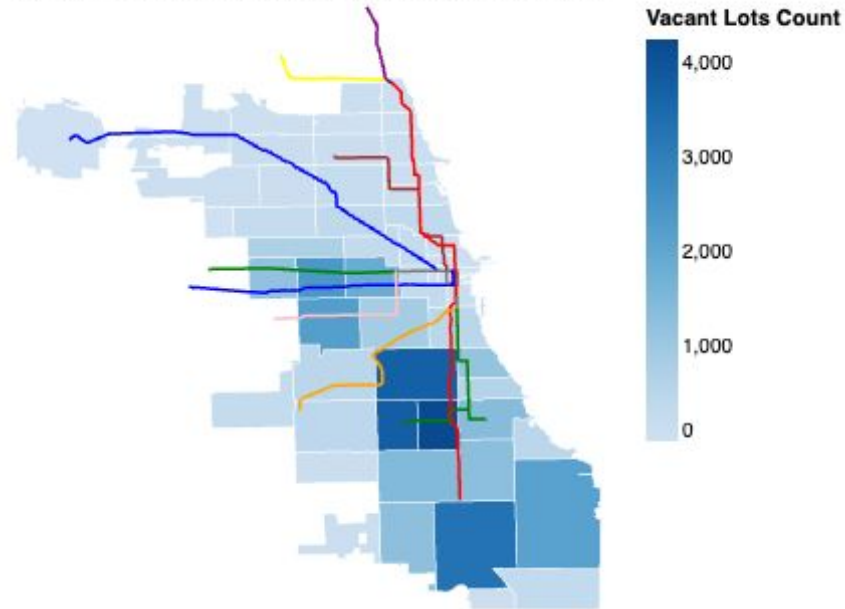
Non City-Owned Vacant Land Locations

30,055
Privately-Owned
Vacant Lots



Exploring Vacant Lots: CTA Lines

Vacant Lots by Zip Code with Rail Lines

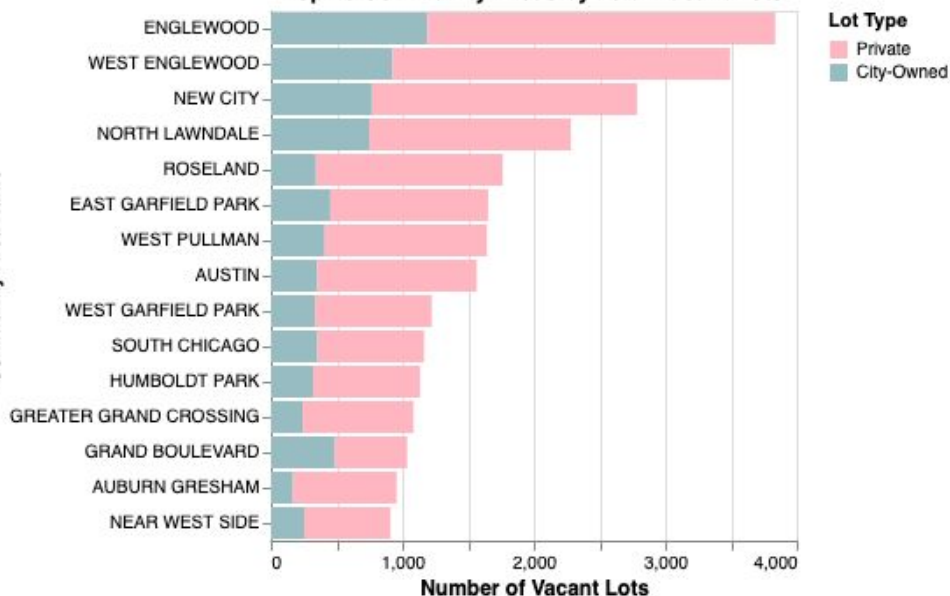


Community Distribution

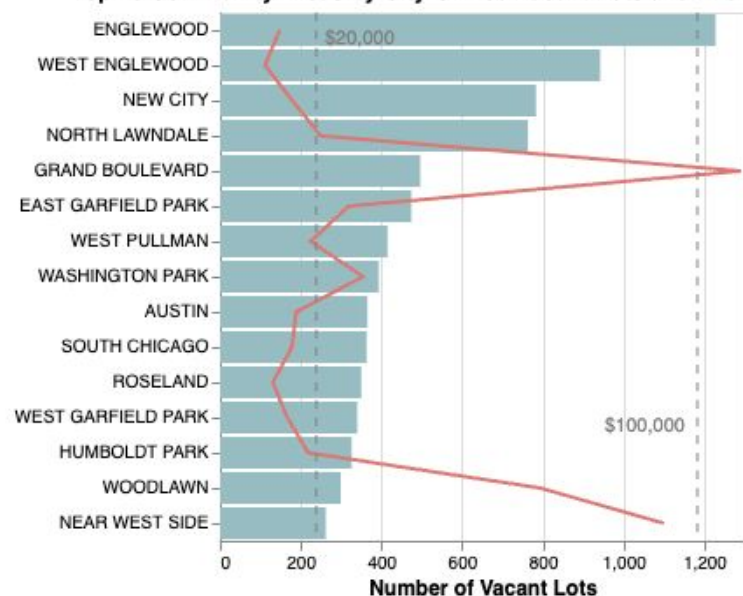
Land Values (City-owned)

Community Area Name

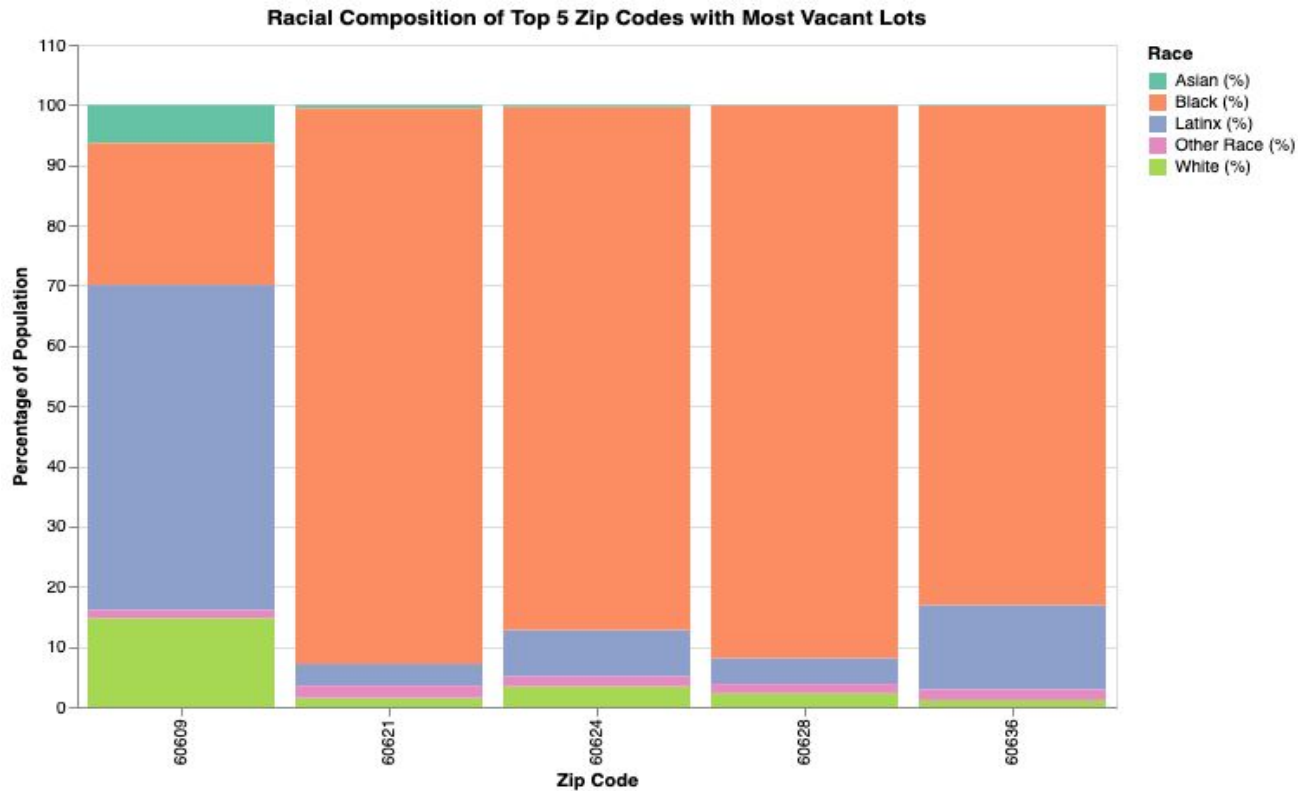
Top 15 Community Areas by Total Vacant Lots



Top 15 Community Areas by City-Owned Vacant Lots and Average Lot Value



Exploring Vacant Lots: Racial Composition



Exploring Vacant Lots: Shiny Dashboard

Vacant Land Distribution and Socioeconomic Features in Chicago

Select Data:

Crime Rate

Adjust Point Size:

0.3

0.6

1

☒ Show Vacant Lands

Filter by Vacant Land Ownership:

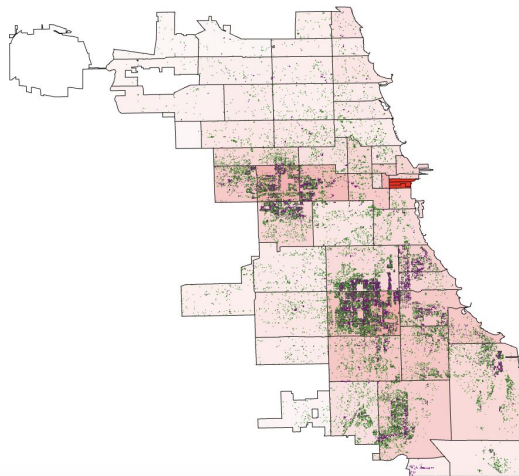
☒ All

☐ City-Owned

☐ Non-City-Owned

TOTAL VACANT LAND
COUNT IN CHICAGO

40,036



Crime rate per 1,000 population

600

400

200

0