



Chicago Metropolitan
Agency for Planning

Overview of Snapshot Report on Urban Infill Development

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Project Overview

- Ultimate Goals (Seven counties)
 - To determine how much land within the urban footprint is available for urban infill development throughout the region
 - Estimating the capacity of these parcels to accommodate population growth
- Scope of this study (Cook county)
 - Identify vacant and underutilized parcels
 - Create methodology for determining how much land is available for infill development in Cook county



Case study: Methodologies

Level of accuracy	Data	Methodology	Example
Level 1: Low	<ul style="list-style-type: none"> • Satellite imagery • Land use inventory 	<ul style="list-style-type: none"> • Produce aggregate statistics for geographic sub-units (i.e. census tracts) • Suitable for general estimation of land supply 	
Level 2: Moderate	<ul style="list-style-type: none"> • County assessor's record 	<ul style="list-style-type: none"> • Easy to identify vacant parcels • Theoretical estimation of underutilized land using I/L ratio that involves certain assumptions and a margin of error • Least resource intensive 	<ul style="list-style-type: none"> • California infill housing study • San Francisco Bay area • Seattle, WA
Level 3: High	<ul style="list-style-type: none"> • Aerial photography • Parcel vector data • County assessor's record 	<ul style="list-style-type: none"> • Resource intensive 	<ul style="list-style-type: none"> • Portland, Oregon • Maryland



Data and Methods

- Tax Assessor Data
 - Only available for Cook County
 - Did not use aerial photos or visit individual parcels (too time consuming)
 - Some Limitations and accuracy problems
- Improvement – to – Land Value Ratio



Data and Methods

- Vacant Land:
 - Identified by the assessor data (simple count)
- Underutilized Land:
 - Used a ratio of Improvement Value over Land Value
 - Parcels with ratios below a certain cut-off point would be considered “underutilized”
 - Different cut-off points for each land use
 - Limitations
 - Bias; Method may be incompatible with the nature of the land use; Over counting



Cook County Parcel Inventory

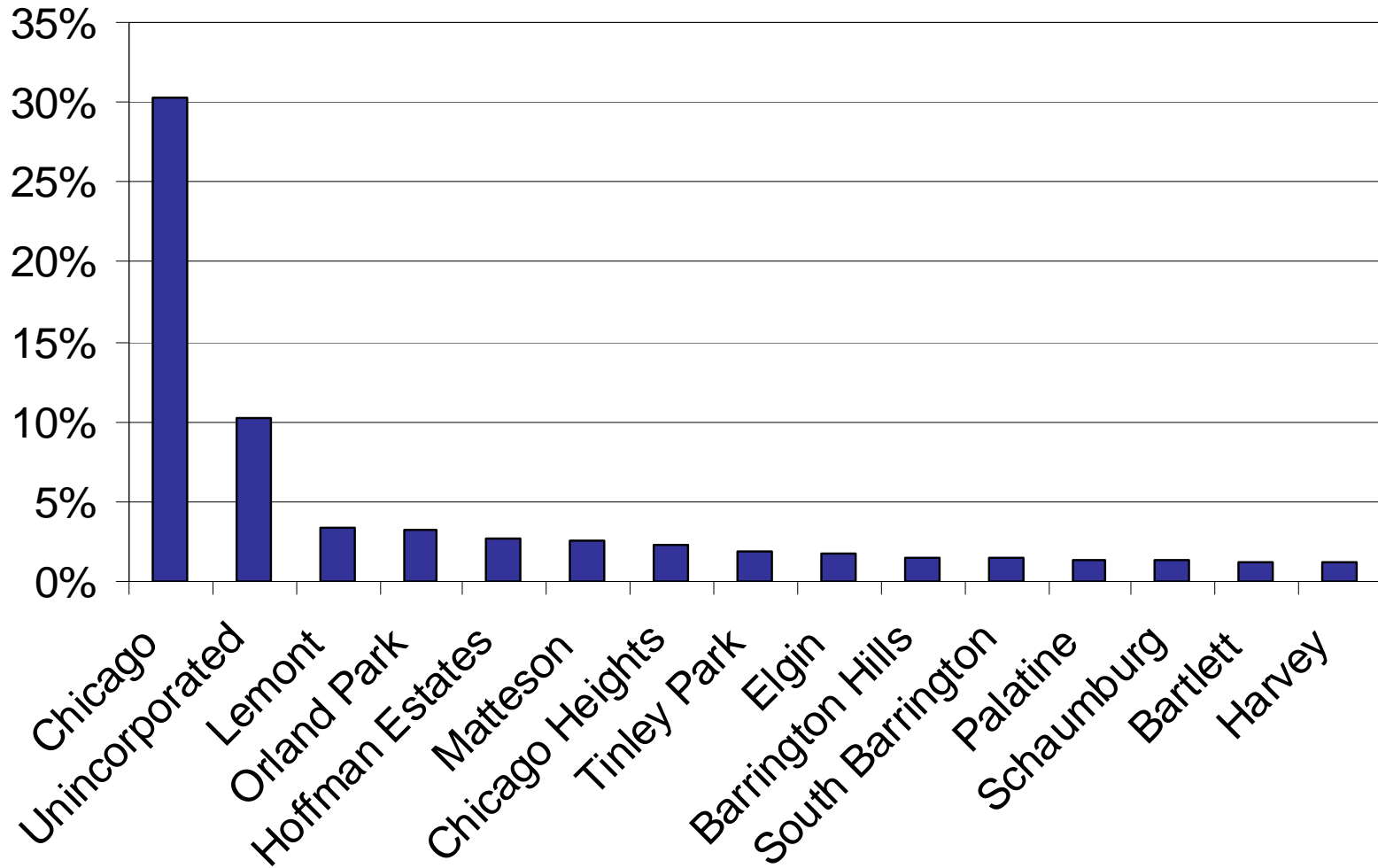
Cook	Number of parcels		Total Acreage		Average Lot Size (sq ft)	I/L ratio (Avg)
	count	%	Acres	%		
Total	1,401,403	100%	332,766	100%	11,041	-
Vacant	95,120	6.79%	34,697	10.43%	15,887	-
Exempt	84,861	6.06%	-	-	-	-
Single Family	906,086	64.66%	164,693	49.49%	7,903	4.14
Multi Family	196,612	14.03%	31,137	9.36%	6,886	7.31
Commercial	65,573	4.68%	42,902	12.89%	28,488	2.50
Industrial	27,027	1.93%	37,489	11.27%	60,337	3.55
Mixed commercial	3,106	0.22%	503	0.15%	7,067	5.80
Others	23,018	1.64%	21,346	6.41%	51,554	6.51

Data source: Cook county assessor's data (2006)



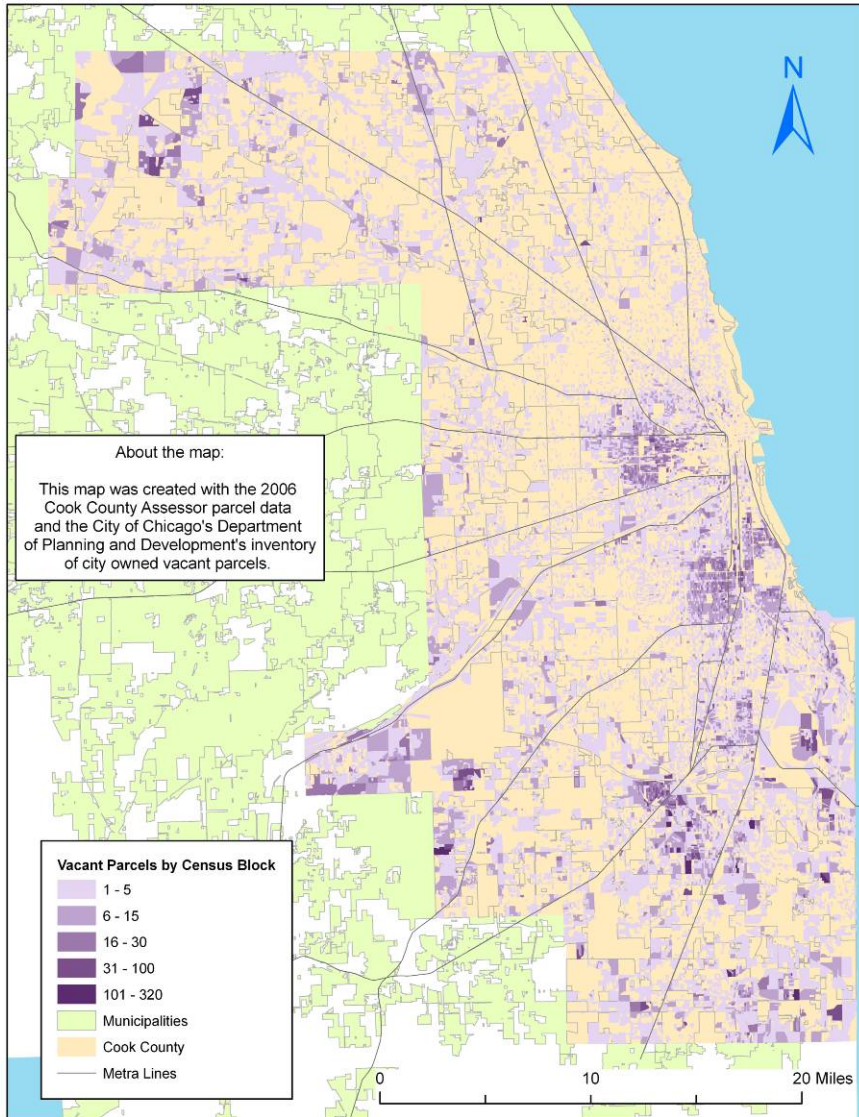
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Vacant Acres as Percent of all Vacant Land

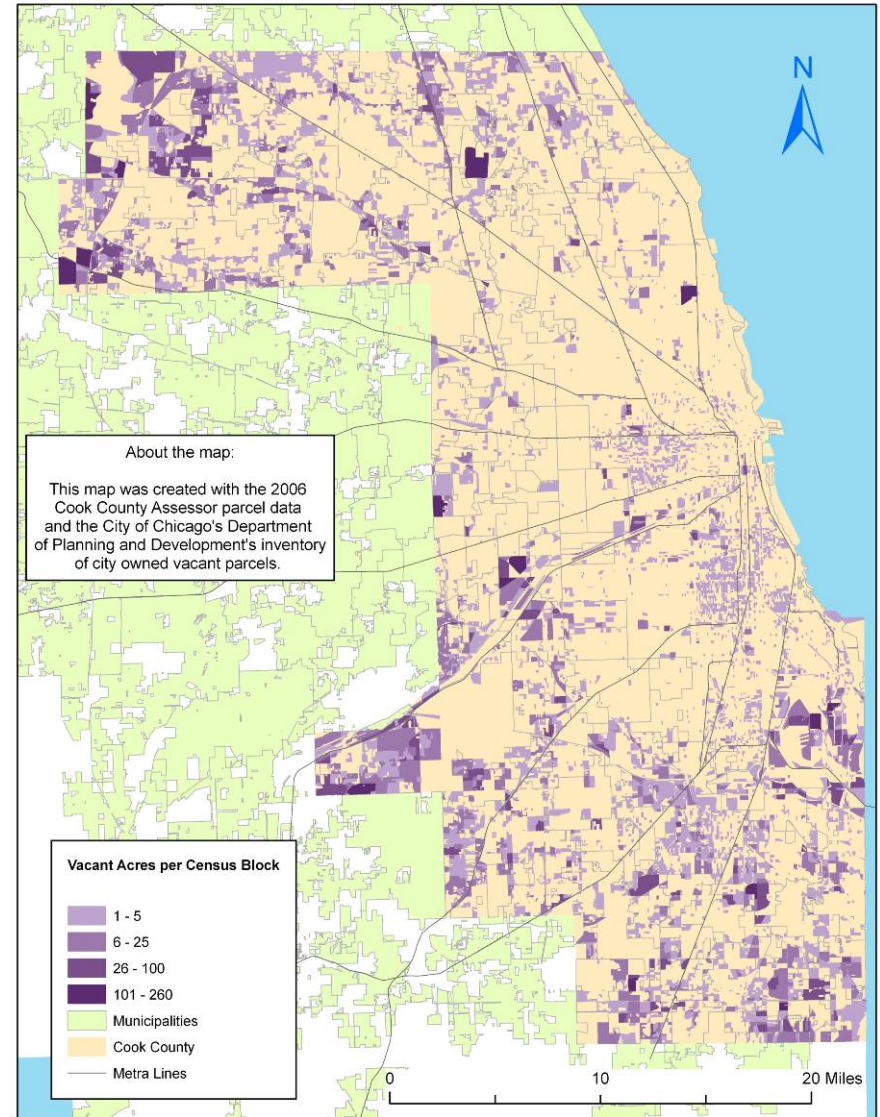


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Cook County Vacant Parcels by Census Block



Cook County Vacant Acres by Census Block



Average Imp/Land Ratio by Census Block: Single-Family Residential

Data source: Cook county assessor's data(2006)



Single Family	Count	Acreage
Total	906,086	164,693
	100%	100.0%
Developed	894,258	155,912
	98.7%	94.7%
Underutilized	11,828	8,781
	1.3%	5.3%

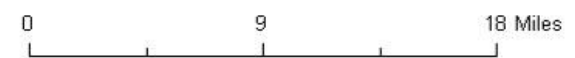
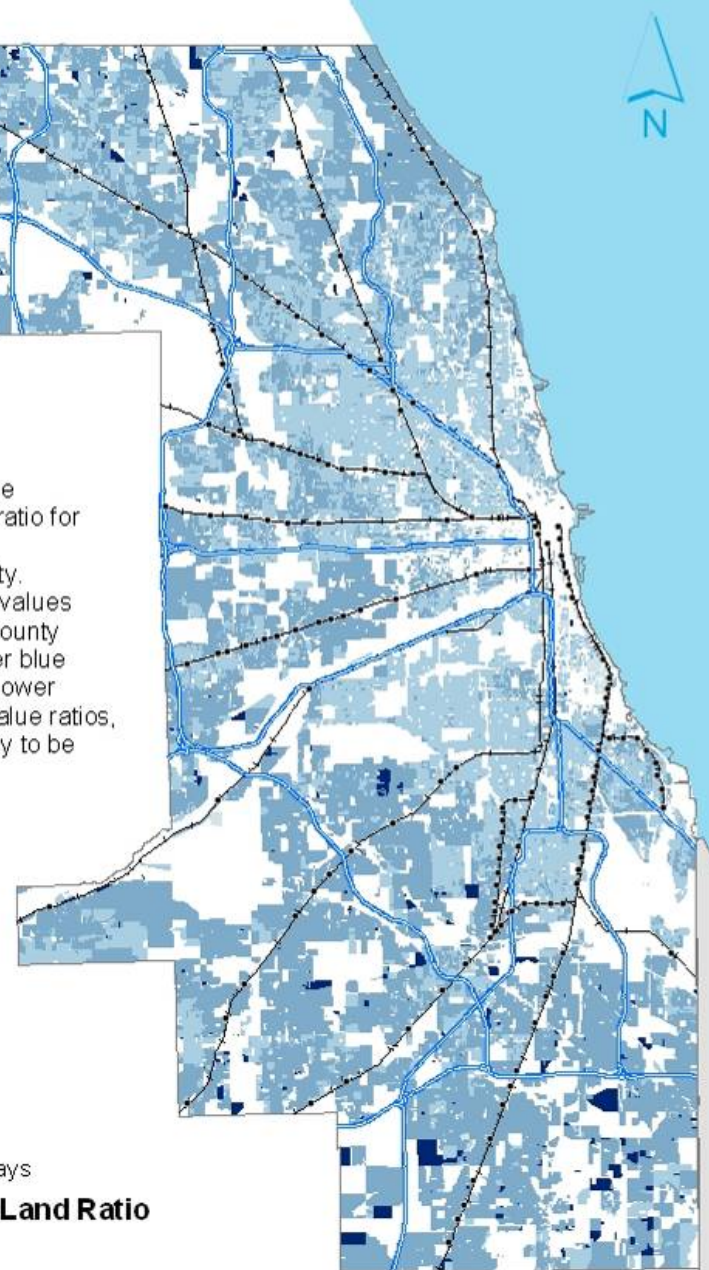
About the Map:

This map shows the average improvement to land value ratio for single family parcels by census block in Cook County. The improvement and land values were obtained from Cook County Assessor's data. The darker blue areas are blocks that have lower avg. improvement to land value ratios, and are therefore more likely to be underutilized.

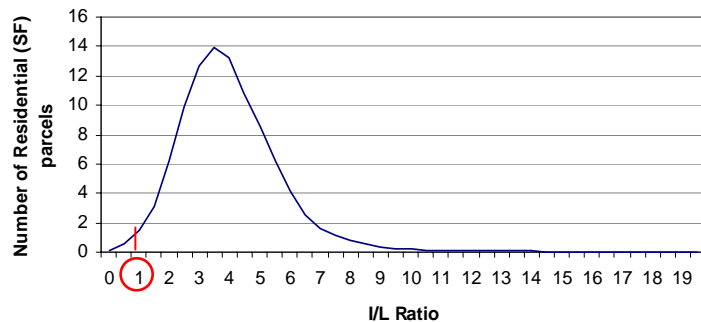
- Metra Stations
- Metra Lines
- NAVTEQ Major Highways

Single Fam. Res. Imp/Land Ratio

- 0.00 - 1.00
- 1.01 - 4.00
- 4.01 - 10.00
- 10.01 +

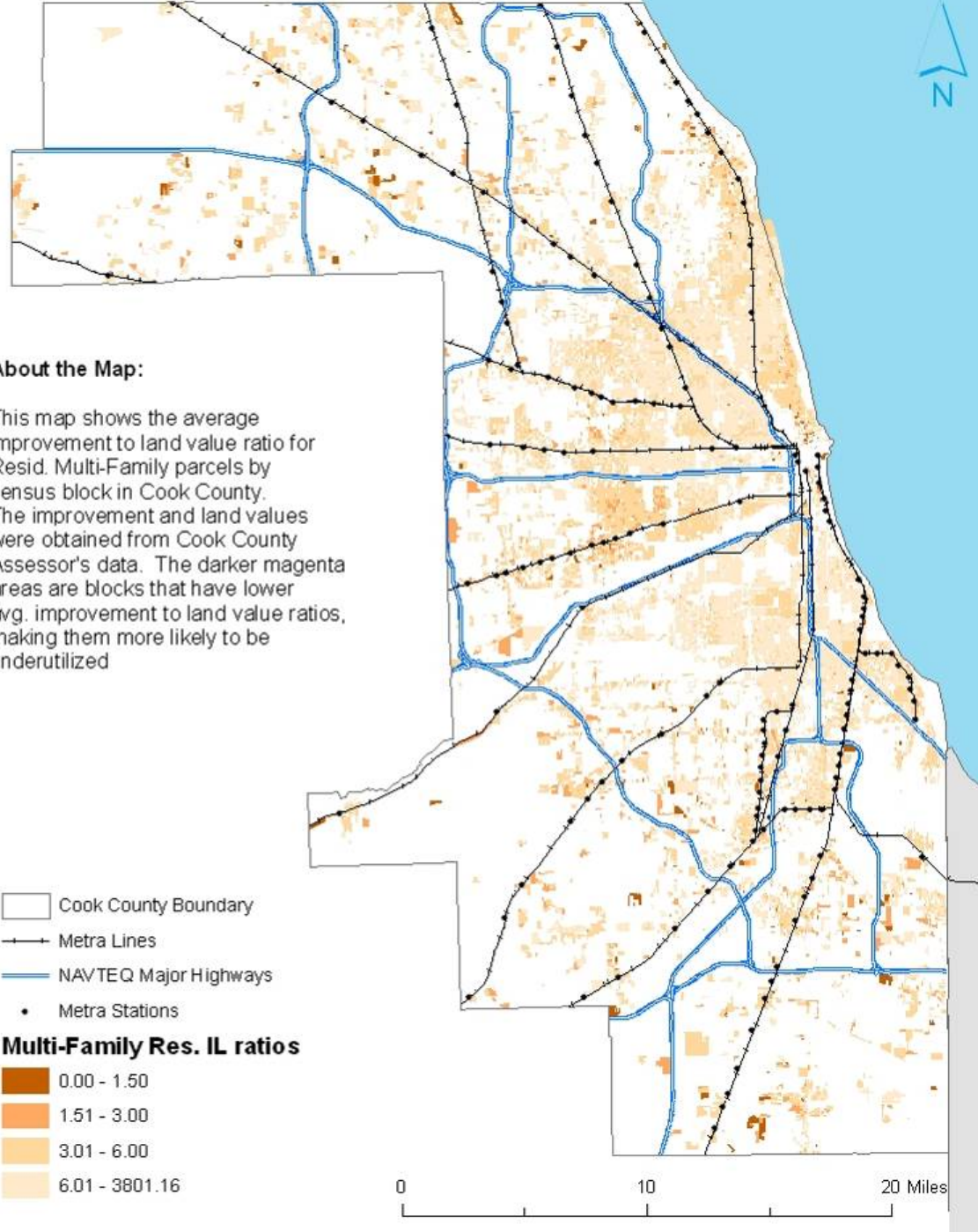


Frequency Distribution for Residential Single Family Improvement/Land Value Ratios



Average Imp/Land Ratio by Census Block: Multi-Family Residential

Data source: Cook county assessor's data(2006)

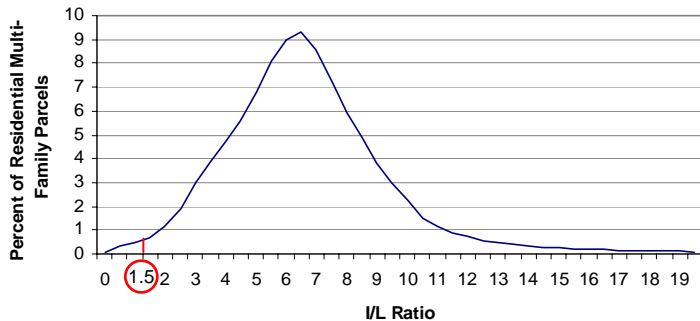


About the Map:

This map shows the average improvement to land value ratio for Resid. Multi-Family parcels by census block in Cook County. The improvement and land values were obtained from Cook County Assessor's data. The darker magenta areas are blocks that have lower avg. improvement to land value ratios, making them more likely to be underutilized

Multi-Family	Count	Acreage
Total	196,612	31,137
	100%	100.0%
Developed	194,139	29,908
	98.7%	96.1%
Underutilized	2,473	1,229
	1.3%	3.9%

Frequency Distribution for Residential Multi Family Improvement/Land Value Ratios



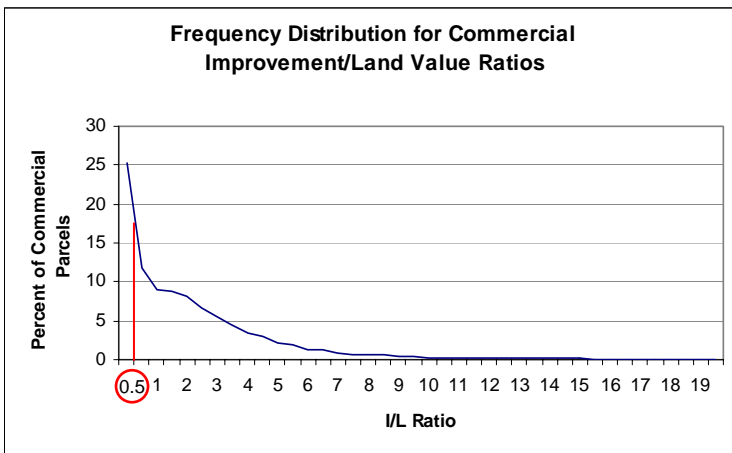
- Cook County Boundary
 - Metra Lines
 - NAVTEQ Major Highways
 - Metra Stations
- Multi-Family Res. IL ratios**
- 0.00 - 1.50
 - 1.51 - 3.00
 - 3.01 - 6.00
 - 6.01 - 3801.16

0 10 20 Miles

Average Imp/Land Ratio by Census Block: Commercial

Data source: Cook county assessor's data(2006)

Commercial	Count	Acreage
Total	65,573	42,902
	100%	100.0%
Developed	44,406	30,320
	67.7%	70.7%
Underutilized	21,167	12,582
	32.3%	29.3%



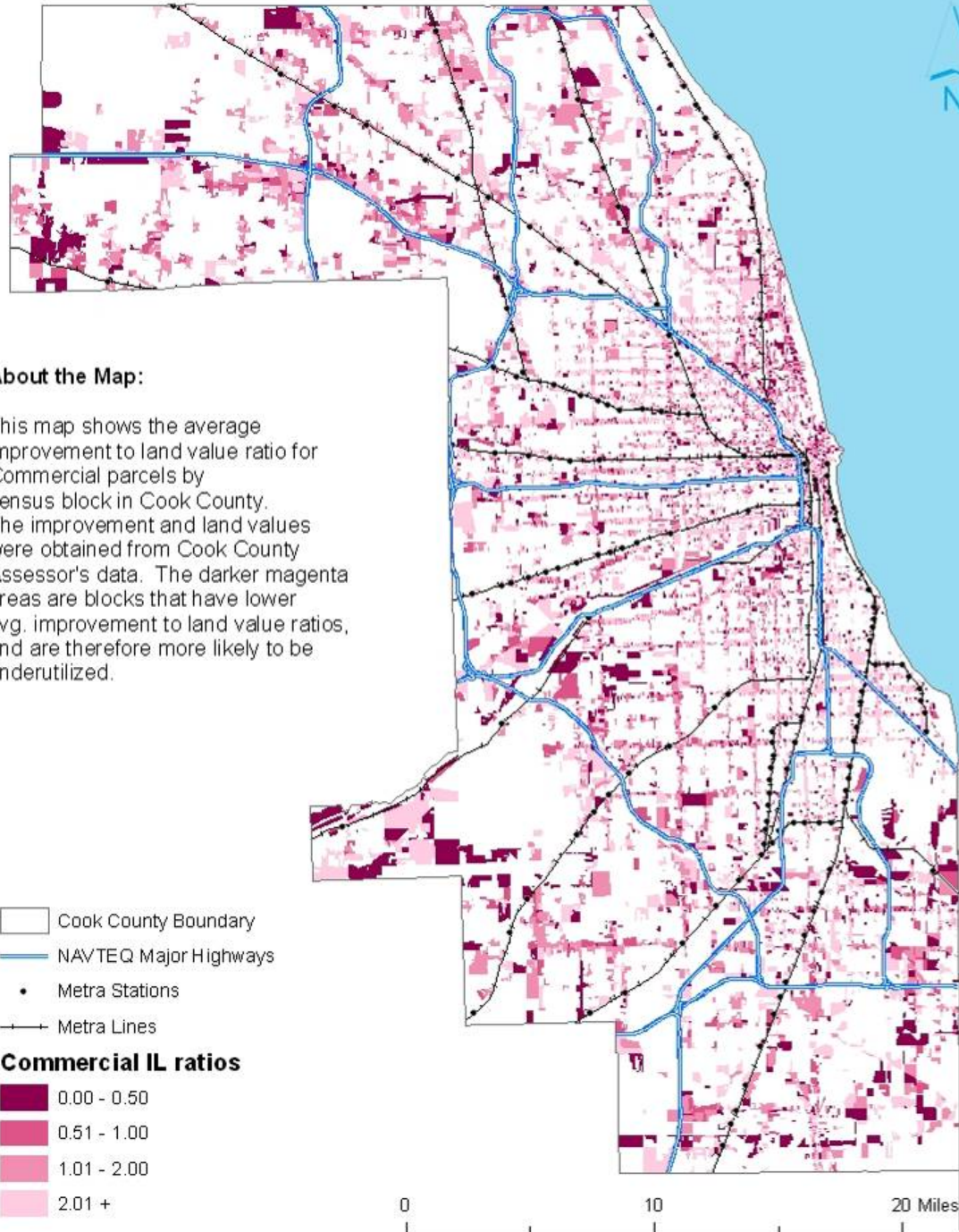
About the Map:

This map shows the average improvement to land value ratio for Commercial parcels by census block in Cook County. The improvement and land values were obtained from Cook County Assessor's data. The darker magenta areas are blocks that have lower avg. improvement to land value ratios, and are therefore more likely to be underutilized.

- Cook County Boundary
- NAVTEQ Major Highways
- Metra Stations
- Metra Lines

Commercial IL ratios

- 0.00 - 0.50
- 0.51 - 1.00
- 1.01 - 2.00
- 2.01 +



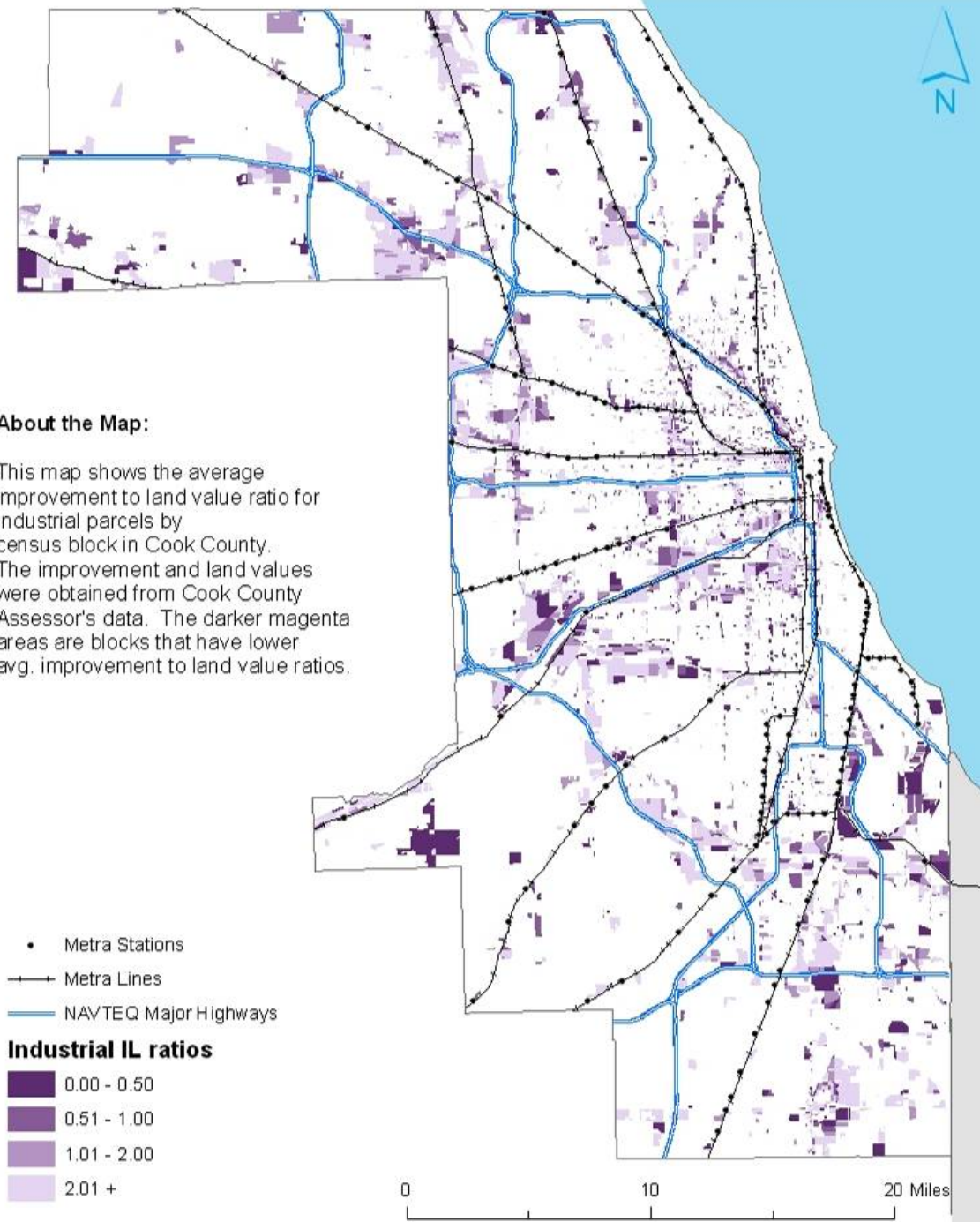
Average Imp/Land Ratio by Census Block: Industrial

Data source: Cook county assessor's data(2006)

Industrial	Count	Acreage
Total	27,027 100%	37,489 100.0%
Developed	20,193 74.7%	28,514 76.1%
Underutilized	6,834 25.3%	8,975 23.9%

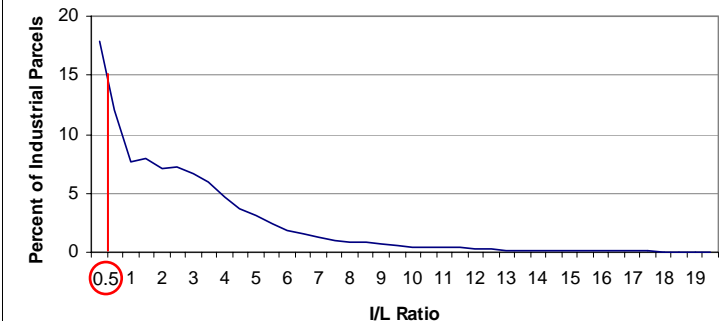
About the Map:

This map shows the average improvement to land value ratio for Industrial parcels by census block in Cook County. The improvement and land values were obtained from Cook County Assessor's data. The darker magenta areas are blocks that have lower avg. improvement to land value ratios.



- Metra Stations
 - Metra Lines
 - NAVTEQ Major Highways
- Industrial IL ratios**
- 0.00 - 0.50
 - 0.51 - 1.00
 - 1.01 - 2.00
 - 2.01 +

Frequency Distribution for Industrial Improvement/Land Value Ratios



Cook County Census Blocks with Potentially Underutilized Parcels

Data source: Cook county assessor's data(2006)

About the Map:

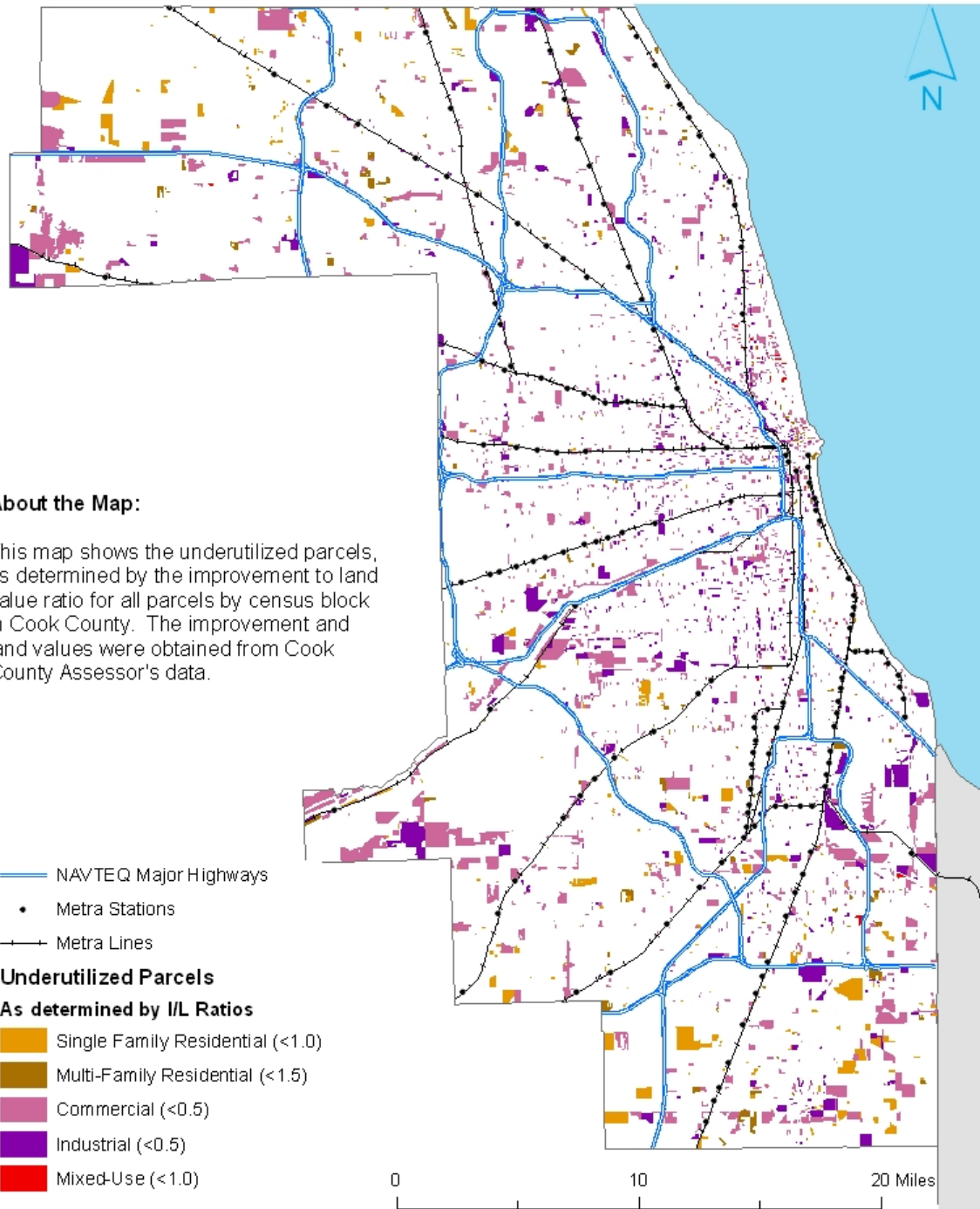
This map shows the underutilized parcels, as determined by the improvement to land value ratio for all parcels by census block in Cook County. The improvement and land values were obtained from Cook County Assessor's data.

- NAVTEQ Major Highways
- Metra Stations
- Metra Lines

Underutilized Parcels

As determined by I/L Ratios

- Single Family Residential (<1.0)
- Multi-Family Residential (<1.5)
- Commercial (<0.5)
- Industrial (<0.5)
- Mixed-Use (<1.0)



Further research

- Additional Infill Estimation Methods
 - Neighborhood analysis: GIS tool for statistical analysis of identified values
 - Compare improvement value to mean improvement value of determined area
- Expand to entire region
 - Need data
 - Define urban footprint: based on building density (Bay Area footprint: one unit per 1.5 acres or 6 structures per ten-acre parcel).



Further Research

- Calculate the capacity of identified infill land
 - Measure need based on forecasts and projections, using different densities
- Measure the impact of different types of development in identified infill land
 - Housing, transit, jobs, etc
- Infill Development Incentives



Questions, Comments?

- *Ideas for further research?*
- *Data availability from other counties?*
- *Density issues – how to measure, how much to “fill in,” etc.*
- **Construction Affordability Index**
 - Measure financial feasibility
- *Other comments?*





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Thank you!
