




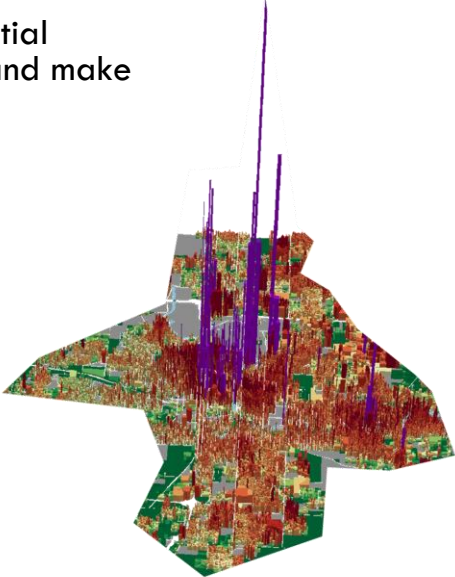
1

GeoAccounting TM

GeoAccounting imbues financial data with spatial relevance to bring clarity to decision making and make patterns easily recognizable.

\$ → 

Put the Money on the Map



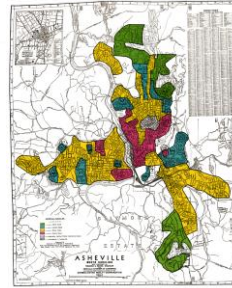
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GeoAccounting

TM



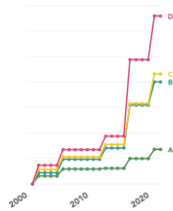
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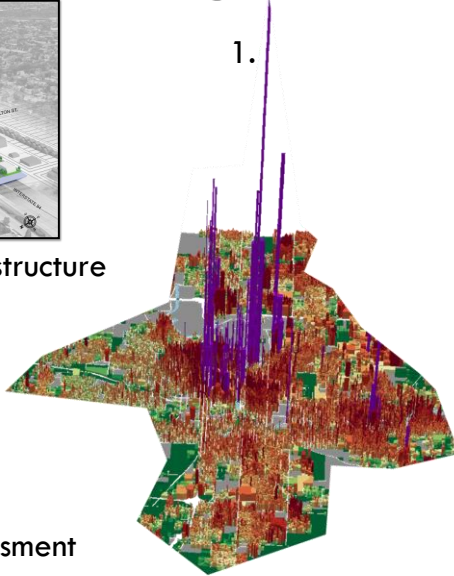
2. Impacts of Redlining

6. Restorative Infrastructure

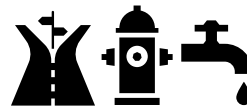
Change in LAND Value



5. Bias in Tax Assessment

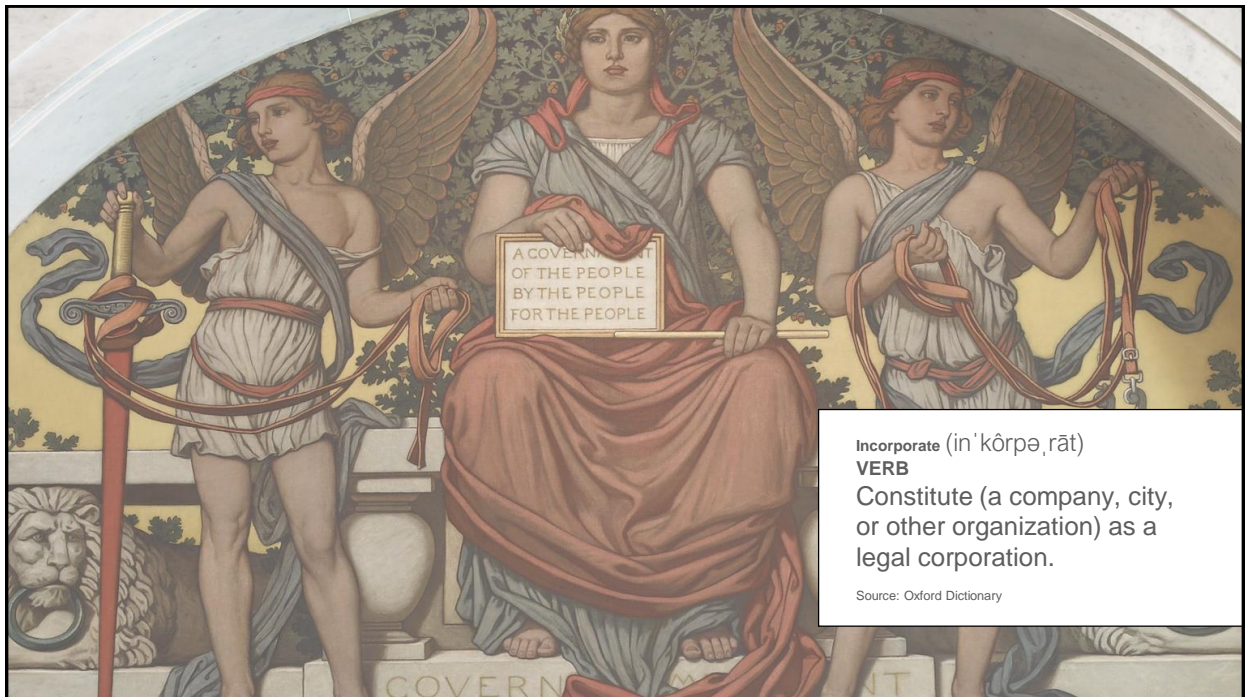


3. Vacant Land Analysis



4. Cost of Infrastructure

3



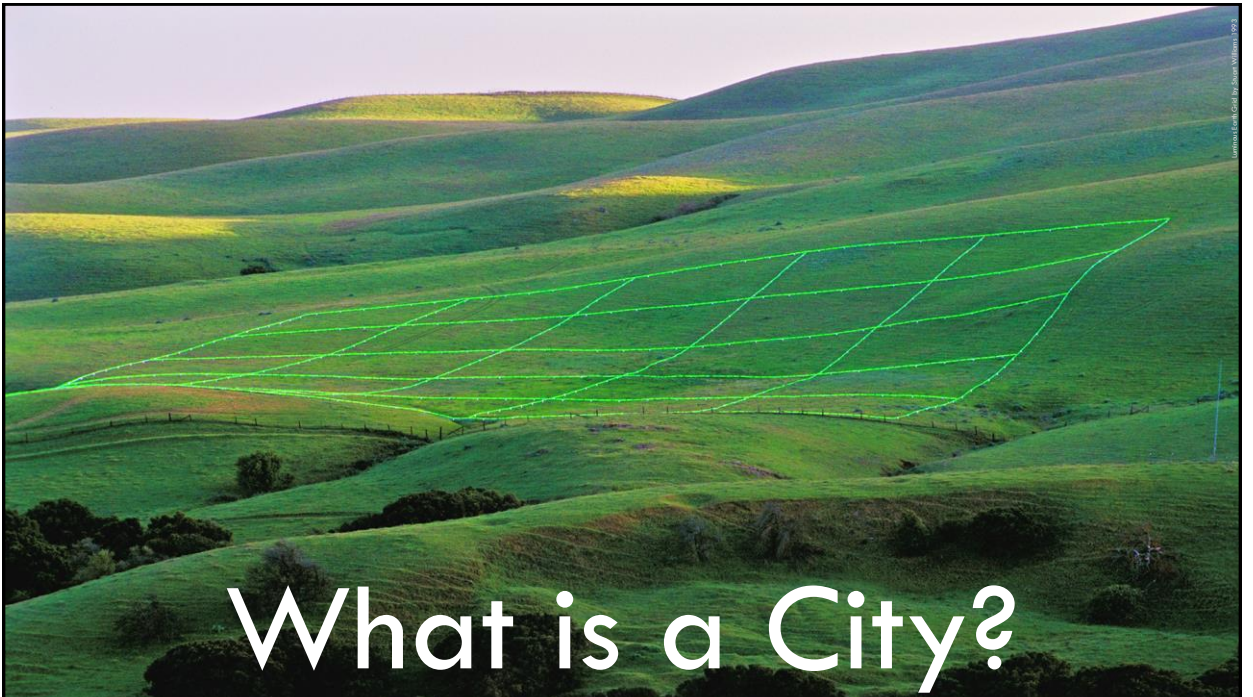
Incorporate (in'kɔrpə,rāt)
VERB
 Constitute (a company, city, or other organization) as a legal corporation.

Source: Oxford Dictionary

4

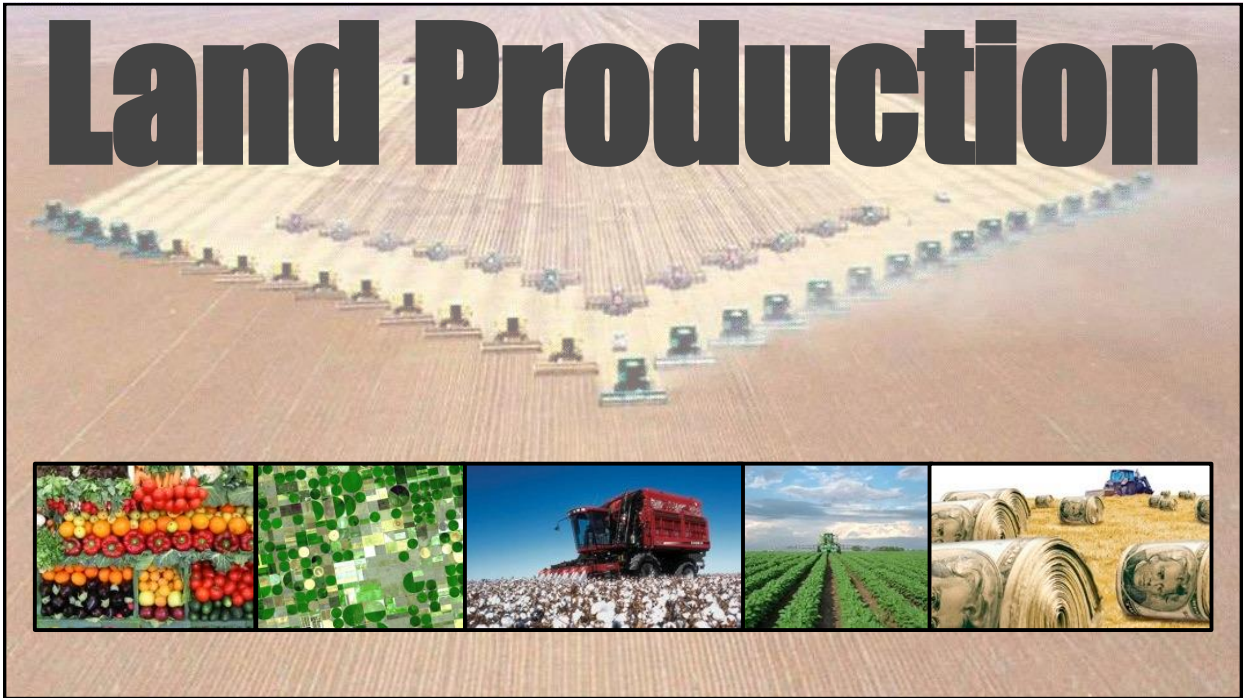


5



6

Land Production



7

How do you compare cars?



Ford F150 Lariat LTD
648 miles per tank



Toyota Prius
571 miles per tank



1955 BMW Isetta
245 miles per tank



Rolls-Royce Phantom Drophead
380 miles per tank



Bugatti Veyron SS
390 miles per tank

8

How do you compare cars?



Ford F150 Lariat LTD
648 miles per tank



Toyota Prius
571 miles per tank



1955 BMW Isetta
245 miles per tank



Rolls-Royce Phantom Drophead
380 miles per tank



Bugatti Veyron SS
390 miles per tank

9

How do you compare cars?



Ford F150 Lariat LTD
13/18 mpg



Toyota Prius
51/48 mpg



1955 BMW Isetta
50/70 mpg



Rolls-Royce Phantom Drophead
11/18 mpg



Bugatti Veyron SS
8/14 mpg

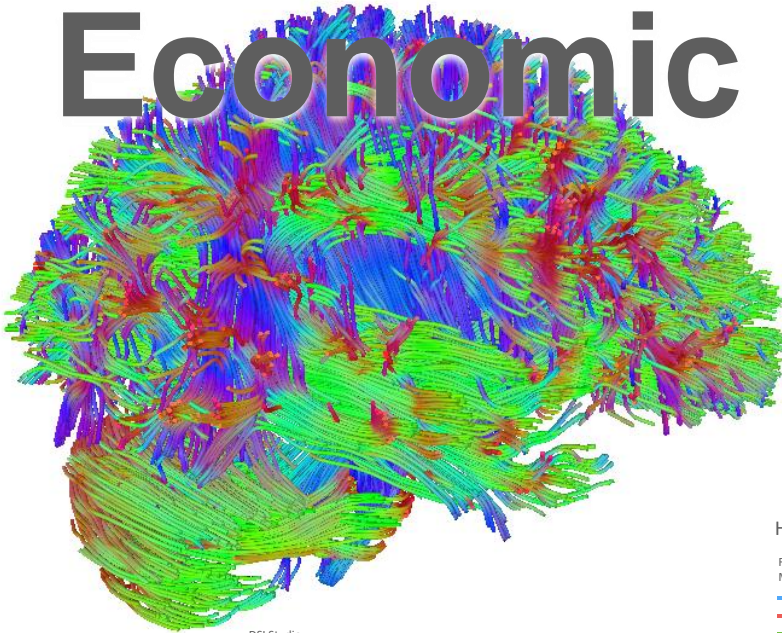
10

How do you compare cars?



11

Economic MRI™



DSI Studio

Human Connectome Project

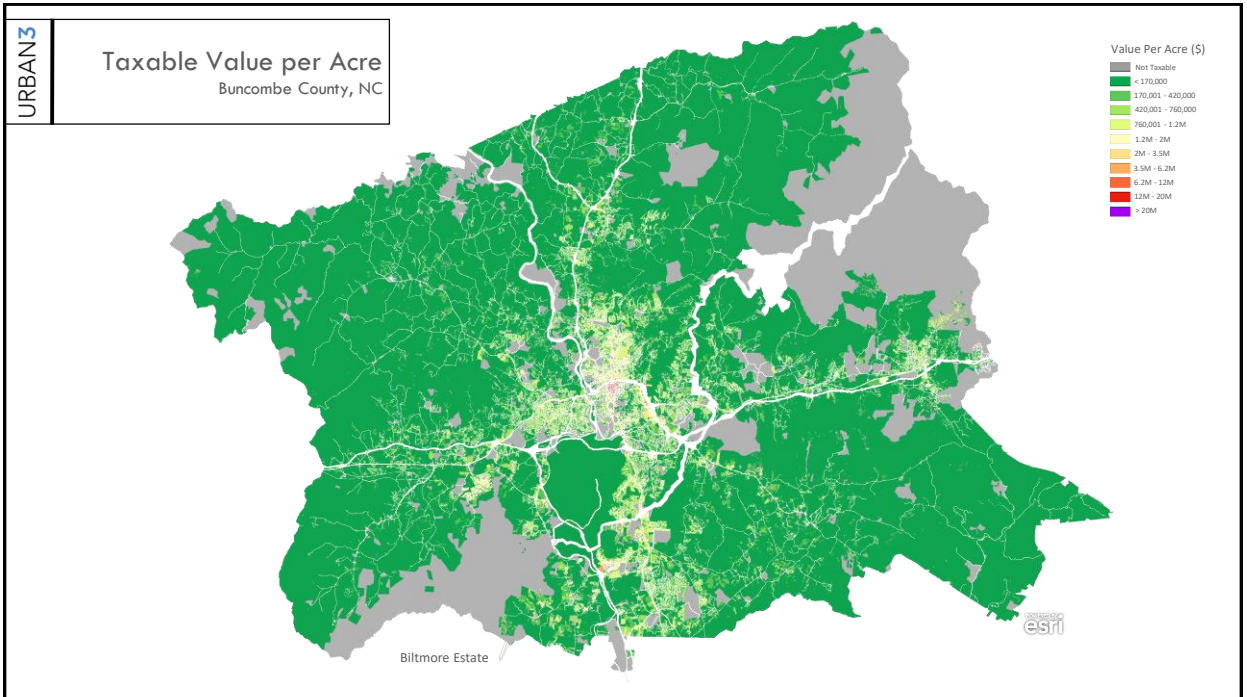
Fiber architecture of the brain.
Measured from diffusion spectral imaging (DSI).

- up-down
- left-right
- anterior-posterior

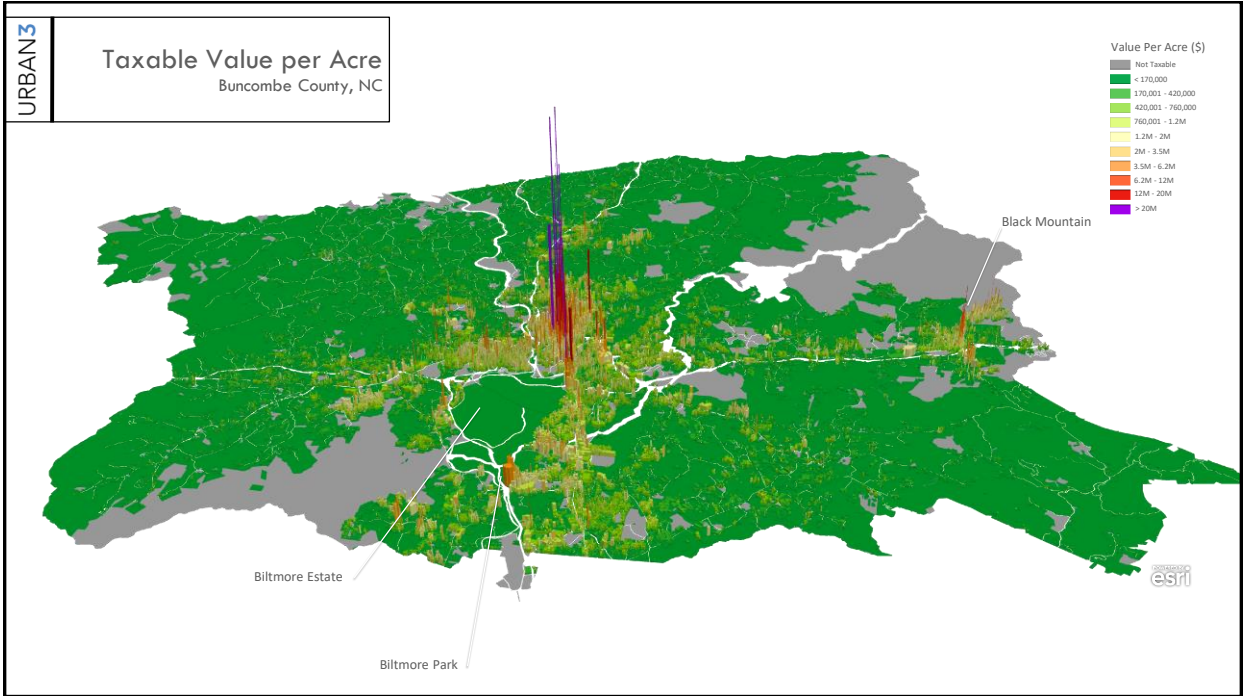
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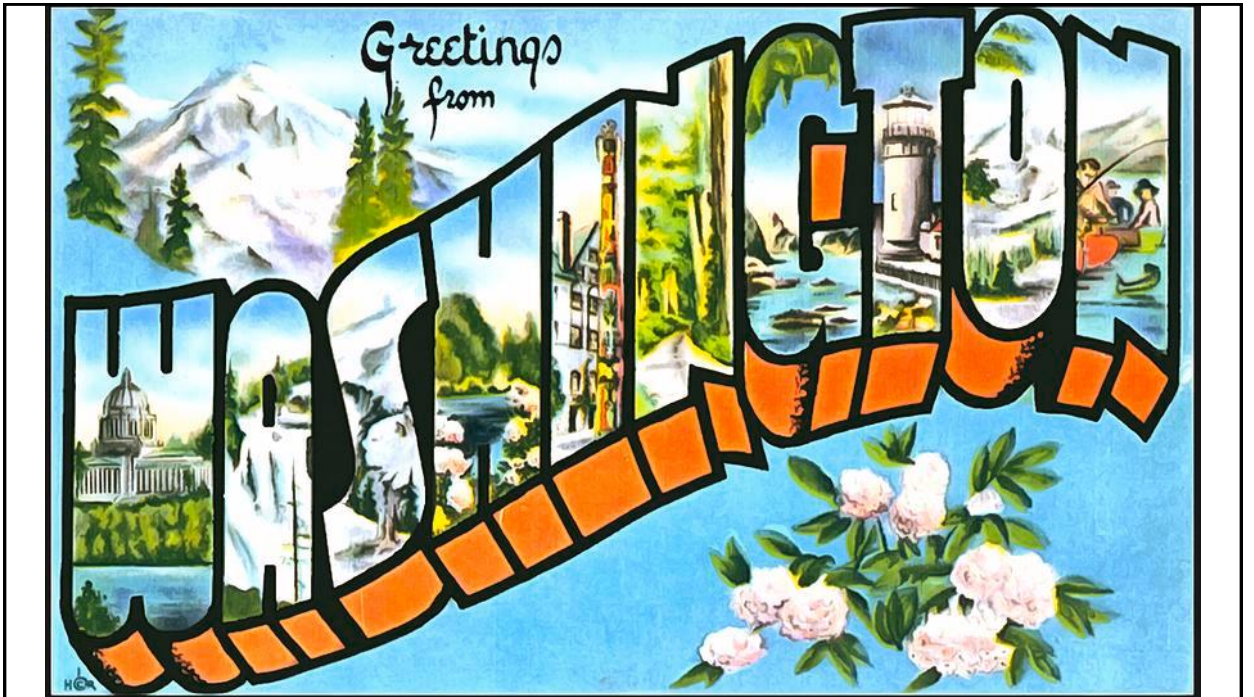
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14



15



16



2022

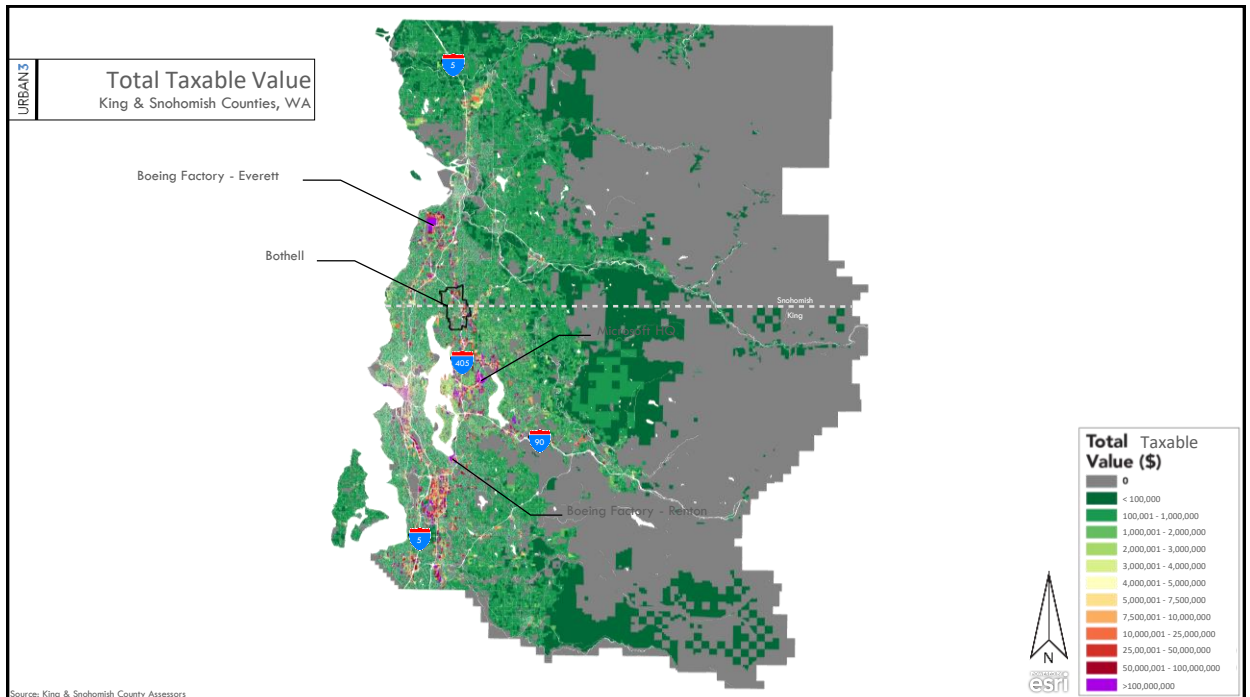
Case Study:

Bothell, Washington

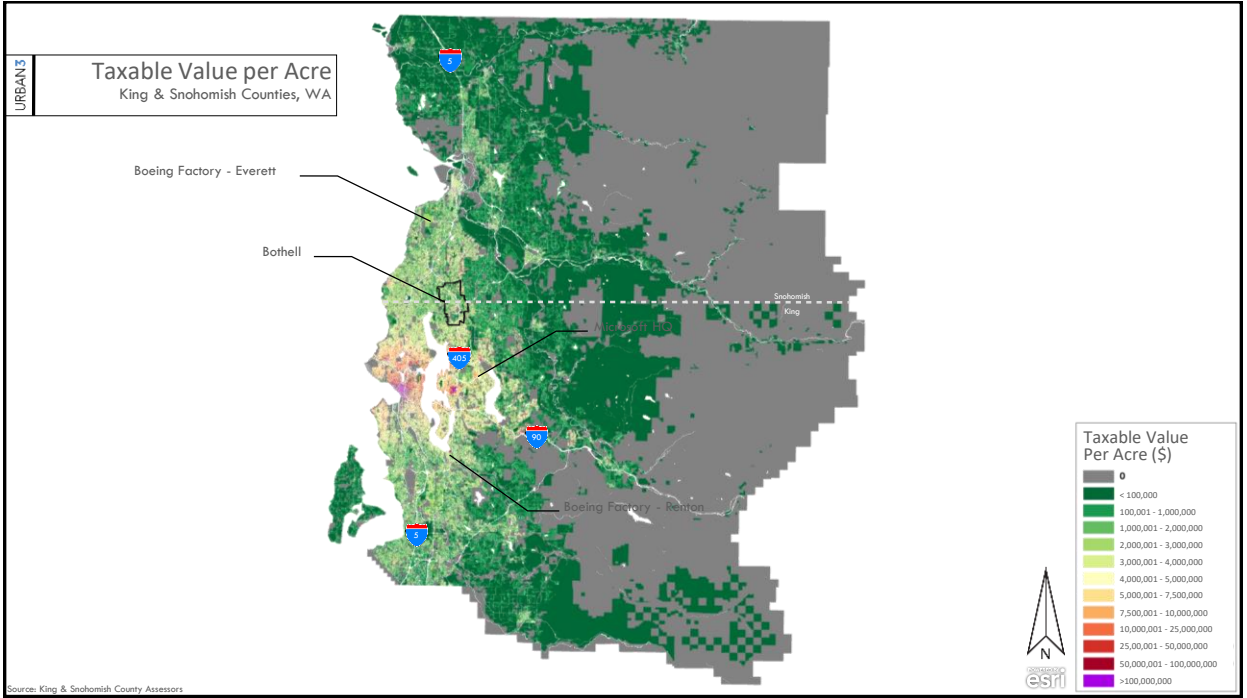
Using data story telling to help communities see where they generate revenue

URBAN3

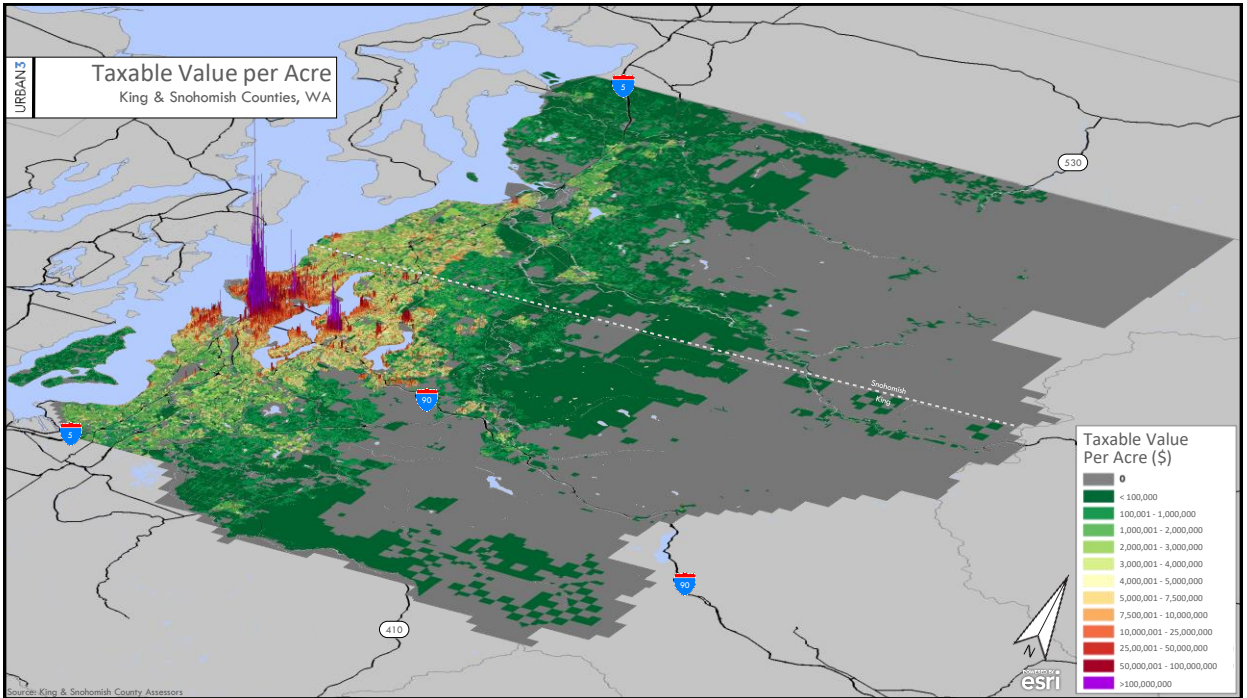
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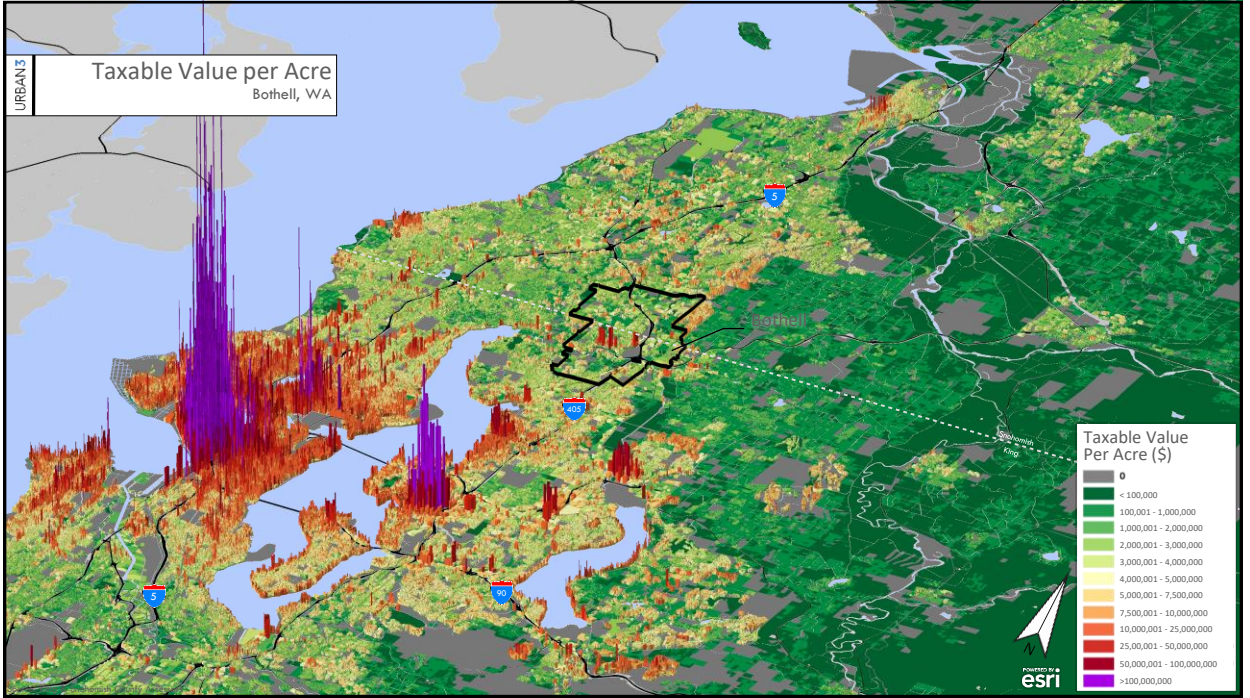
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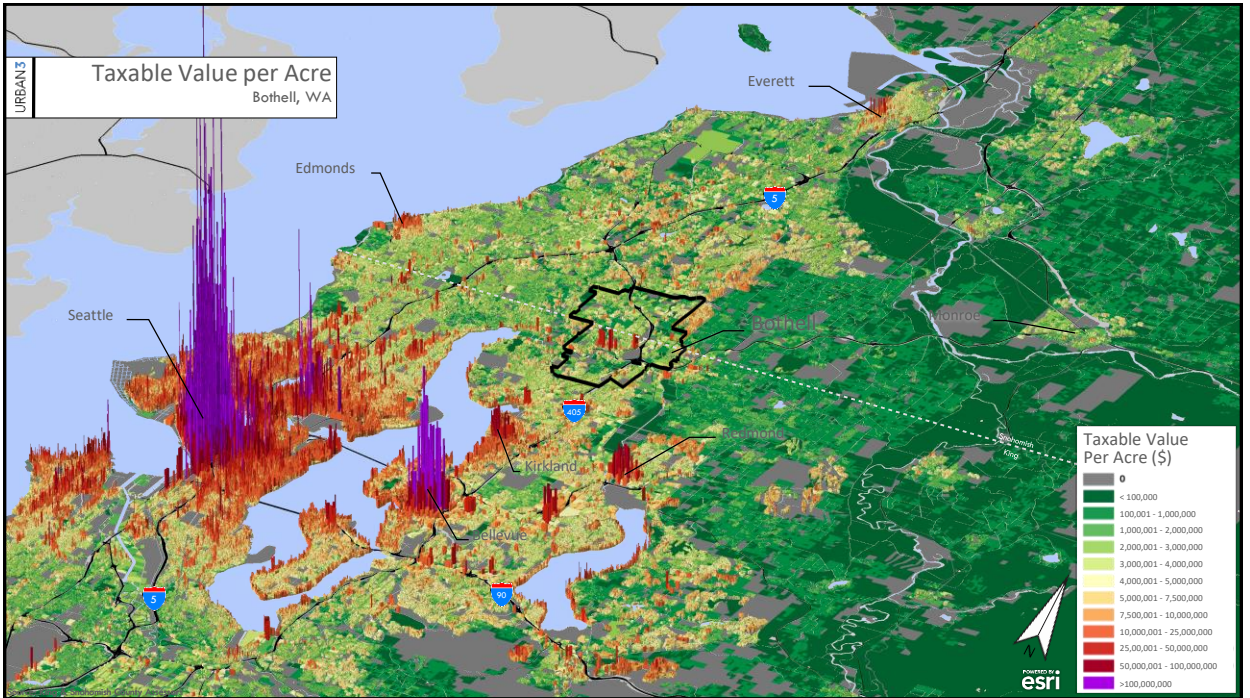
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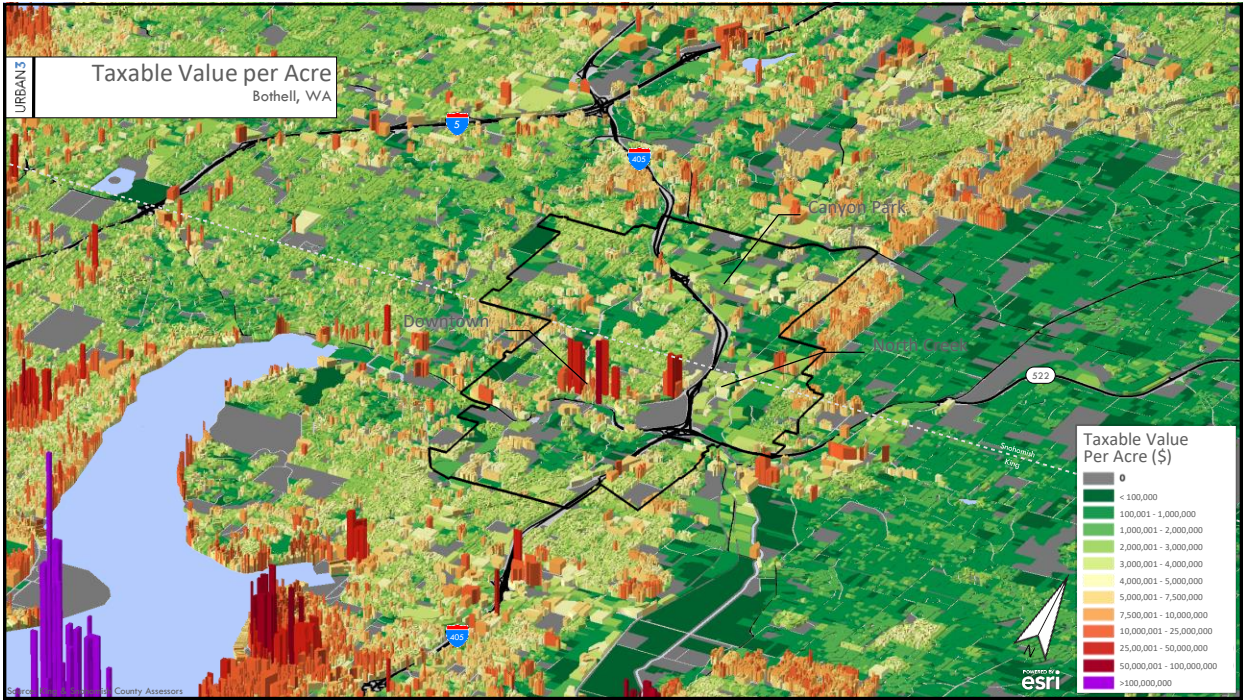
20



21



22



23



24



Residential Land Use Types

Samples of residential buildings and development types.

URBAN3

Value Per Acre
Bothell, WA

Walmart Average
\$1.34M per acre

Source: King & Snohomish County Assessors, Photo: Google Streetview

URBAN13

Value Per Acre
Bothell, WA

Bothell Single Family Average:
\$2.12M per acre

Walmart Average
\$1.34M per acre

Source: King & Snohomish County Assessors, Photo: Google Streetview

27

URBAN13

Value Per Acre
Bothell, WA


Walmart Average
\$1.34M per acre

Source: King & Snohomish County Assessors, Photo: Google Streetview


28

URBAN13

Value Per Acre
Bothell, WA



Bothell Duplex Average:
\$1.79M per acre



Bothell Triplex Average:
\$3.08M per acre



Bothell Quadplex Average:
\$5.01M per acre

Walmart Average
\$1.34M per acre

Source: King & Snohomish County Assessors, Photo: Google Streetview

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URBAN13

Value Per Acre
Bothell, WA



Regentwood Condos
\$1.69M per acre



15th Ave SE Condos
\$6.67M per acre



10316 NE 187th Street Condos
\$13.3M per acre

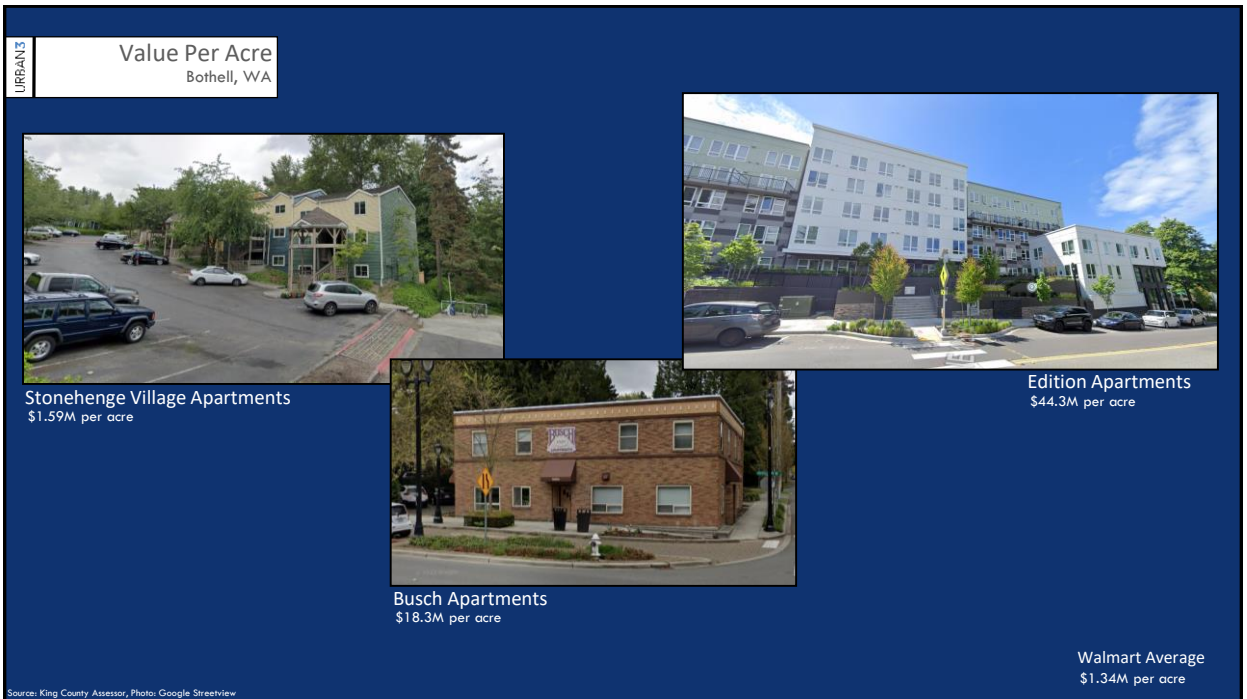
Walmart Average
\$1.34M per acre

Source: King & Snohomish County Assessors, Photo: Google Streetview

30



31



32

URBAN13

Value Per Acre
Bothell, WA





**Bothell Apartment Average:
\$4.29M per acre**

Stonehenge Village Apartments
\$1.59M per acre

Edition Apartments
\$44.3M per acre

Busch Apartments
\$18.3M per acre



Walmart Average
\$1.34M per acre

Source: King County Assessor, Photo: Google Streetview

33

URBAN13

Value Per Acre
Bothell, WA

Crystal Creek Townhomes
\$2.58M per acre

The Landings Townhomes
\$15.6M per acre

Walmart Average
\$1.34M per acre

Source: King County Assessor, Photo: Google Streetview

34

URBAN13

Value Per Acre
Bothell, WA

Bothell Townhouse Average:
\$4.49M per acre

Walmart Average
\$1.34M per acre

Source: King County Assessor, Photo: Google Streetview

35

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Value Per Acre
Bothell vs Kirkland

<p>Six Oaks</p> <p>Total Value = \$77.3M Acres = 1.92</p> <hr/> <p>Value/acre = \$40.3M</p>	<p>≈ 2X 2X</p>	<p>Voda (Kirkland)</p> <p>Total Value = \$82.3M Acres = 0.96</p> <hr/> <p>Value/acre = \$85.3M</p>
--	------------------------	---

Source: King County Assessor, Photo: Google Streetview

36

URBAN3

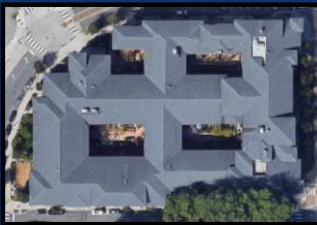
Value Per Acre Bothell vs Kirkland



Six Oaks
Value/acre = \$40.3M



Voda (Kirkland)
Value/acre = \$85.3M



Source: King County Assessor, Photo: Google Streetview

Overhead Images To Scale

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URBAN3



Commercial Land Use Types

Samples of commercial buildings and development types.

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URBAN13

Value Per Acre
Bothell, WA



Home Depot
\$0.42M per acre



Canyon Park Place
\$3.83M per acre



North Creek Plaza
\$1.64M per acre

Walmart Average
\$1.34M per acre

Source: King & Snohomish County Assessors, Photo: Google Streetview

URBAN13

Value Per Acre
Bothell, WA



Romac Industries
\$1.74M per acre



Seagen Building 12
\$5.24M per acre



AGC Biologics
\$2.49M per acre

Walmart Average
\$1.34M per acre

Source: King & Snohomish County Assessors, Photo: Google Streetview

URBAN13 Value Per Acre
Bothell, WA

Downtown Restaurant
\$6.47M per acre

Downtown Commercial
\$9.71M per acre

Restaurant & Offices
\$15.8M per acre

Offices
\$18.6M per acre

Walmart Average
\$1.34M per acre

Source: King County Assessor, Photo: Google Streetview

41

URBAN13 Value Per Acre
Bothell, WA

The Villas at Beardslee
\$23.4M per acre

Six Oaks
\$40.3M per acre

Walmart Average
\$1.34M per acre

Source: King County Assessor, Photo: Google Streetview

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URBAN3

Value Per Acre
Bothell, WA



The Merc
\$50.1M per acre



Historic Photo of Cooperative Mercantile c.1908

Walmart Average
\$1.34M per acre

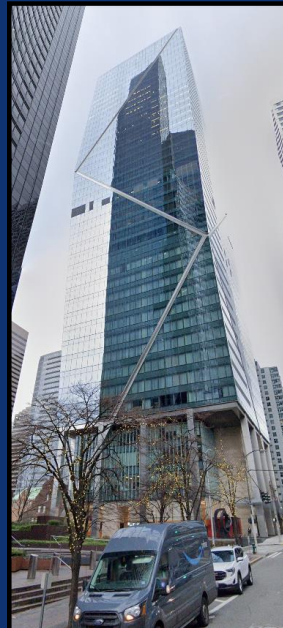
Source: King County Assessor, Photo: Google Streetview

URBAN3

Value Per Acre
King County, WA



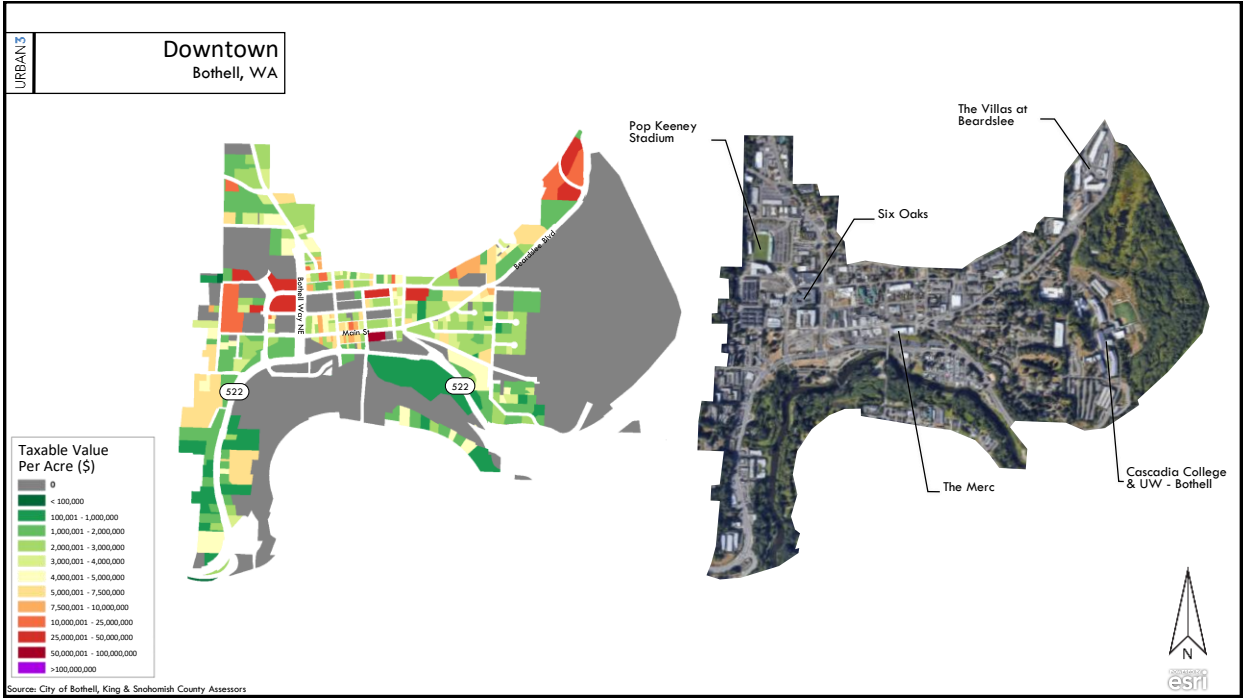
NEXUS - Seattle
\$853.4M per acre
(Total Value = \$277.4M)



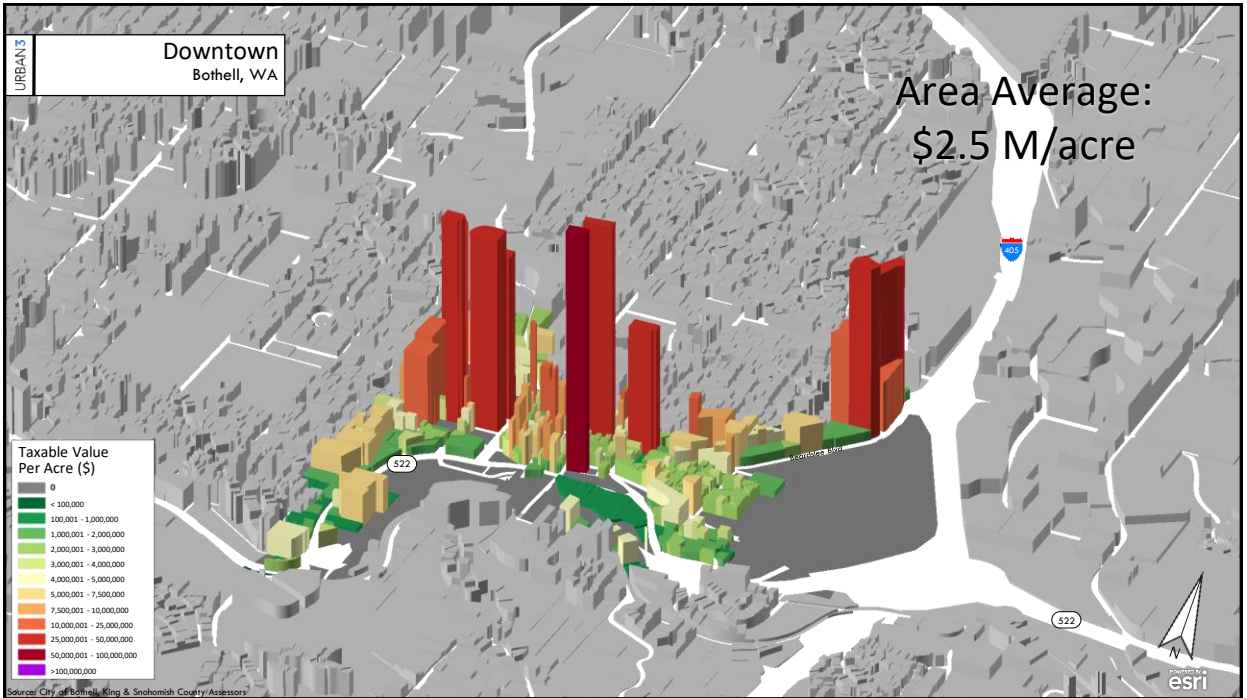
The Mark - Seattle
\$1.2B per acre
(Total Value = \$457.2M)

Walmart Average
\$1.34M per acre

Source: King County Assessor, Photo: Google Streetview



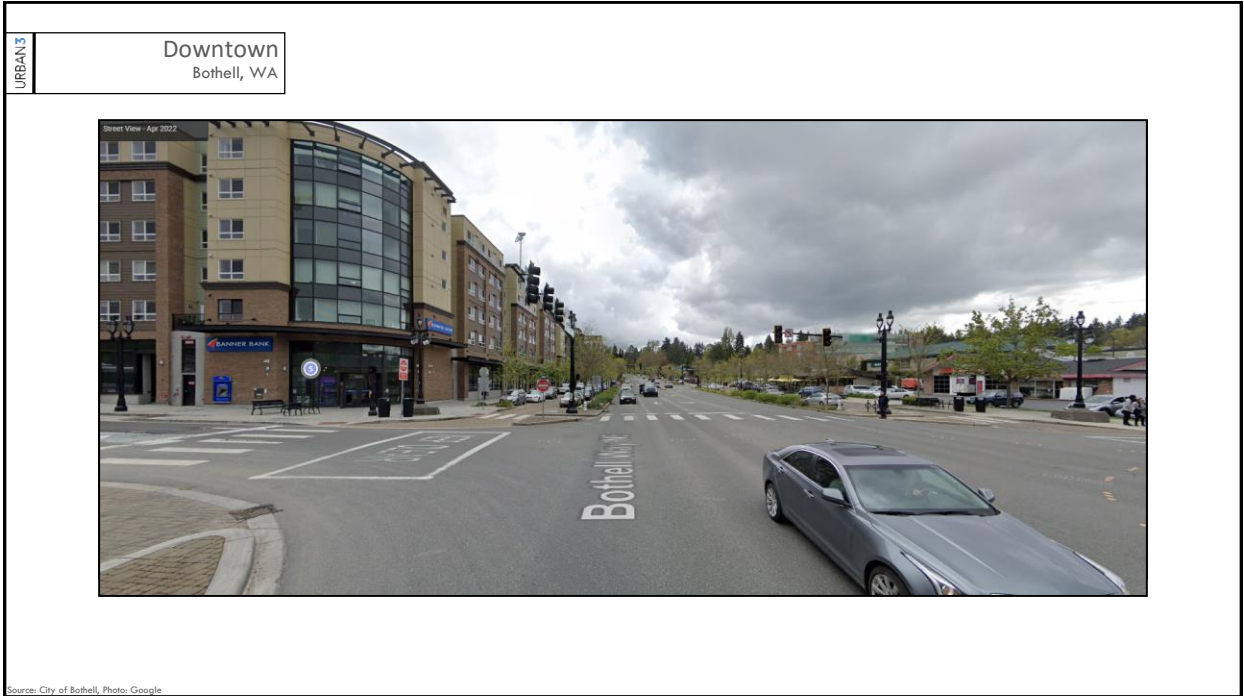
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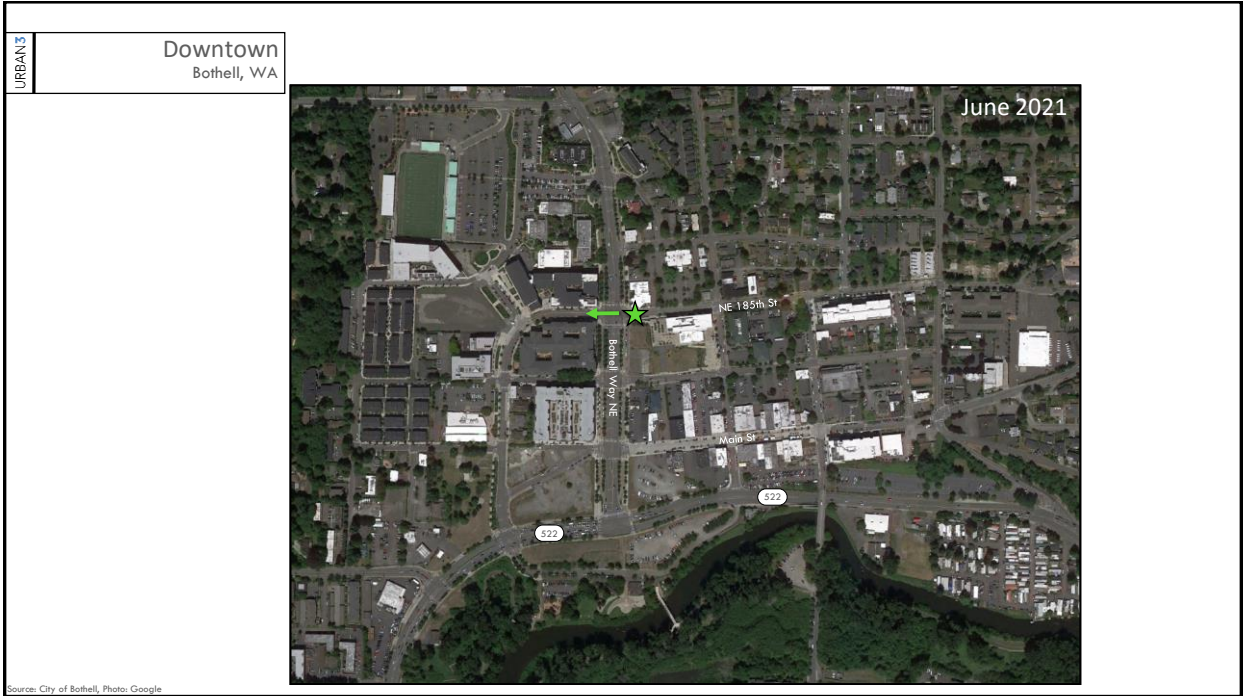
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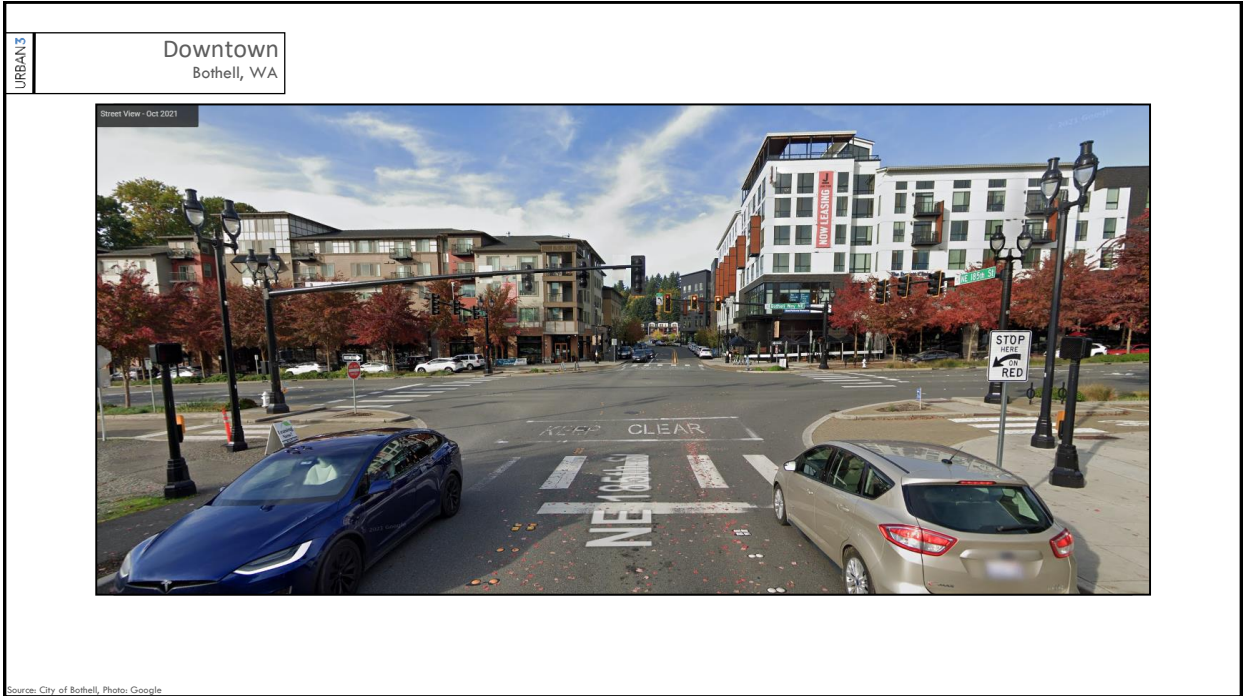
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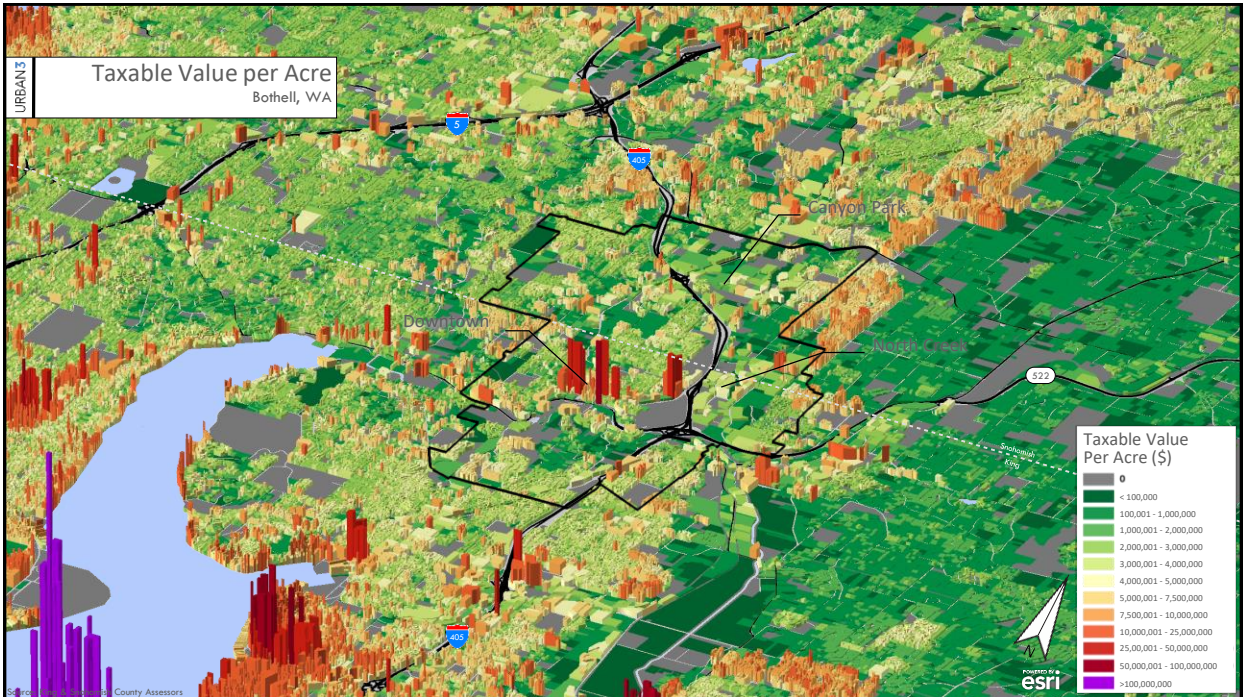
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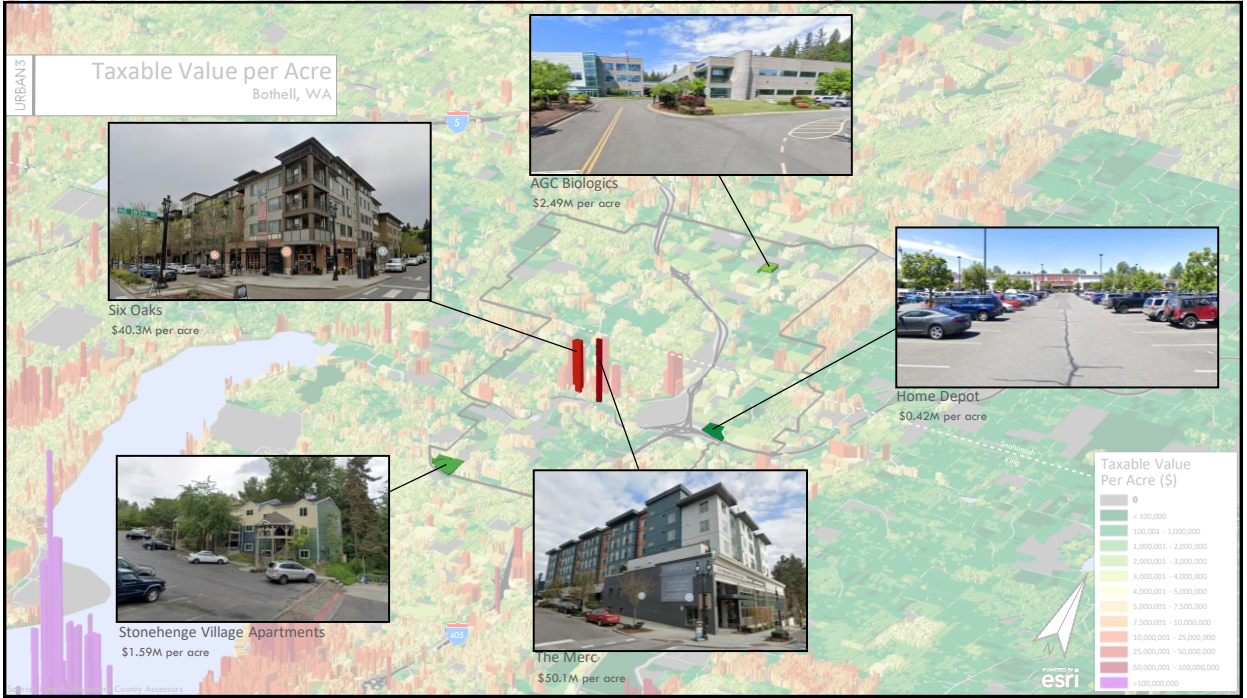
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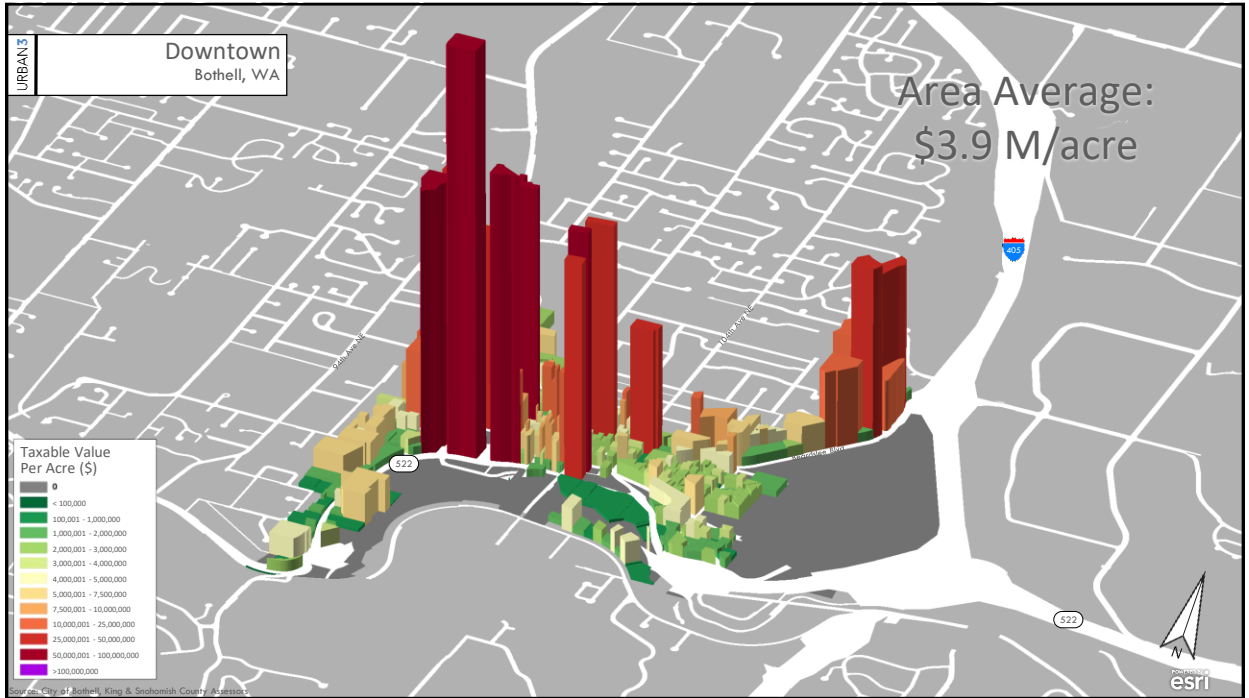
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53



54



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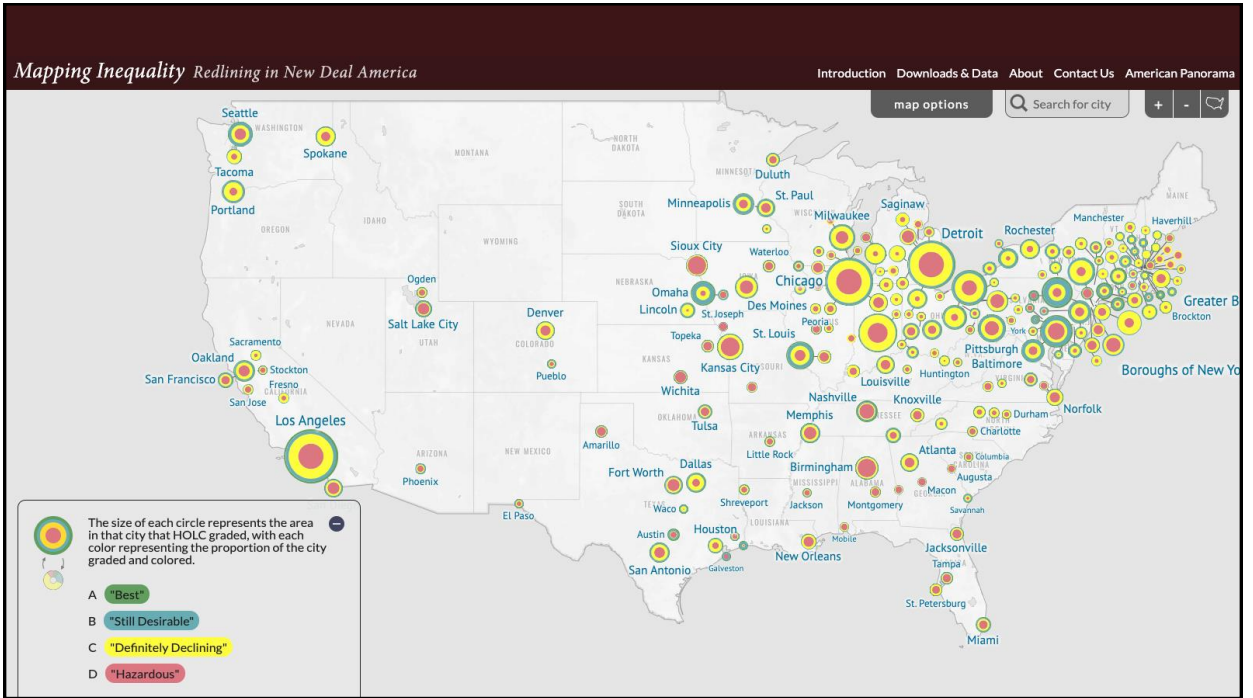
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Cultural Bias:

Redlining:

the persistent structure of segregation and economic inequality. Began with the National Housing Act of 1934, establishing the Federal Housing Administration (FHA).

56



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2014

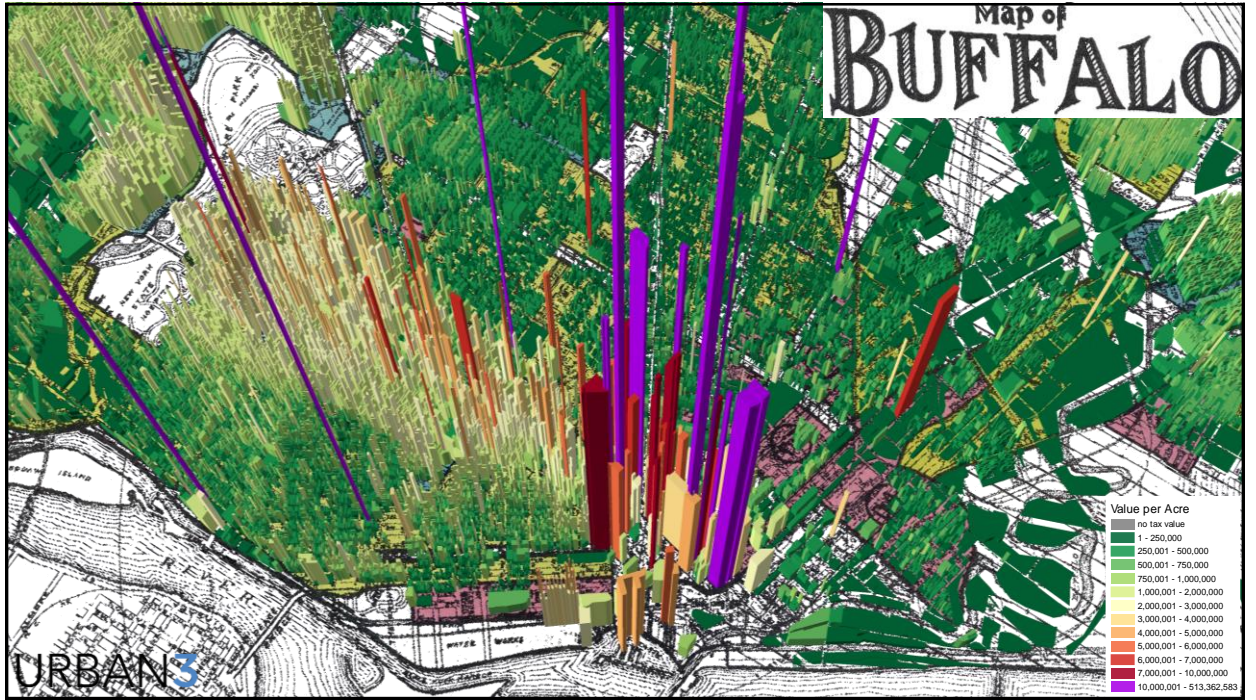
Case Study:

Buffalo, New York

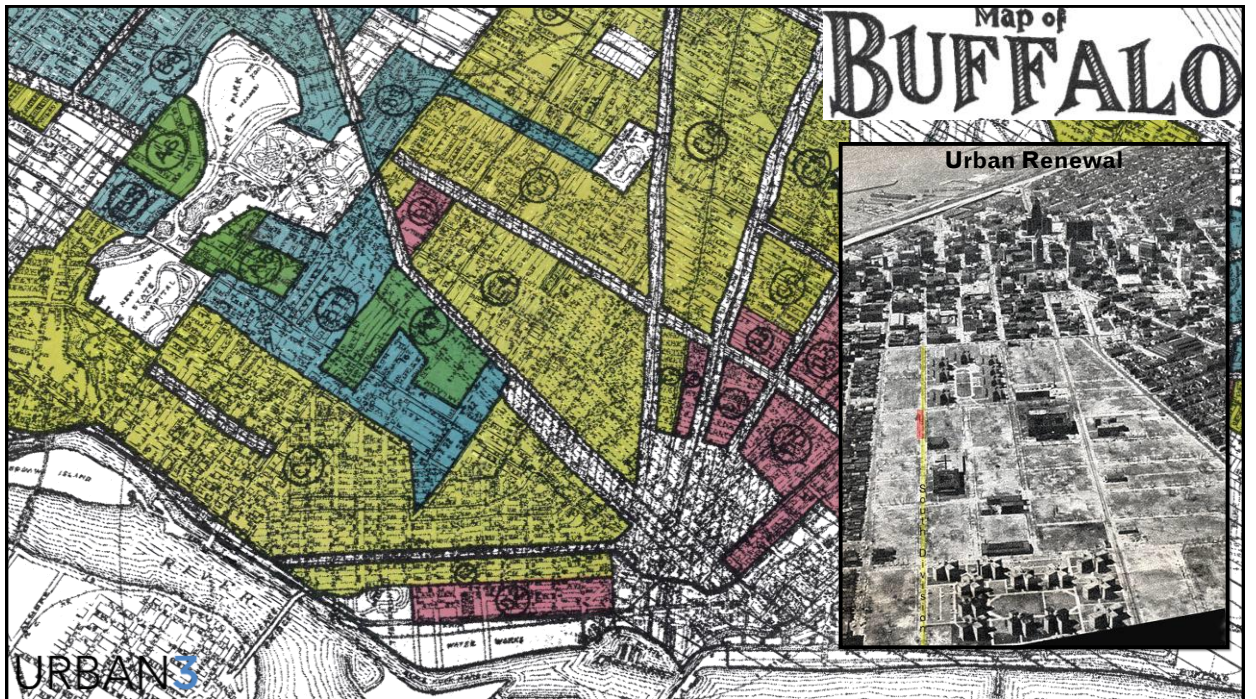
Visualizing the long-term financial legacy of redlining and urban renewal

URBAN3

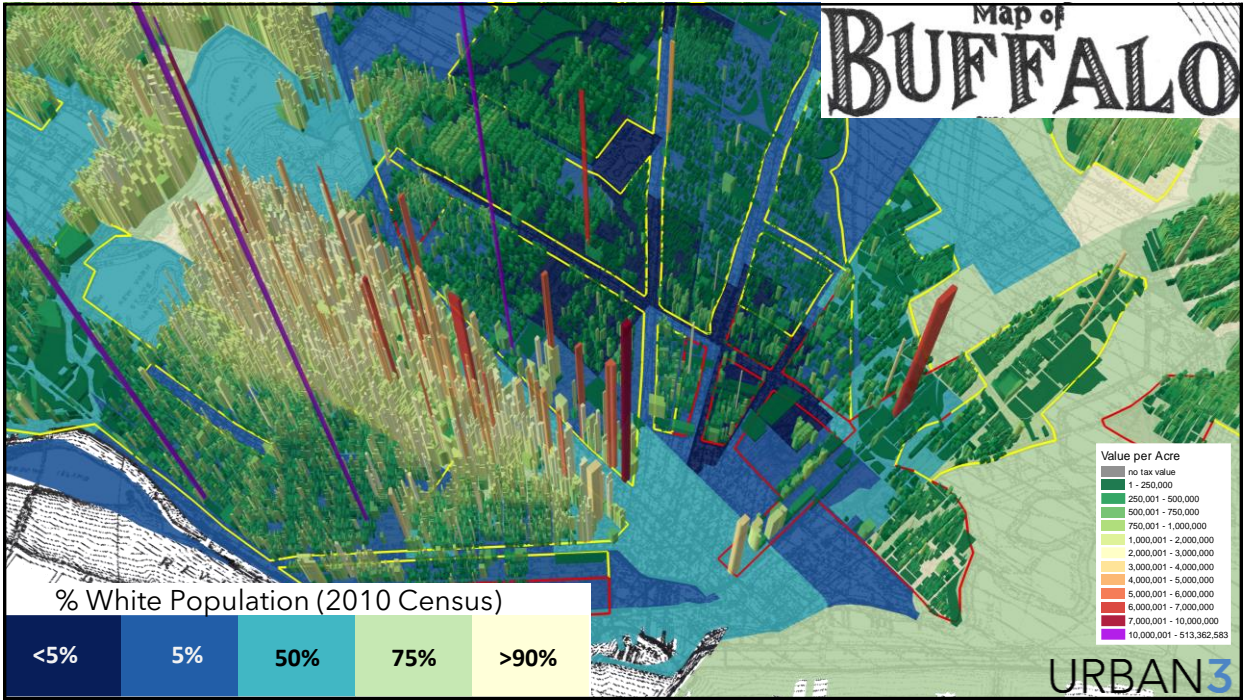
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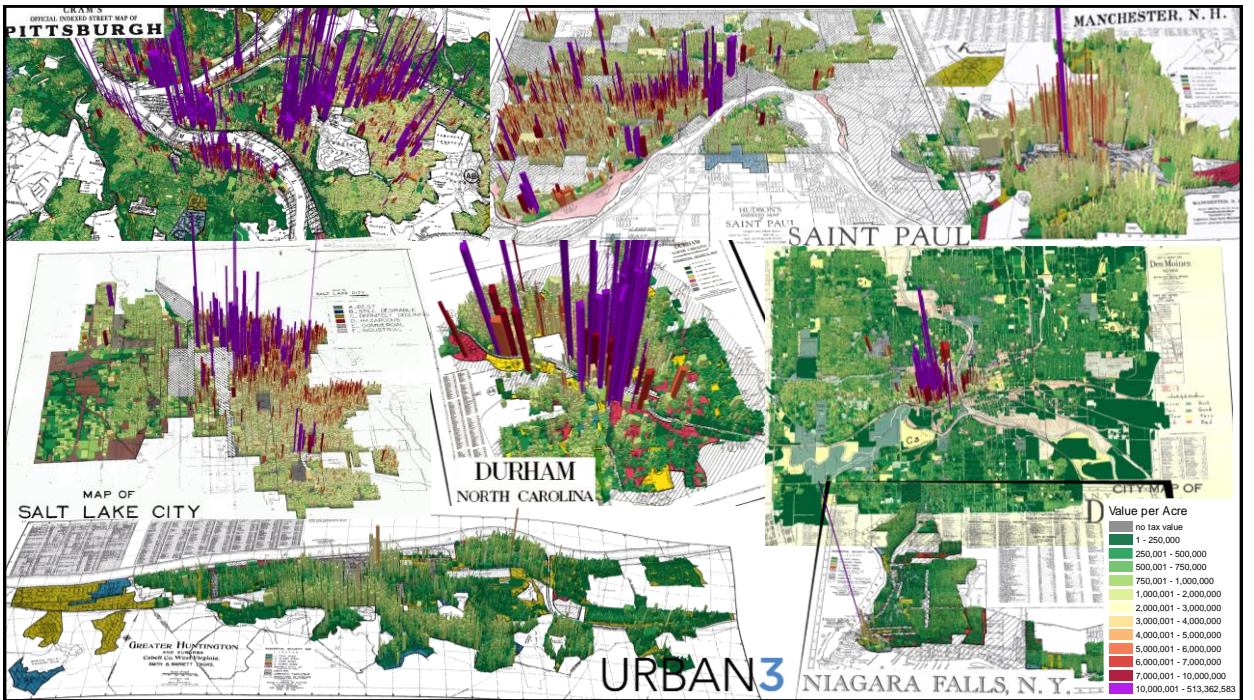
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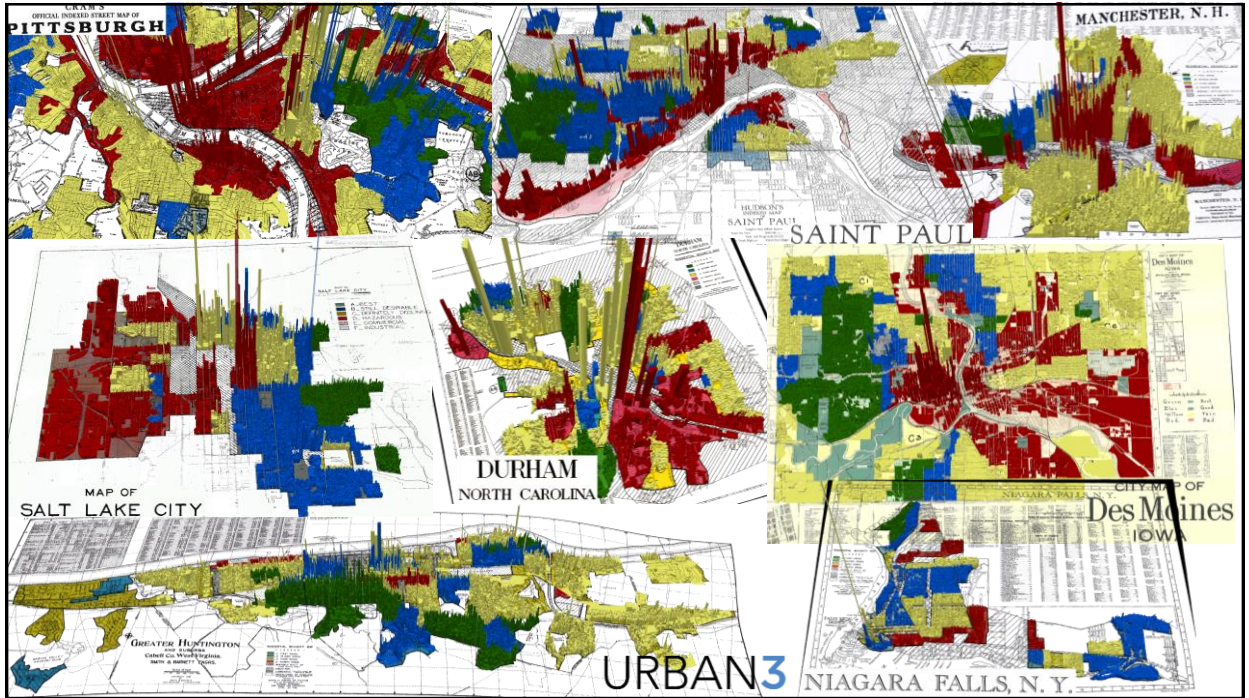
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61



62




63

2021

Case Study:

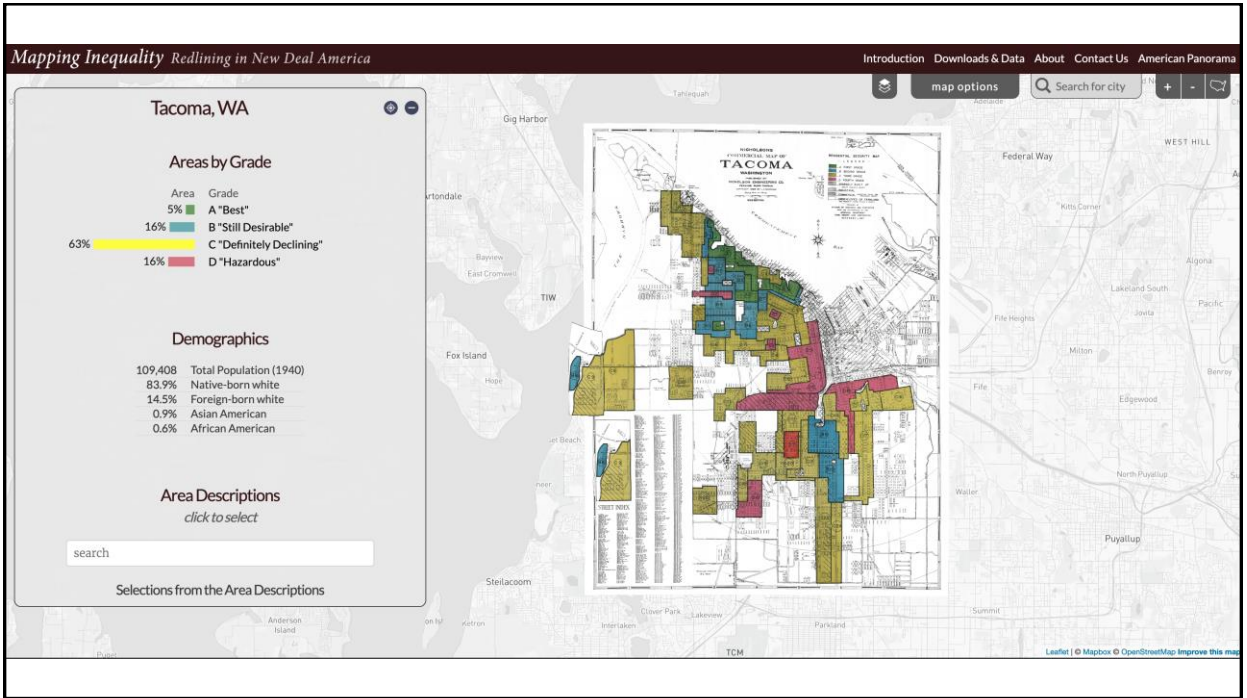
Tacoma, Washington

Redlining in Washington State

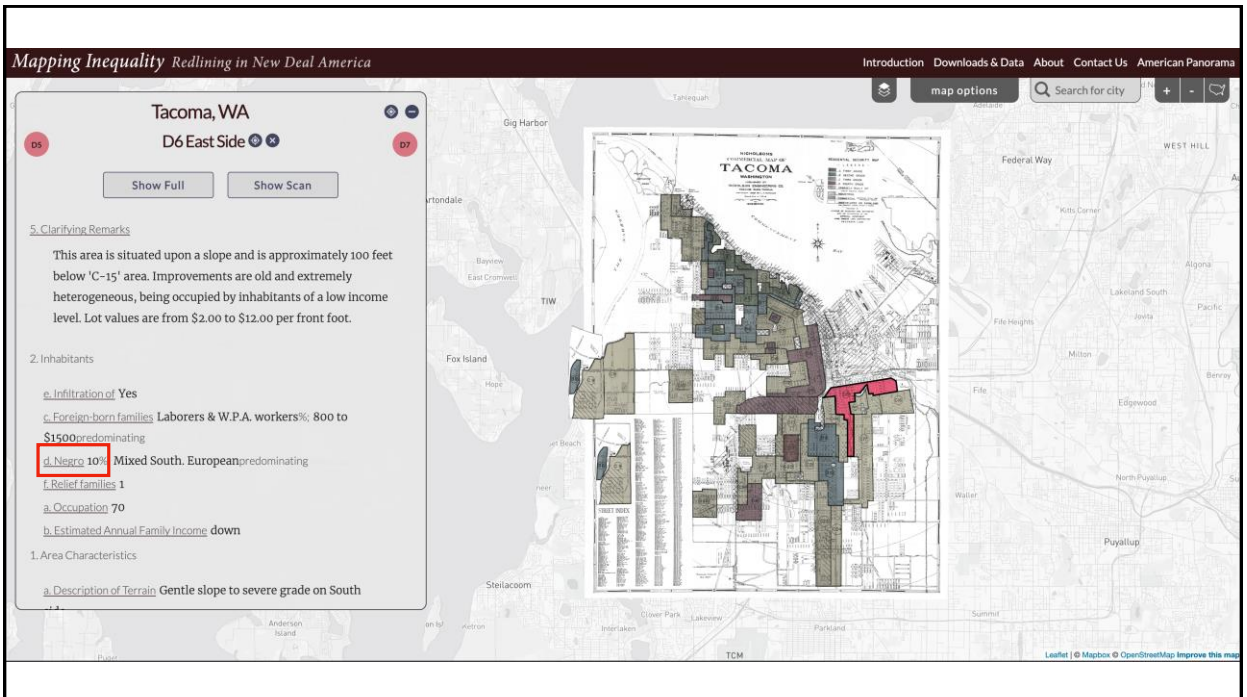


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65



66

Mapping Inequality Redlining in New Deal America

Introduction Downloads & Data About Contact Us American Panorama

Tacoma, WA D3

Show Full Show Scan

5. Clarifying Remarks

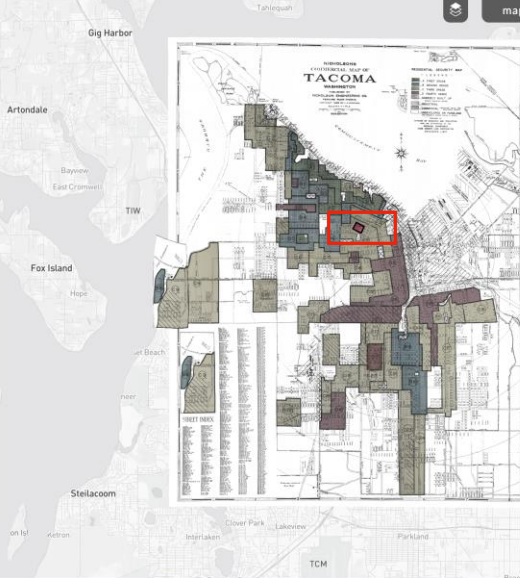
There are several Negro families (three known) who own property and live in this area. This constitutes a sufficient hazard to justify a 4th grade rating.

2. Inhabitants

- e. Infiltration of empty
- c. Foreign-born families empty%; empty predominating
- d. Negro empty%; empty predominating
- f. Relief families empty
- a. Occupation empty
- b. Estimated Annual Family Income empty

1. Area Characteristics

- a. Description of Terrain This area is identical with 'C-5', except as noted in "Clarifying Remarks".
- b. Favorable Influences empty



67

Mapping Inequality Redlining in New Deal America

Introduction Downloads & Data About Contact Us American Panorama

Tacoma, WA D3

Show Full Show Scan

5. Clarifying Remarks

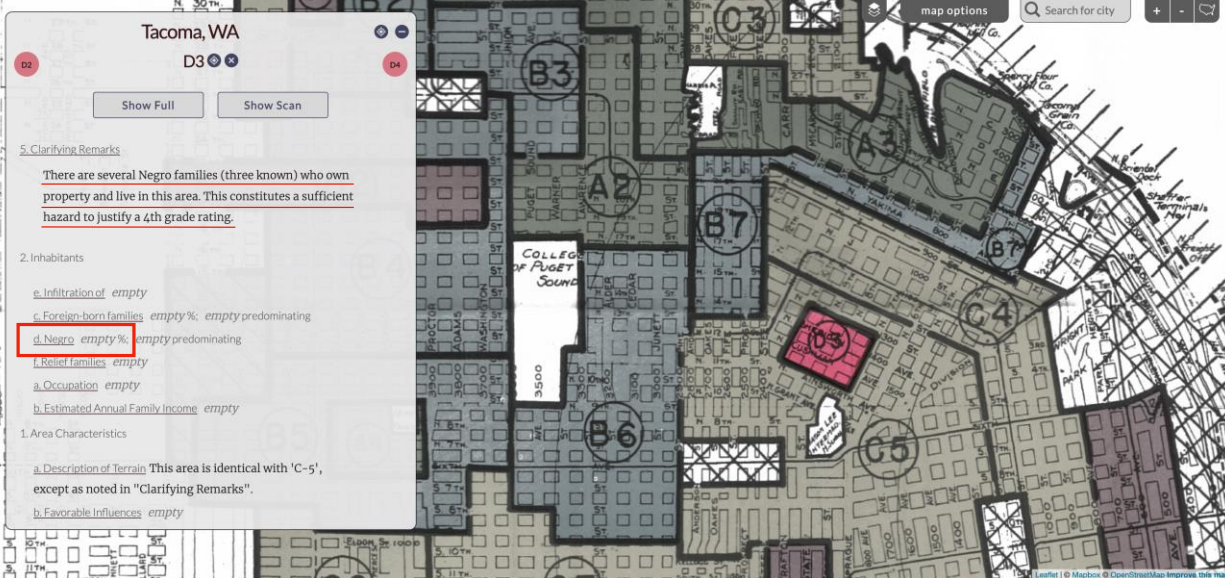
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1. Area Characteristics

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- b. Favorable Influences empty



68

URBAN3

Institutional Racism

"Grade A" Neighborhoods

The diagram features six icons arranged in a grid. At the top center is the 'GOVERNMENT' icon, which is a house with a dollar sign and a percentage sign inside. Below it are 'BANK' (a classical building), 'BORROWER' (two hands shaking with a dollar sign), 'PROPERTY' (a house with a dollar sign and a green staircase), 'SCHOOLS' (a stack of books), and 'UTILITIES' (a fire hydrant with a dollar sign).

69

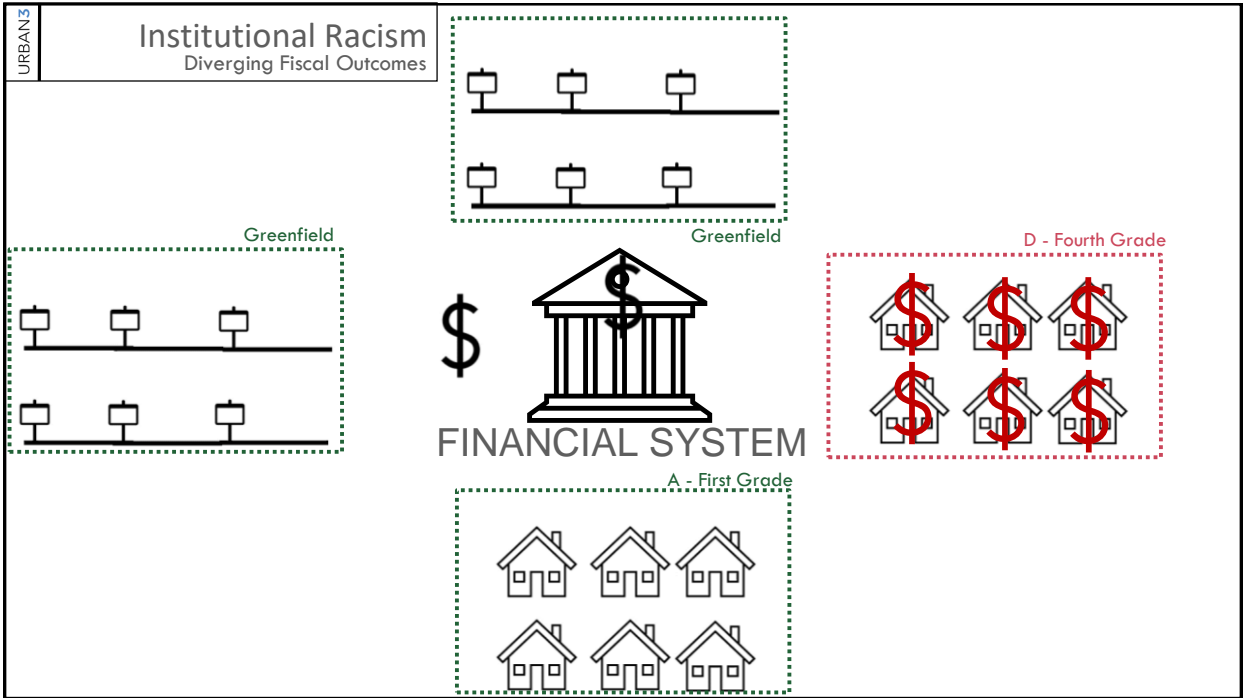
URBAN3

Institutional Racism

"Grade A" Neighborhoods

The diagram features six icons arranged in a grid. At the top center is the 'GOVERNMENT' icon, which is a classical building. Below it are 'BANK' (a classical building with a large dollar sign next to it), 'BORROWER' (two hands shaking), 'PROPERTY' (a simple house), 'SCHOOLS' (a stack of books), and 'UTILITIES' (a fire hydrant).

70

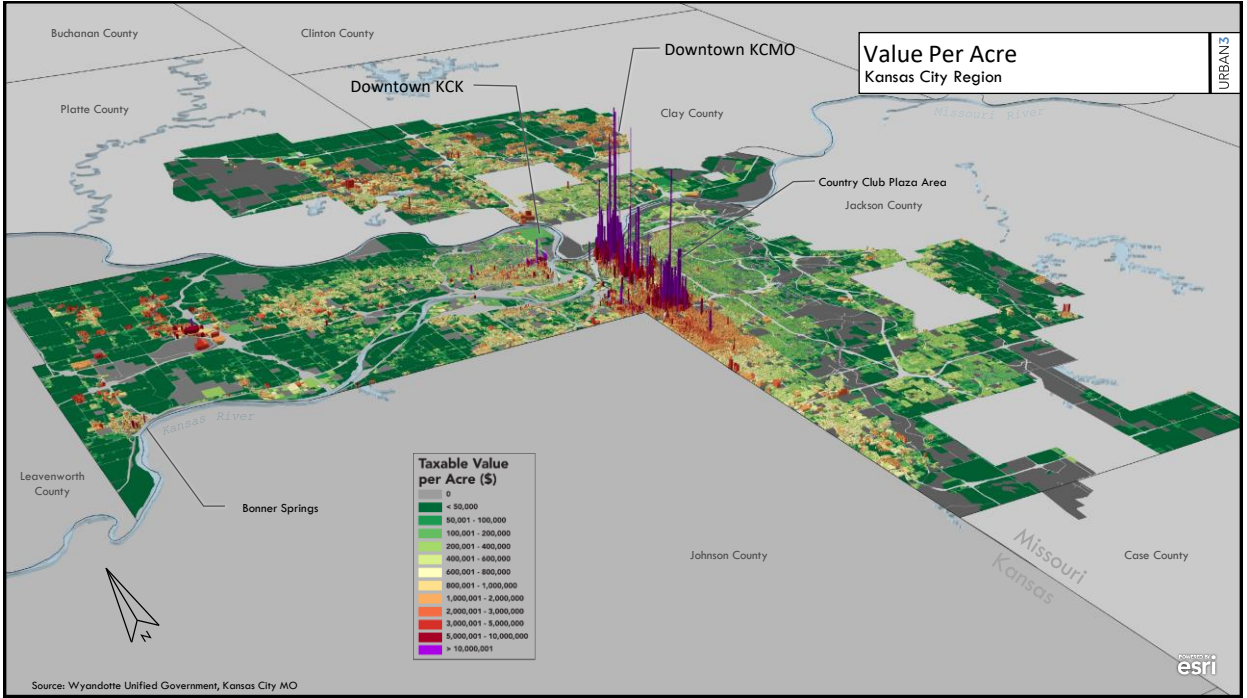


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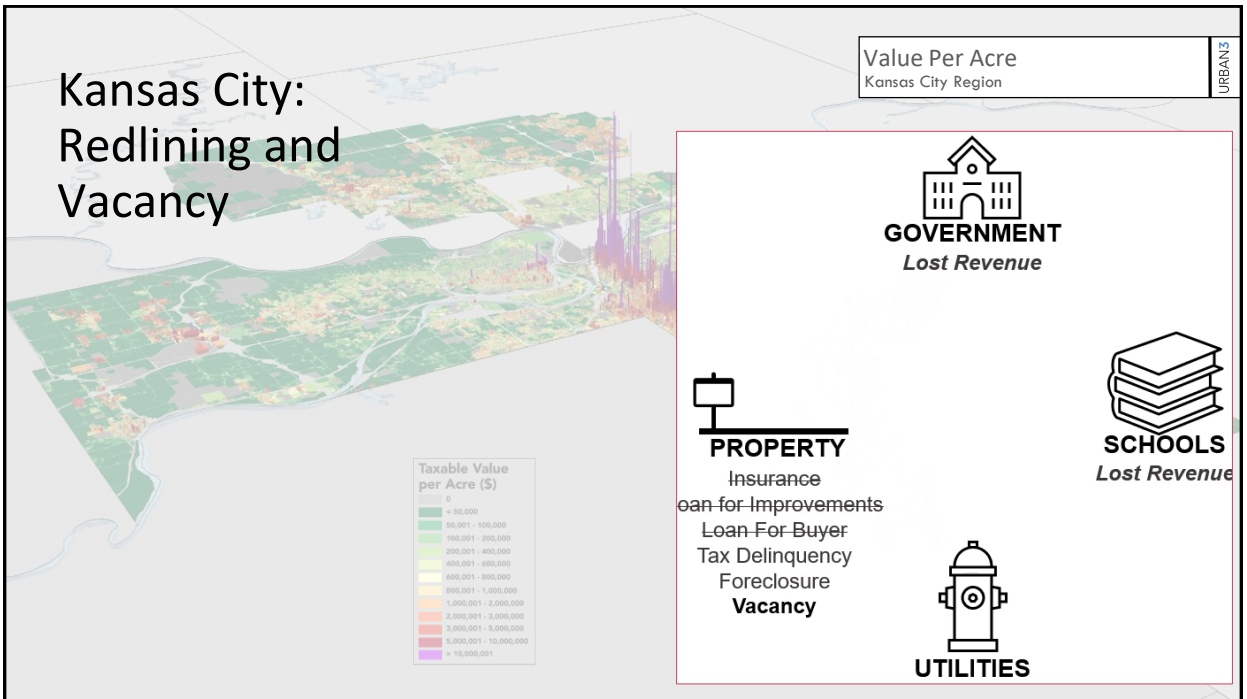
2017
 Case Study:
Greater Kansas City
 Quantifying the cost of redlining and looking for creative solutions

URBAN3

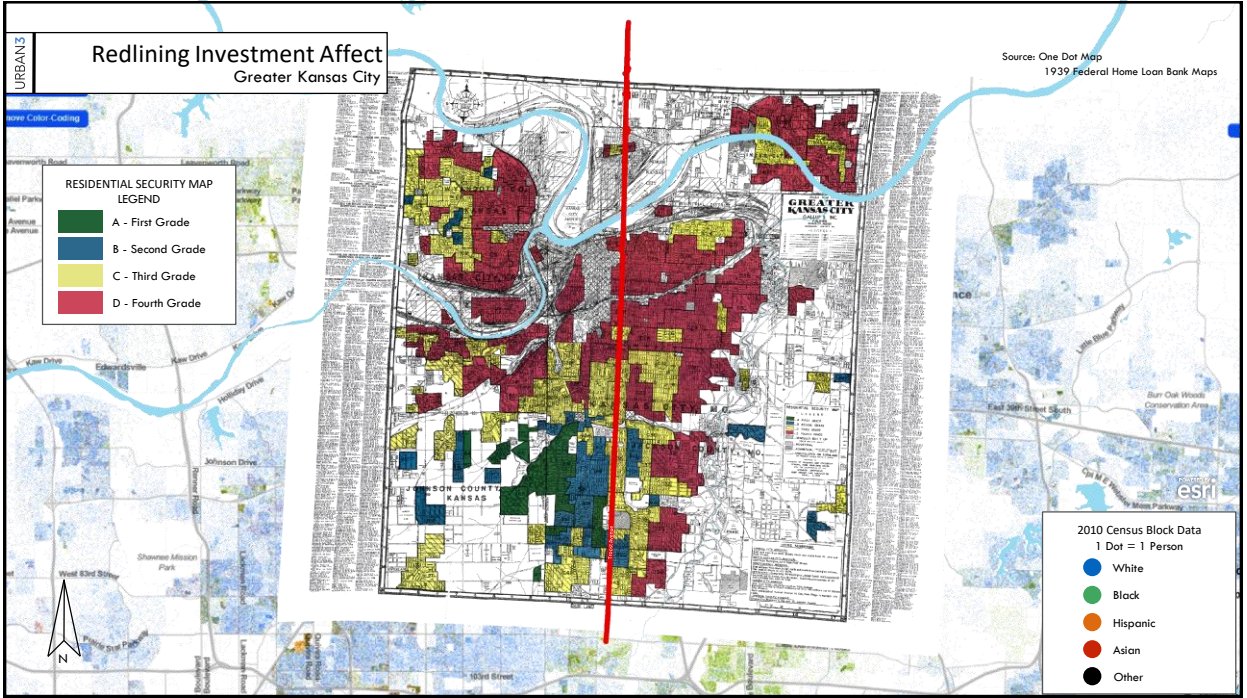
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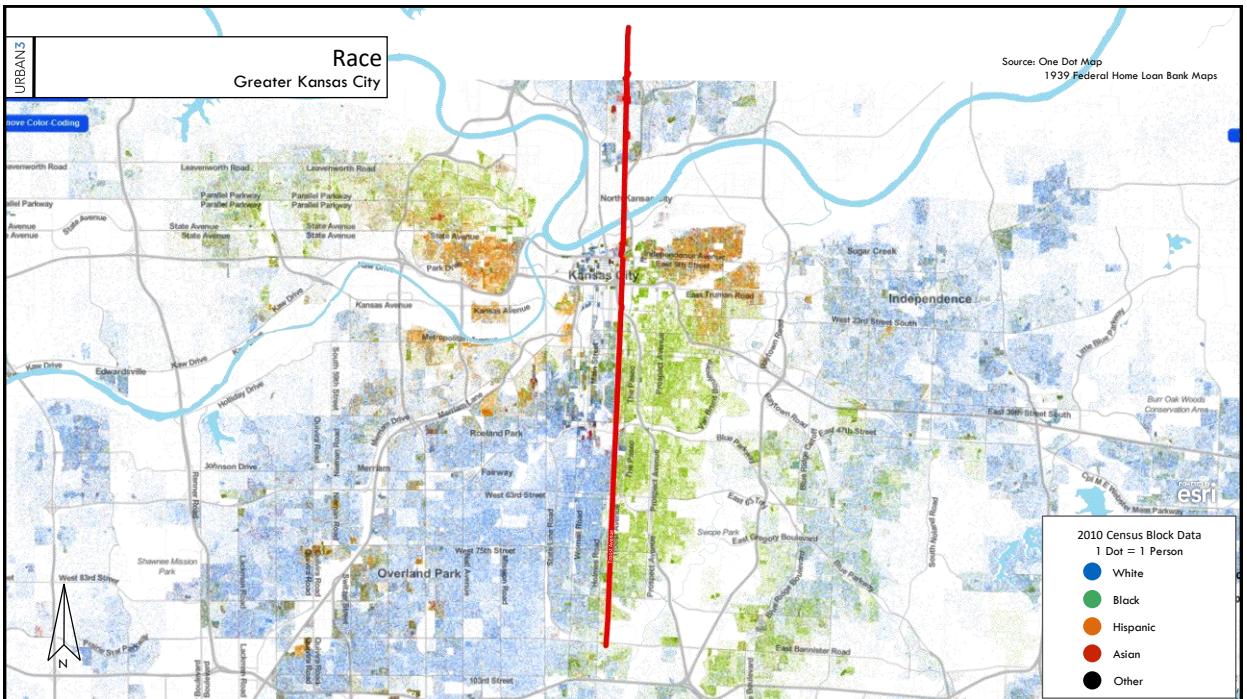
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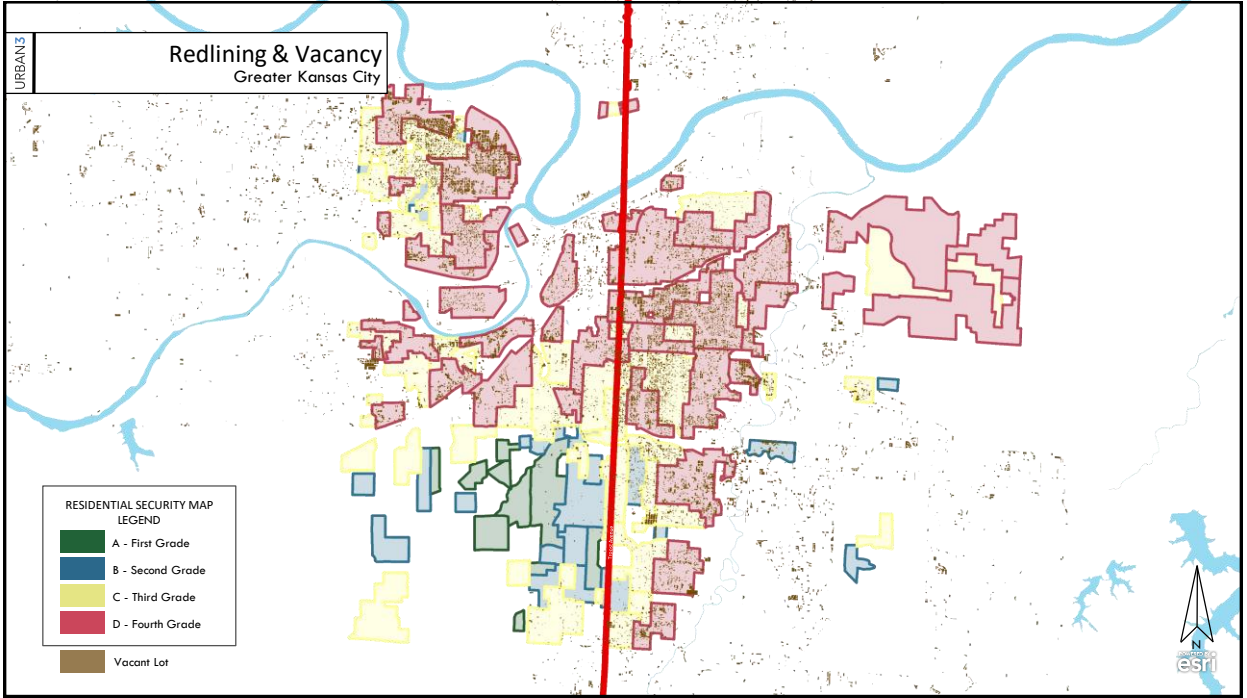
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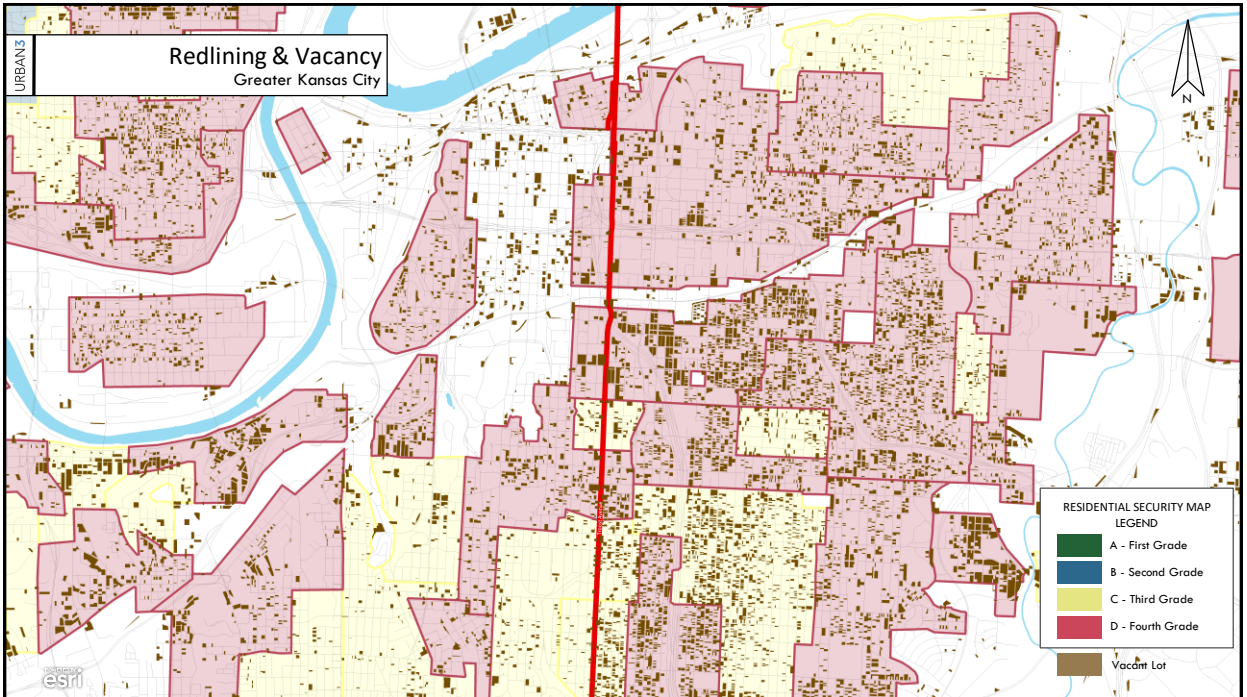
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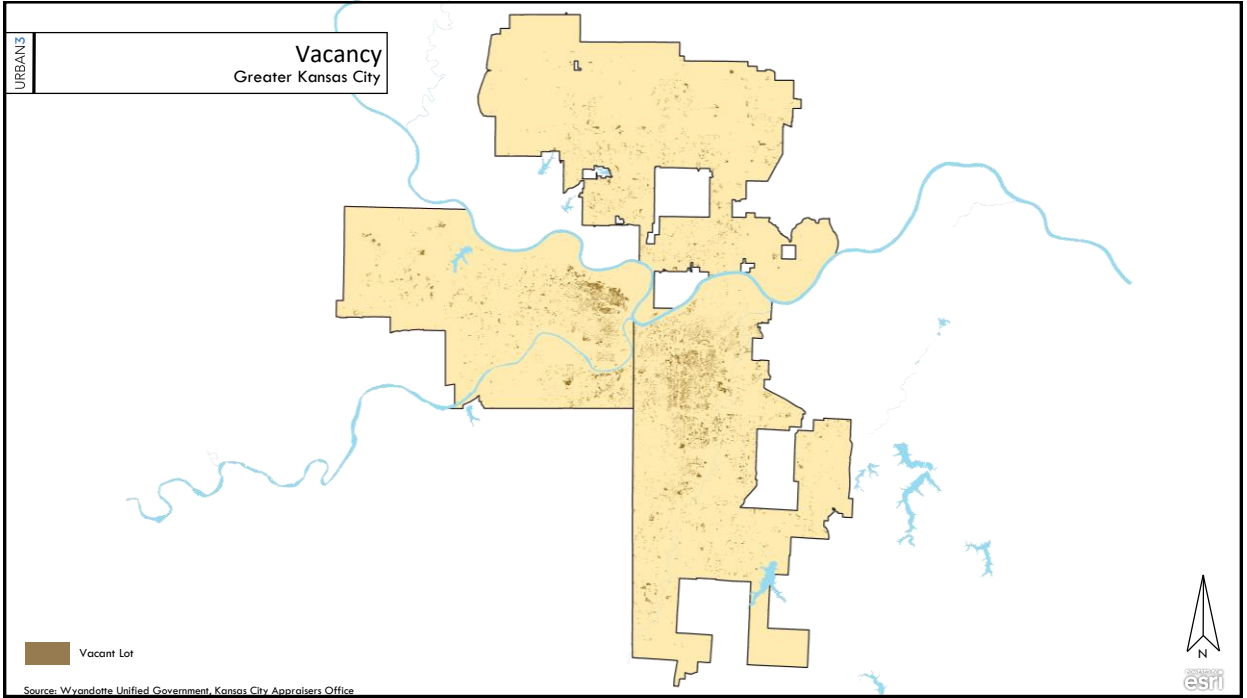
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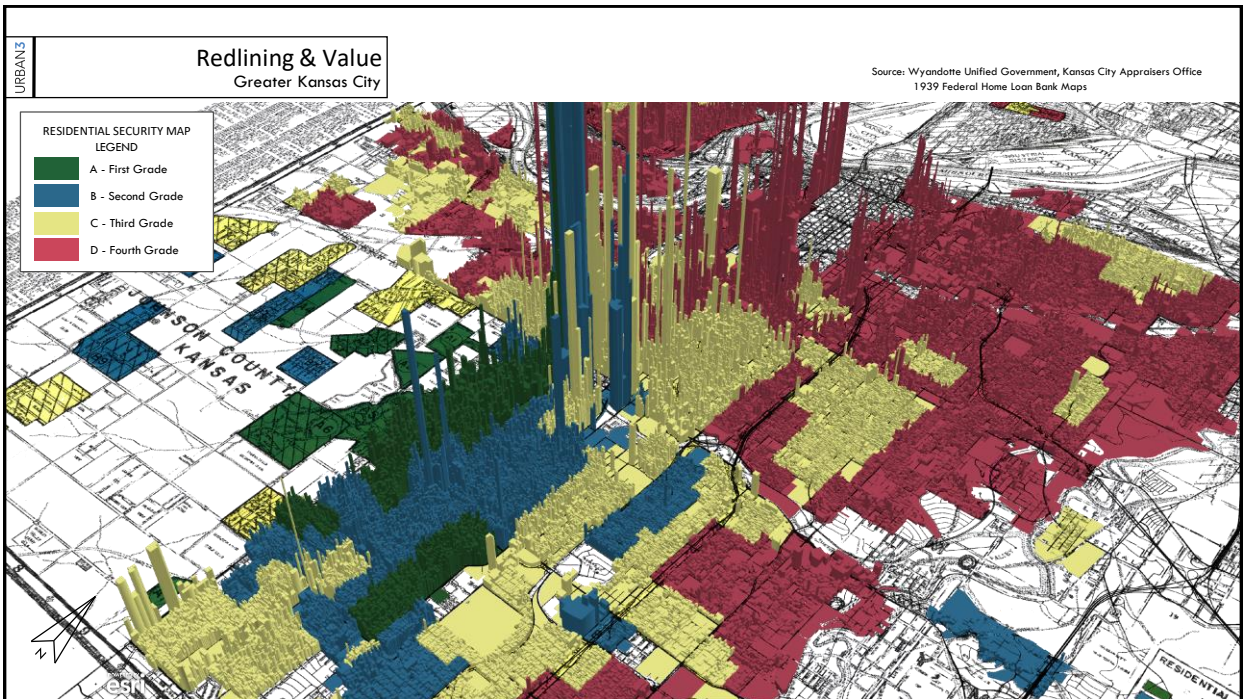
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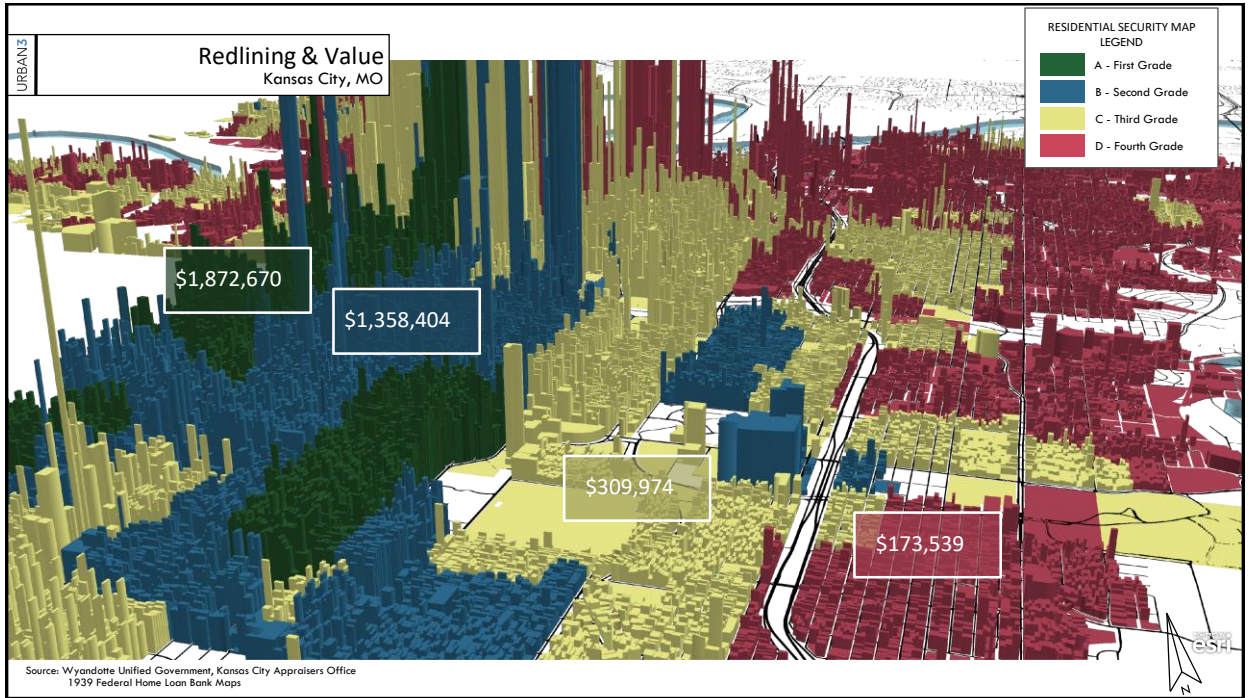
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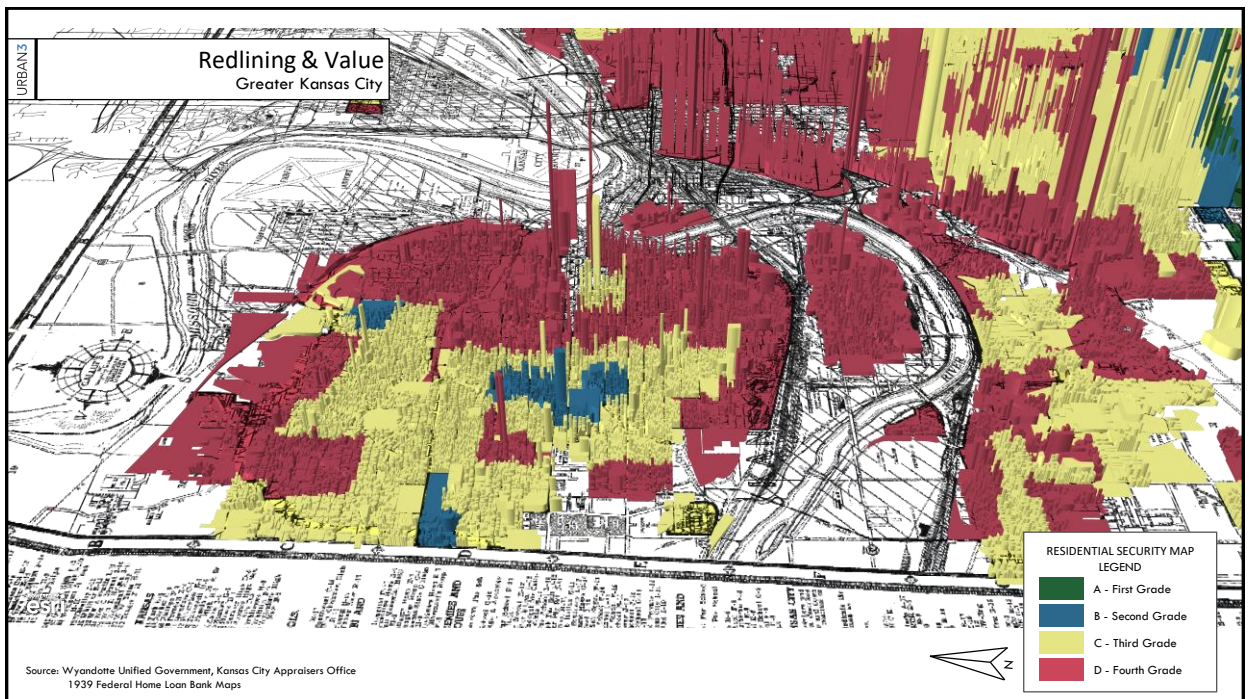
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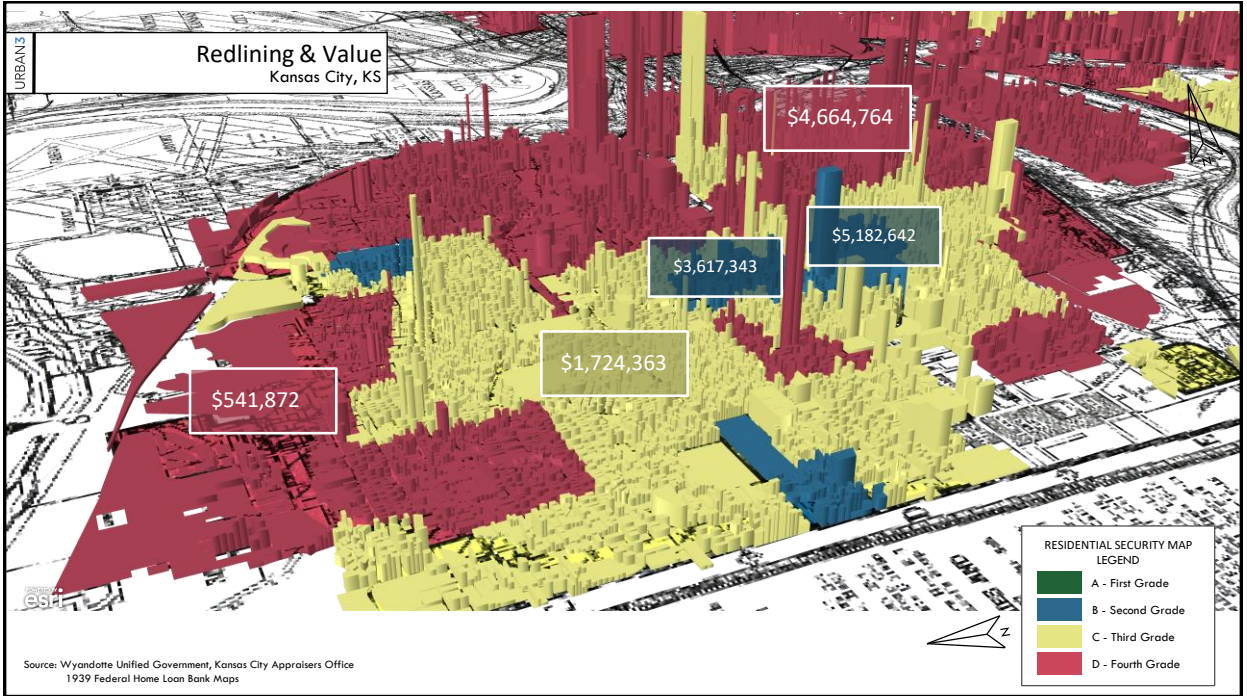
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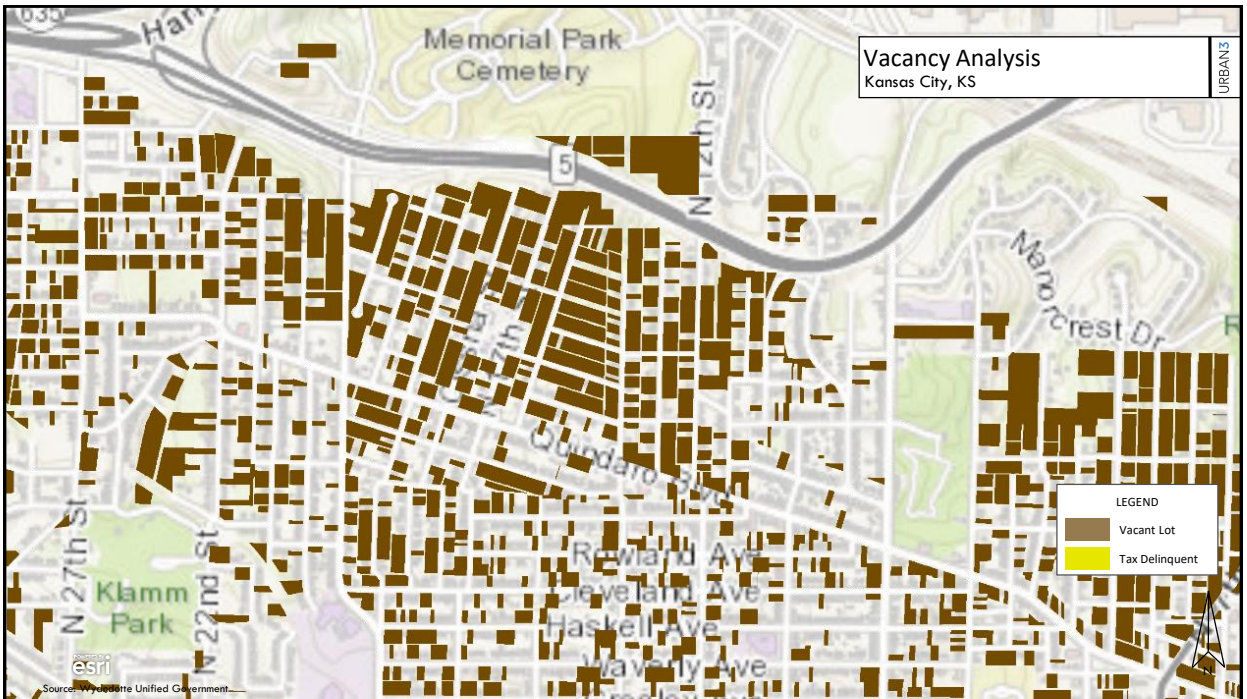
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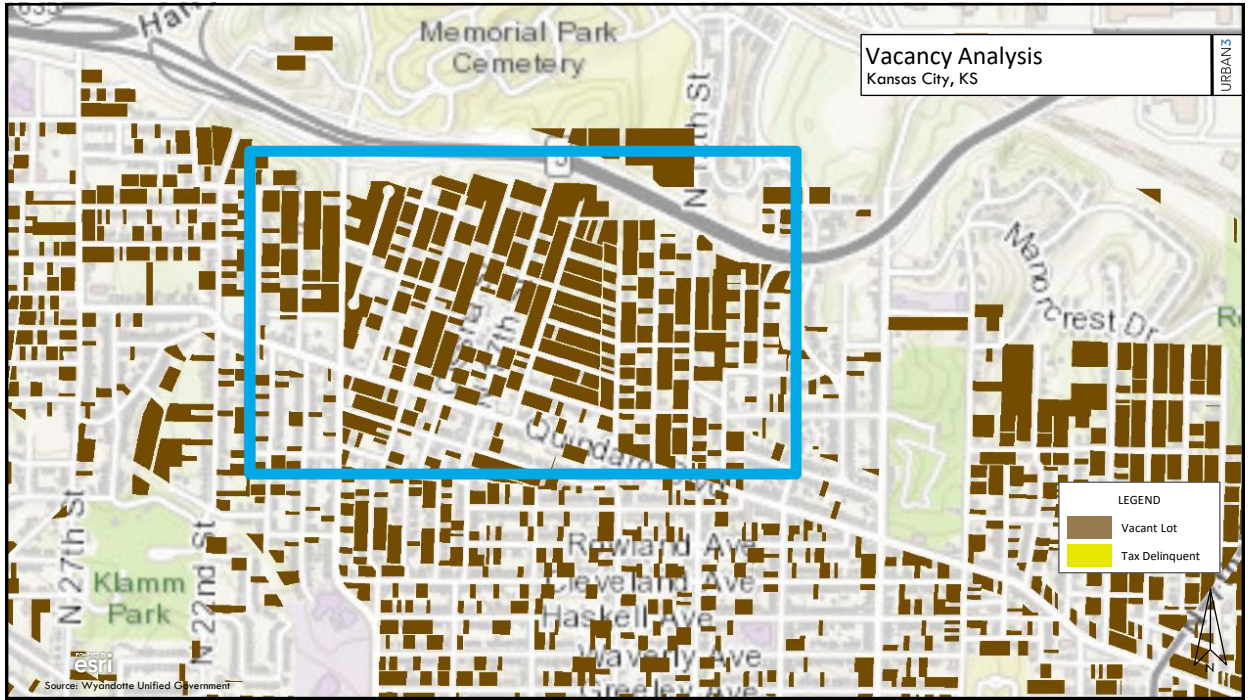
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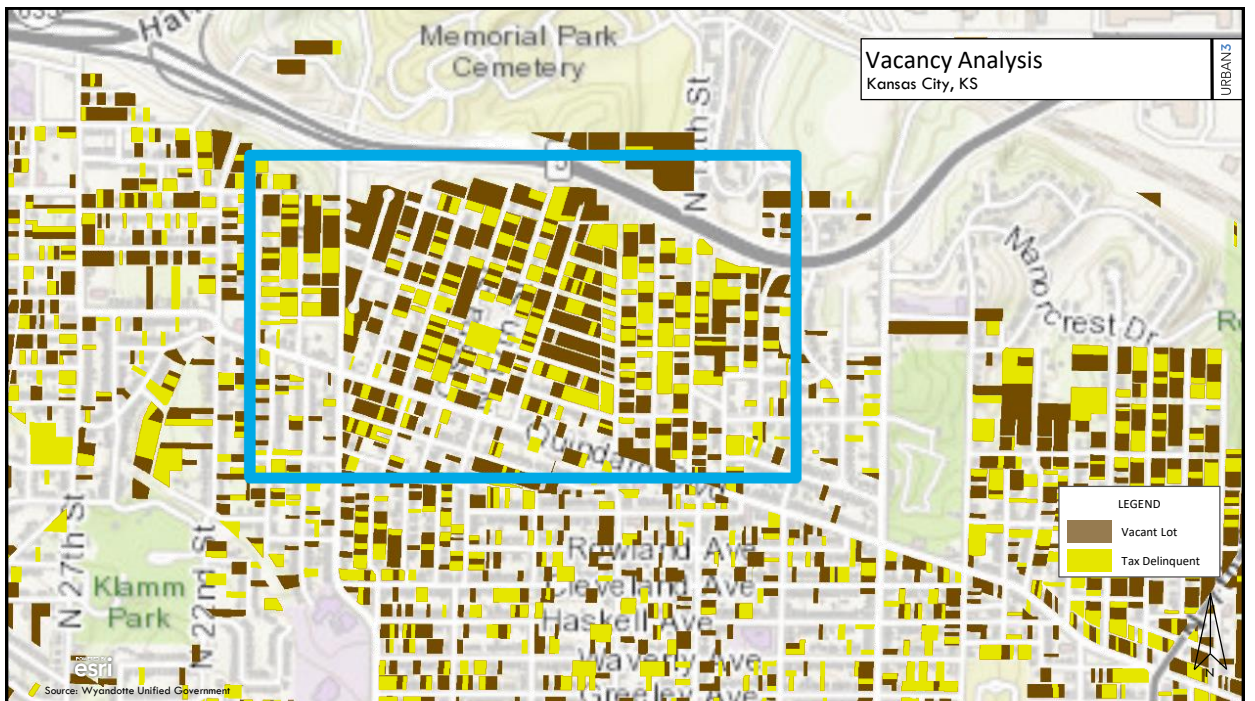
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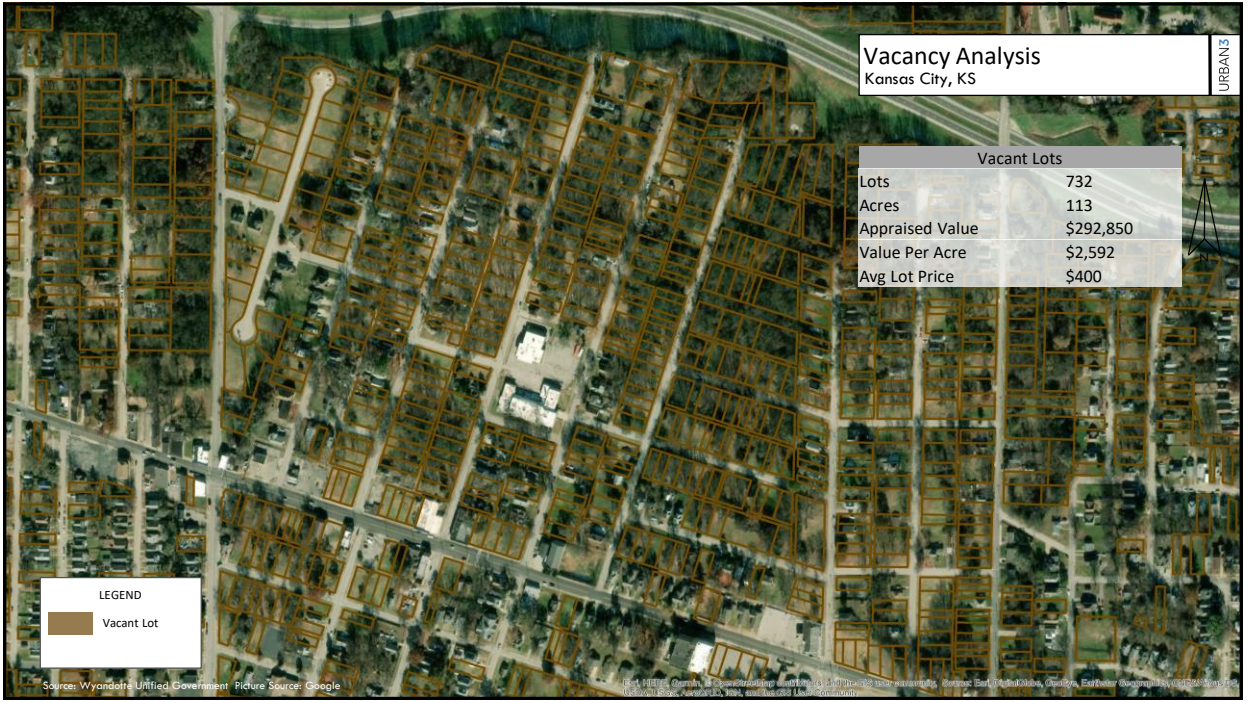
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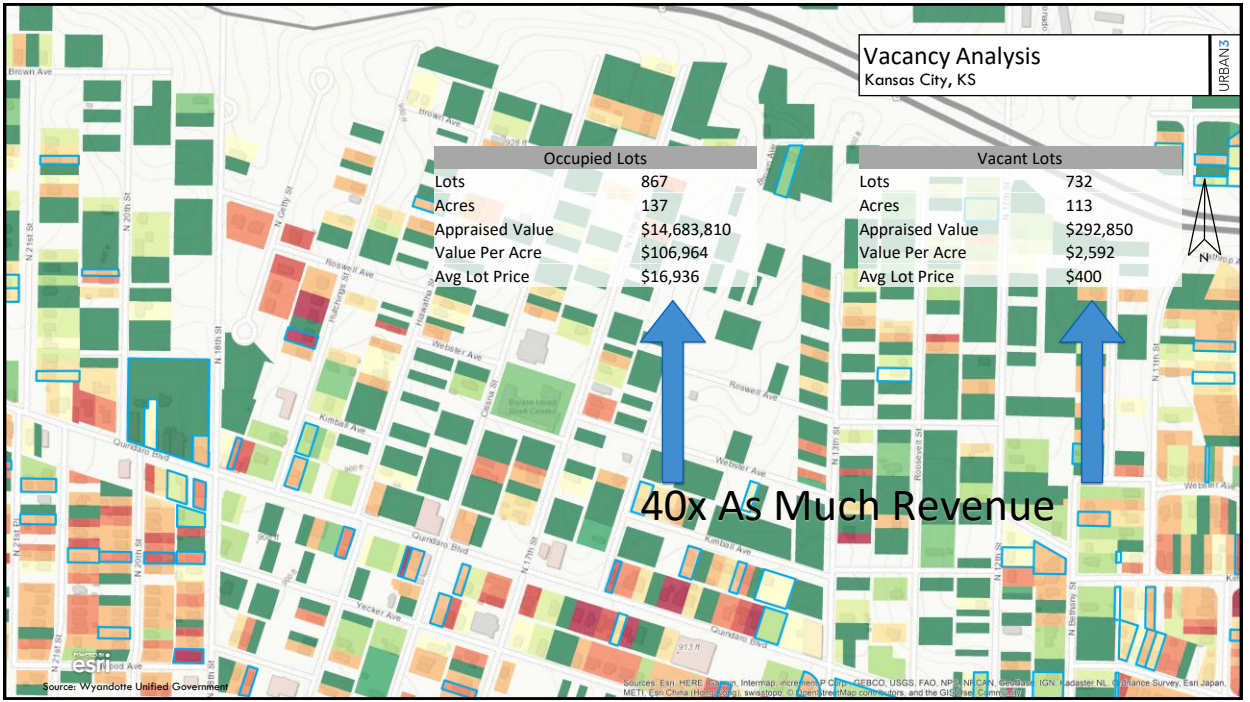
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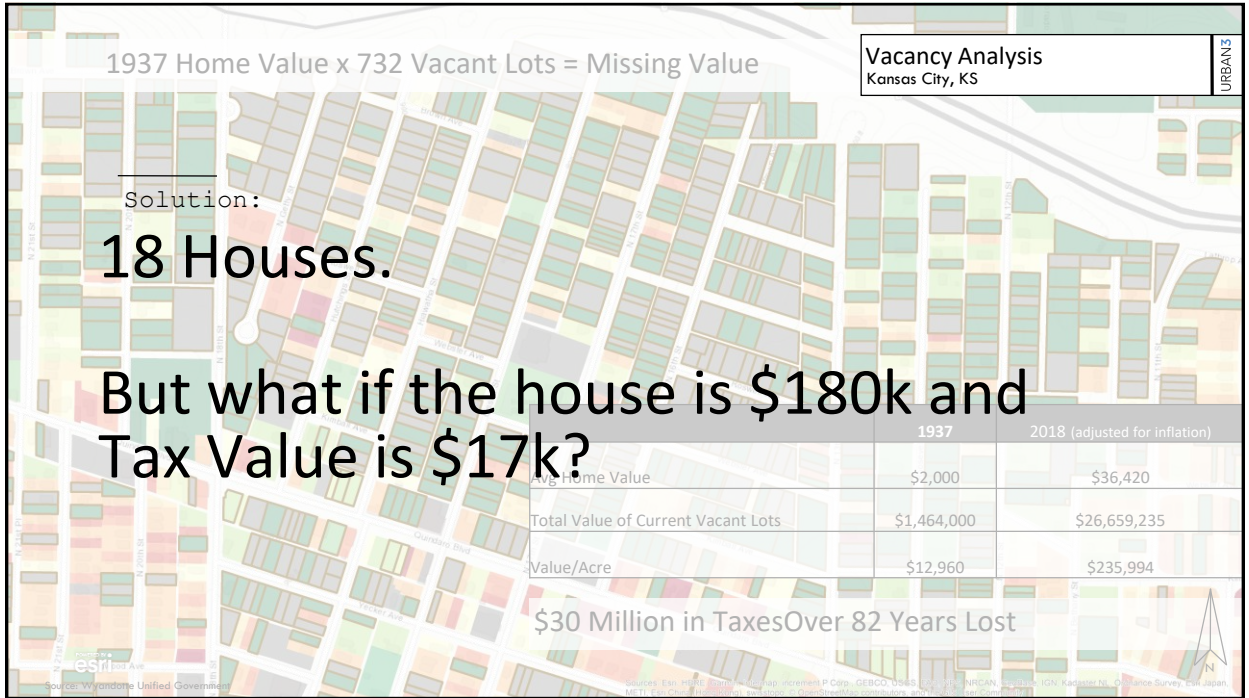
86



87



88



91



92



2019

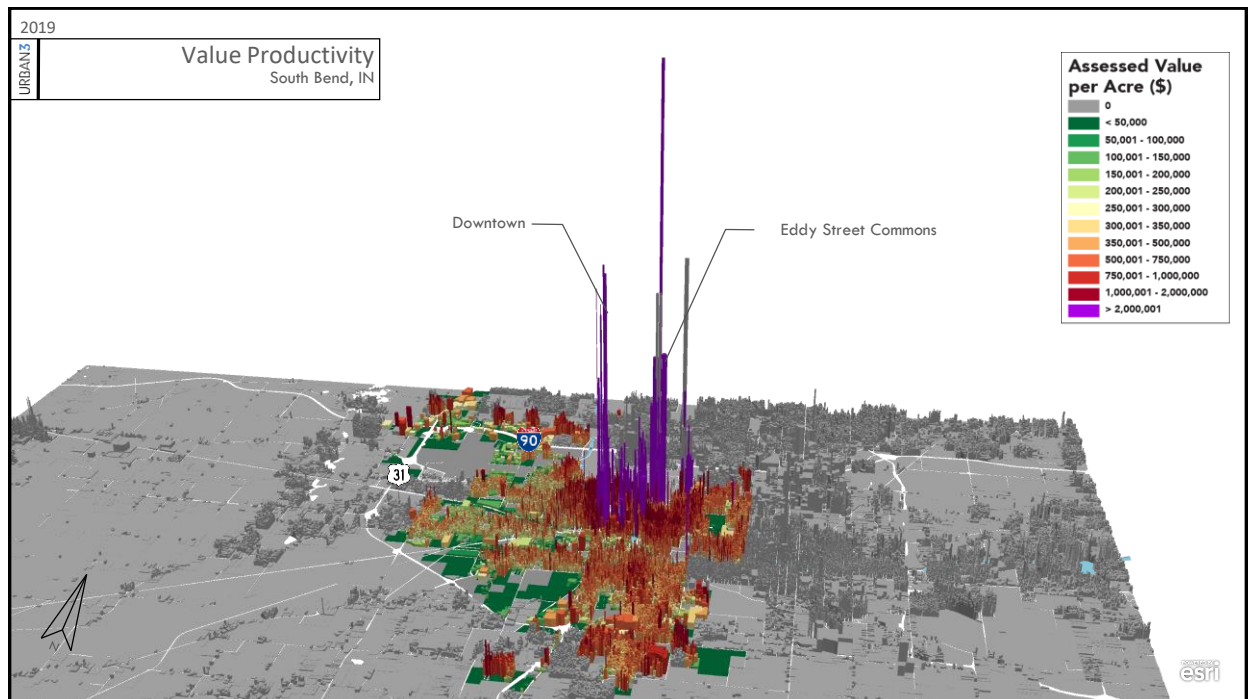
Case Study:

South Bend, Indiana

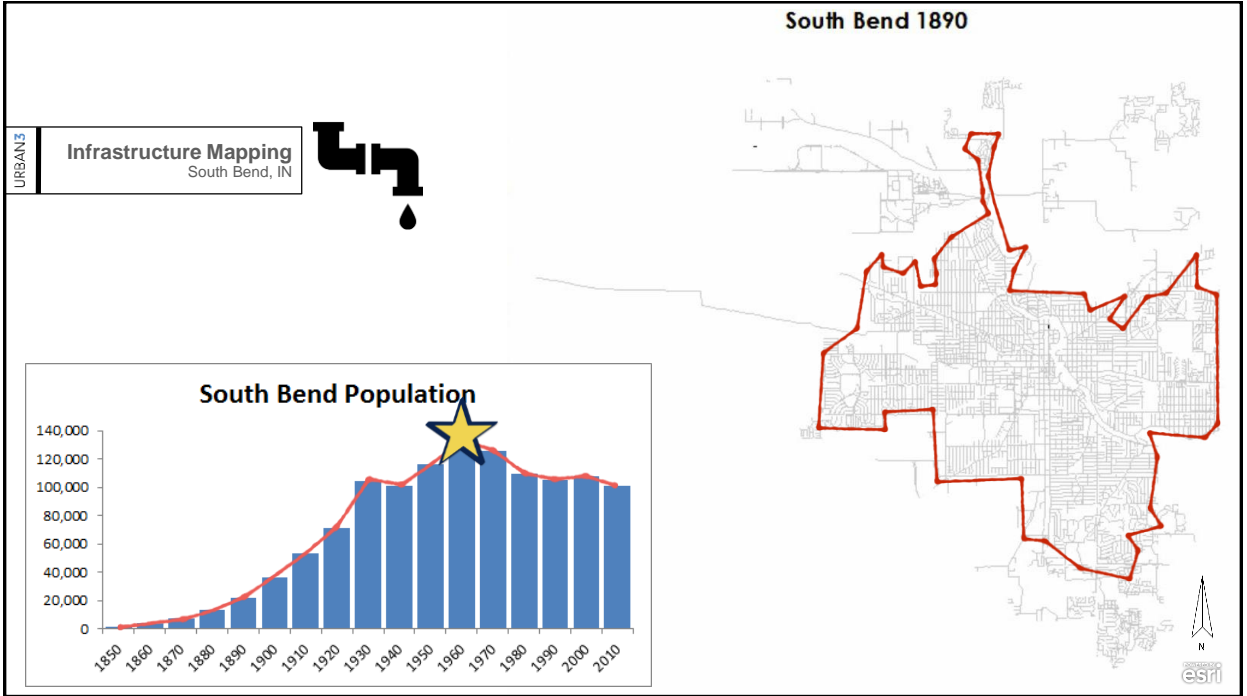
Even after property becomes abandoned the community is left with the sunk cost of providing infrastructure

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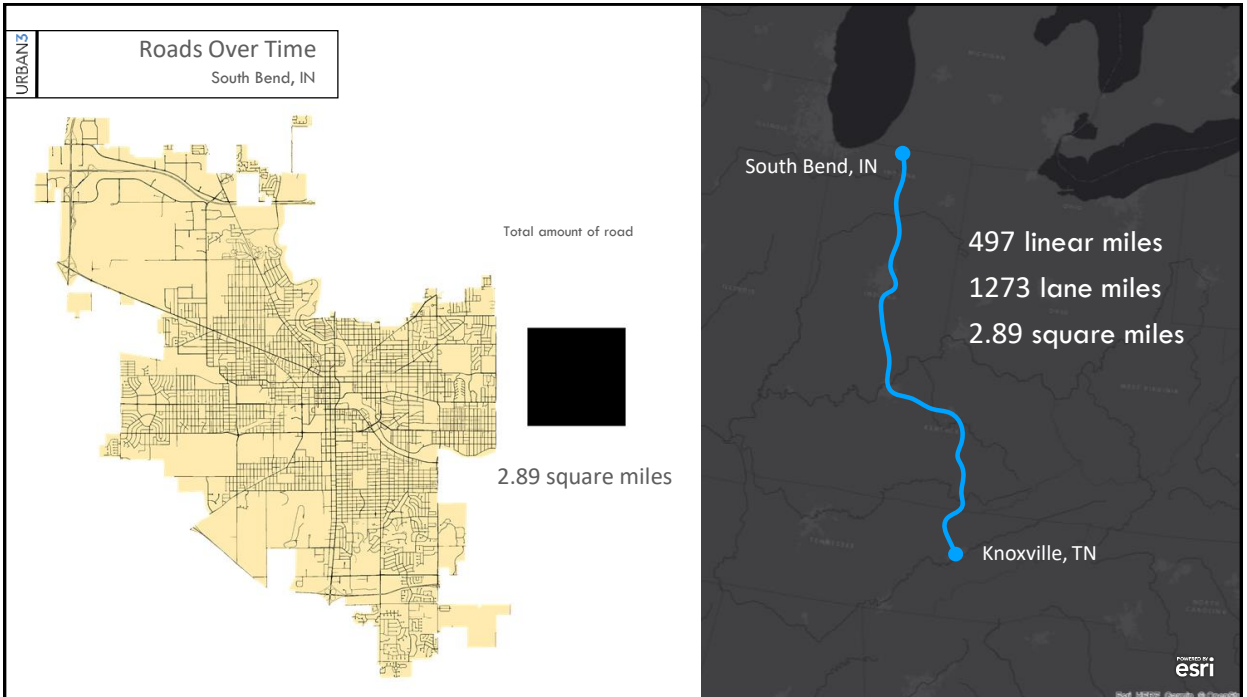
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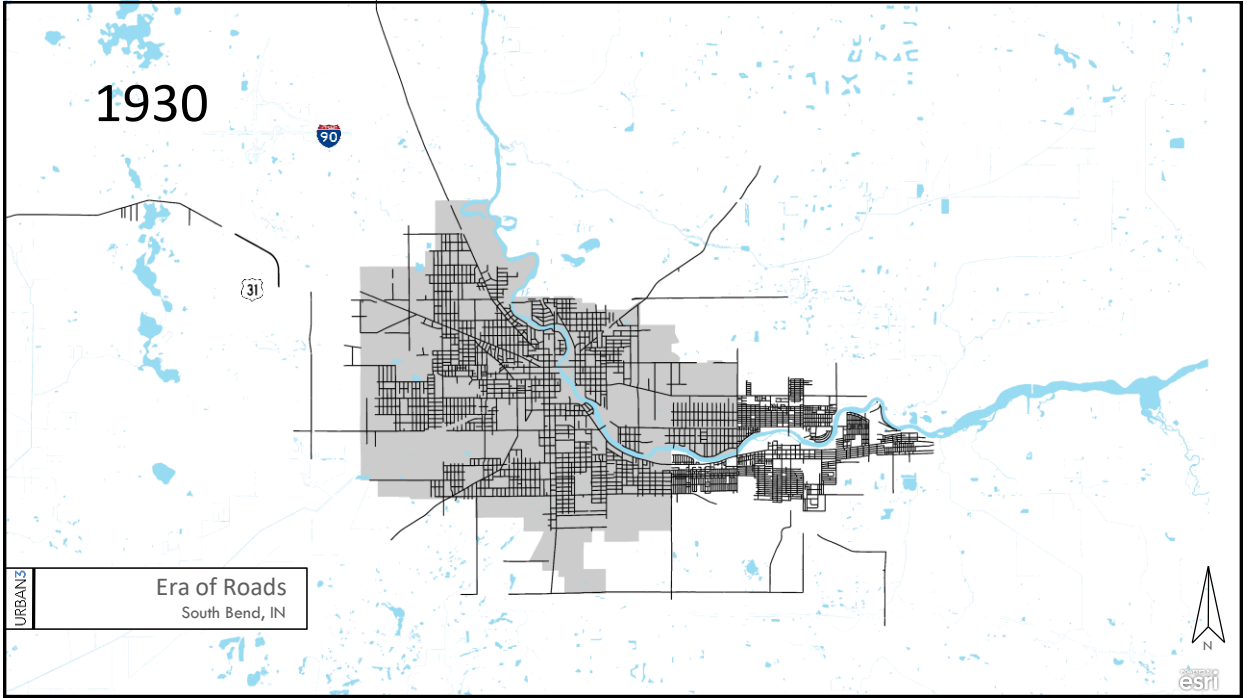
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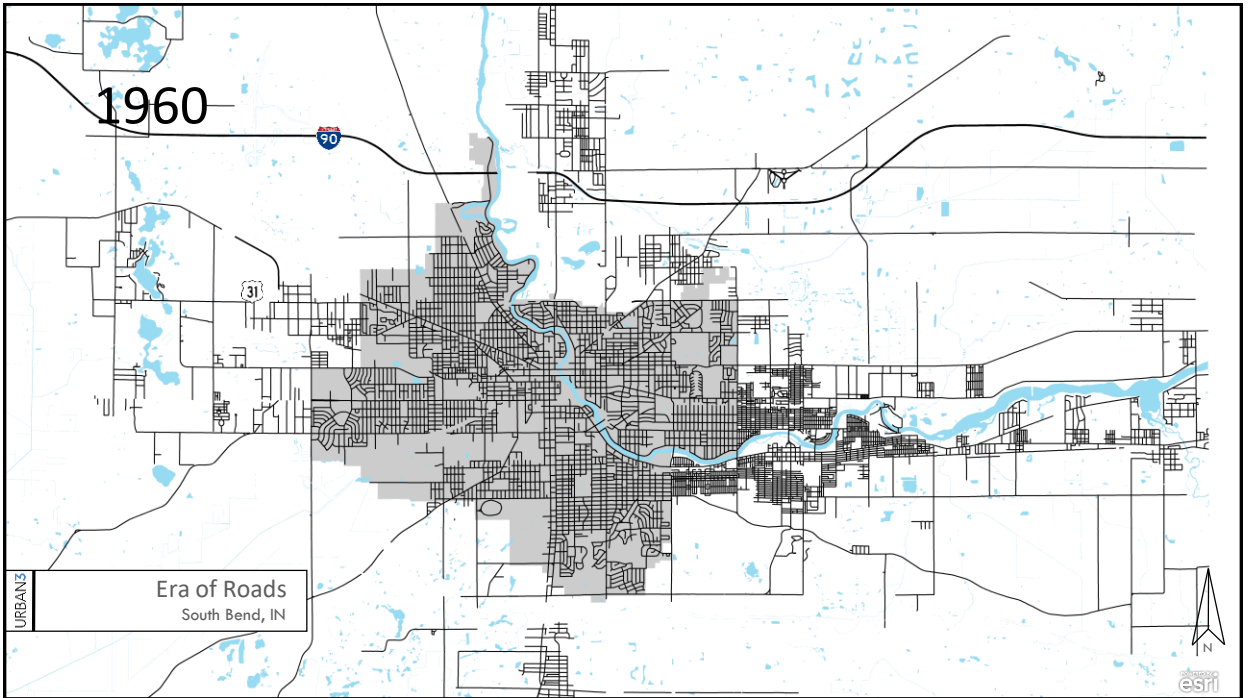
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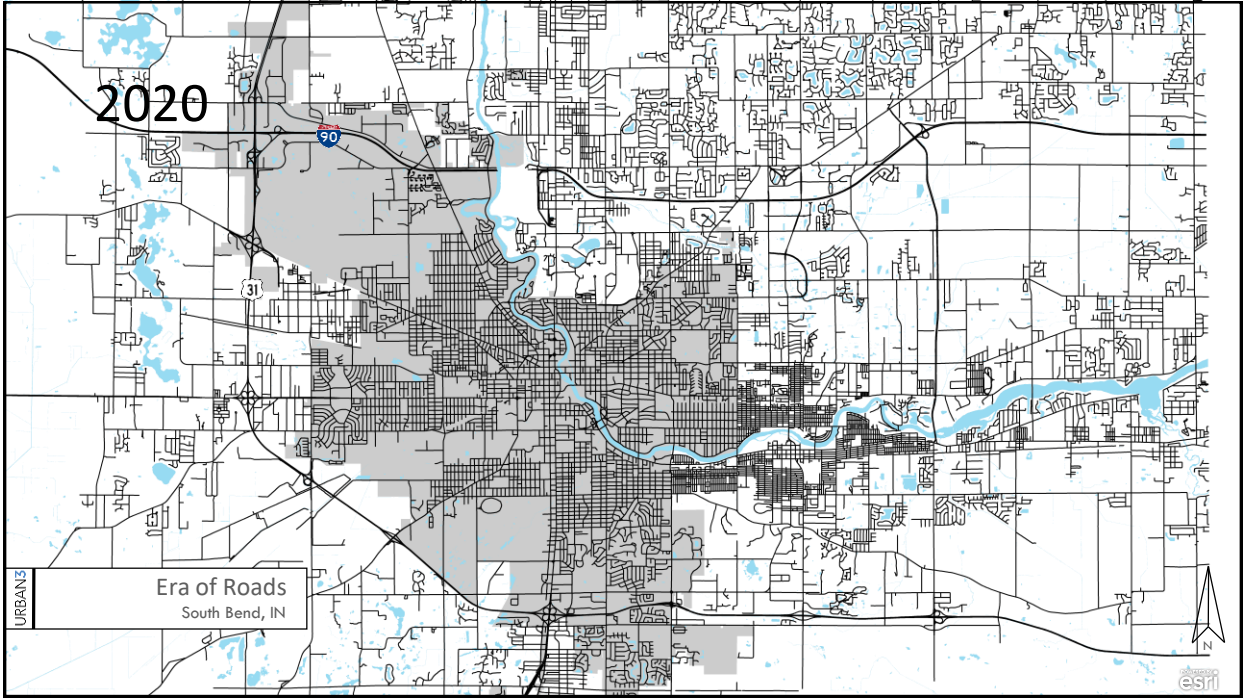
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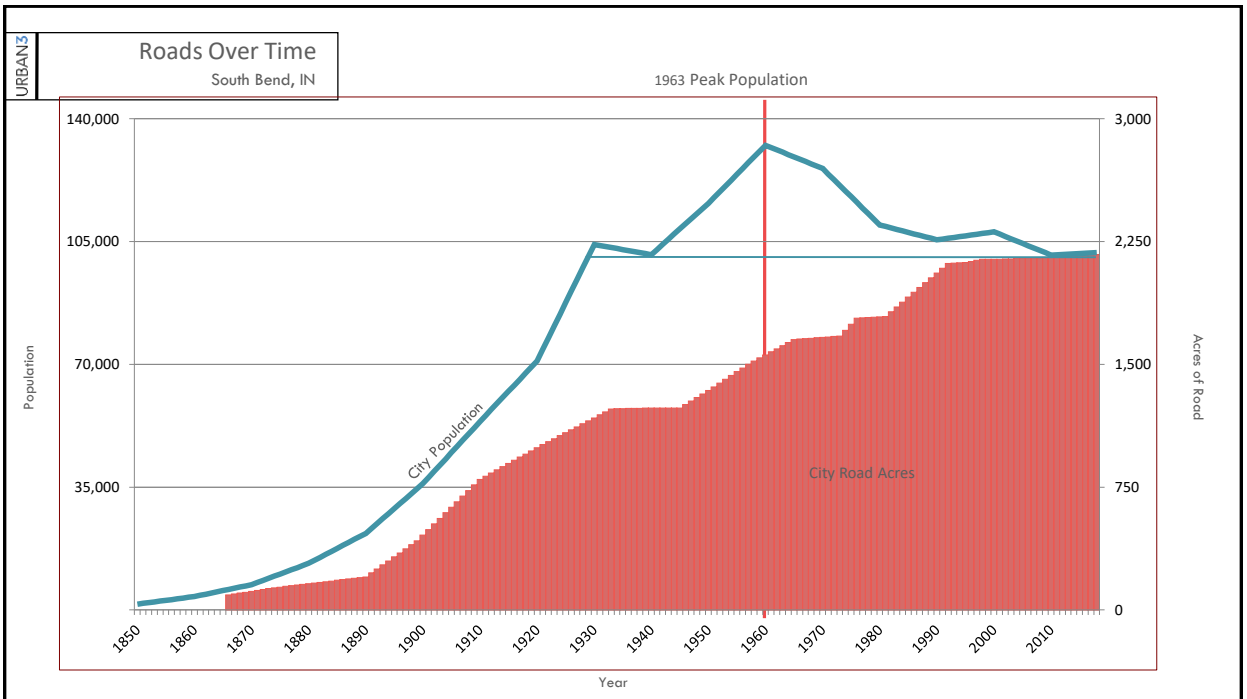
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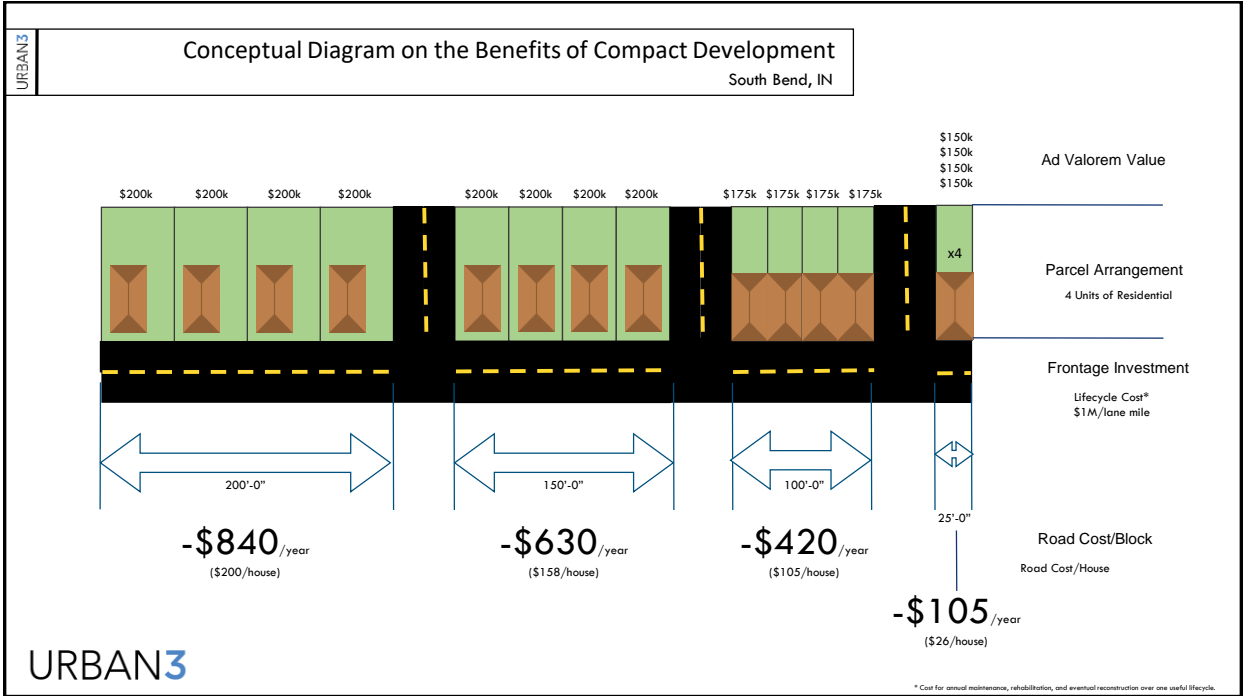
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99



100



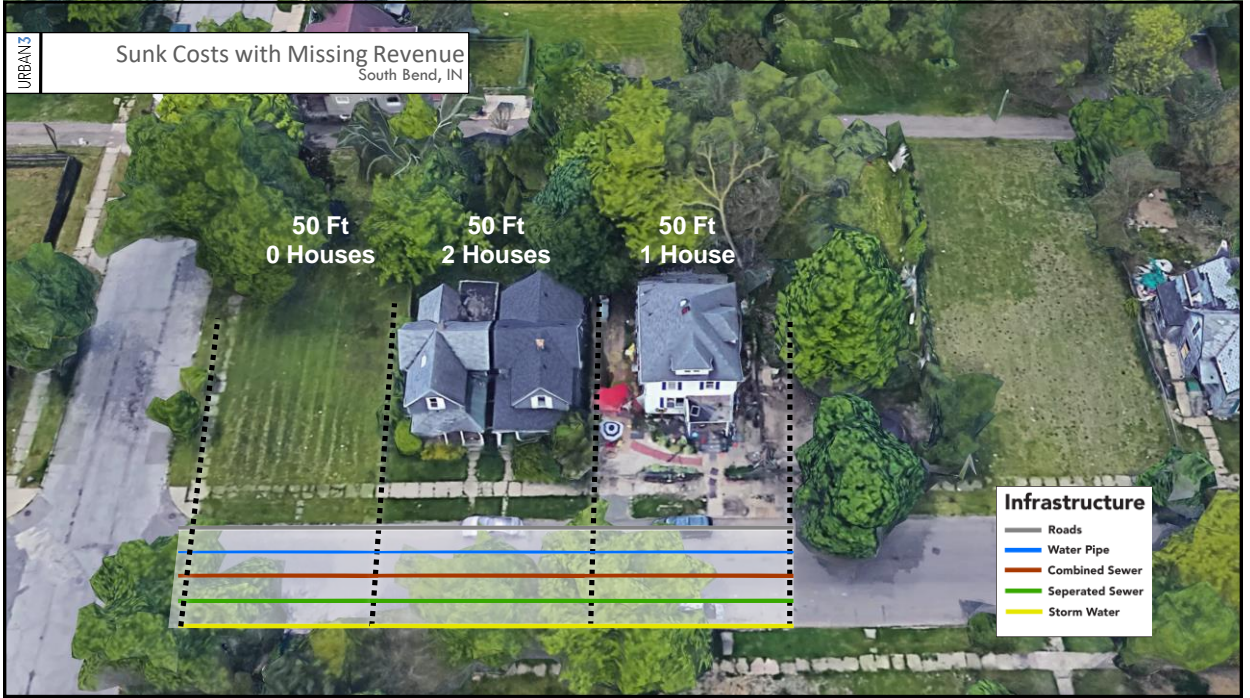
101

URBAN3

Land Vacancy Economics

The effect of vacant property.

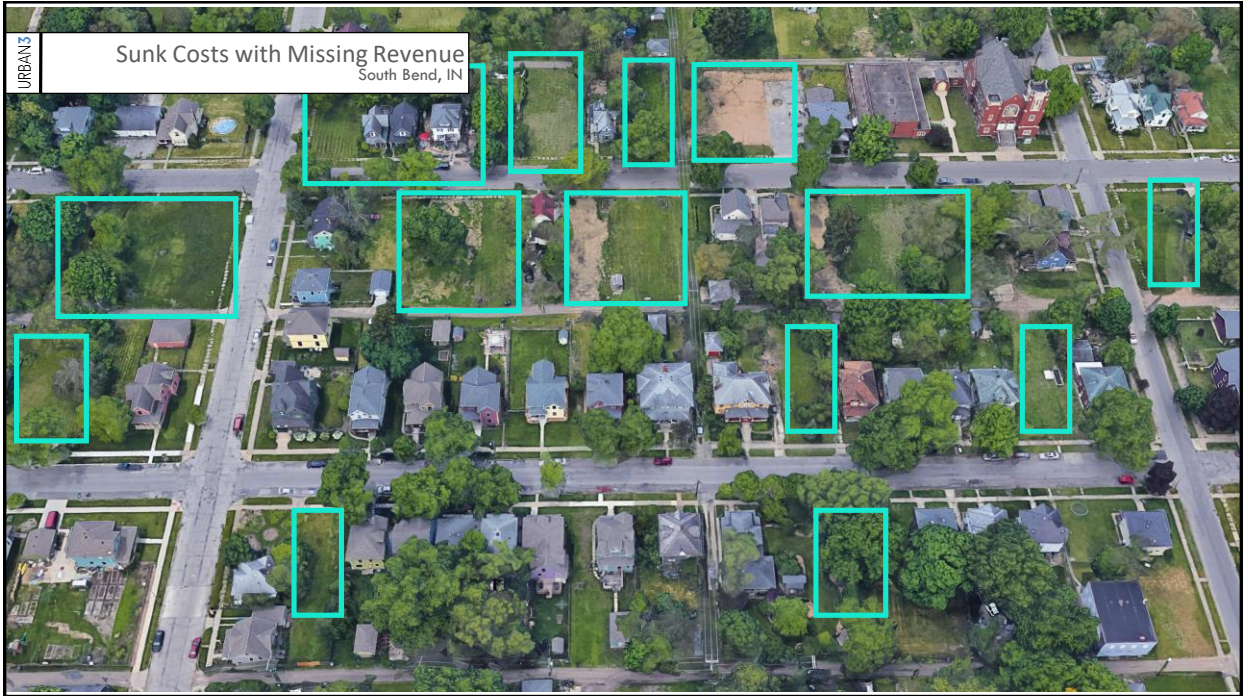
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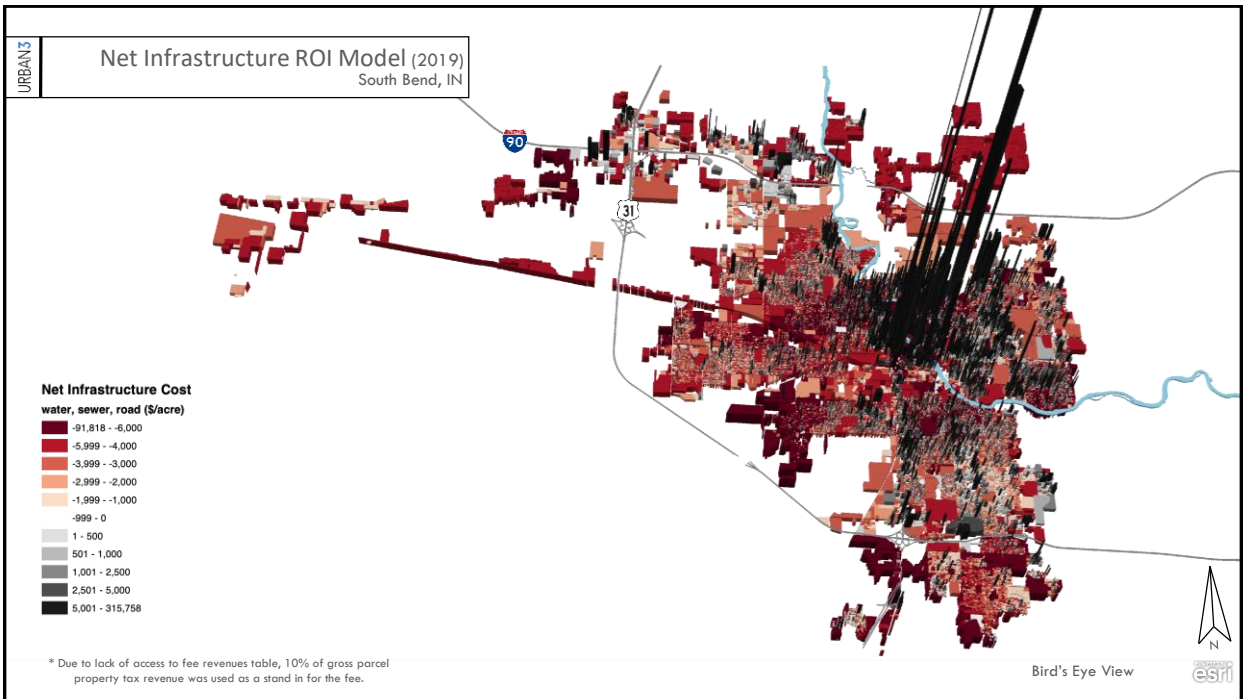
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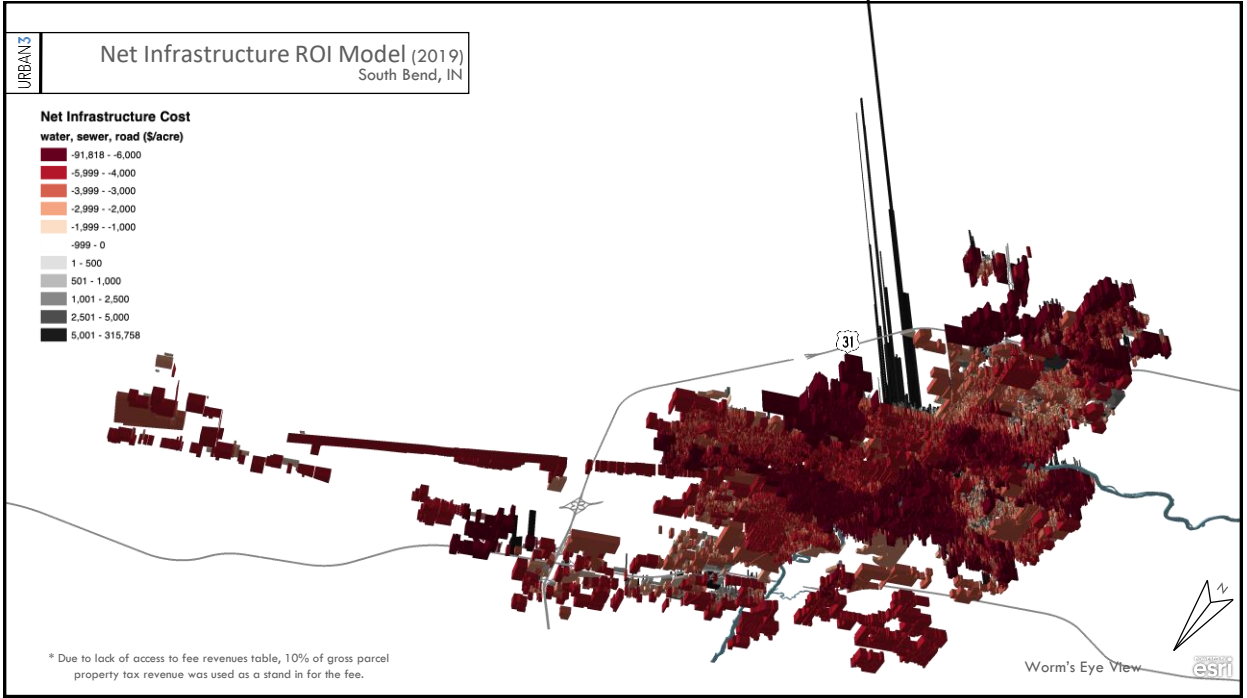
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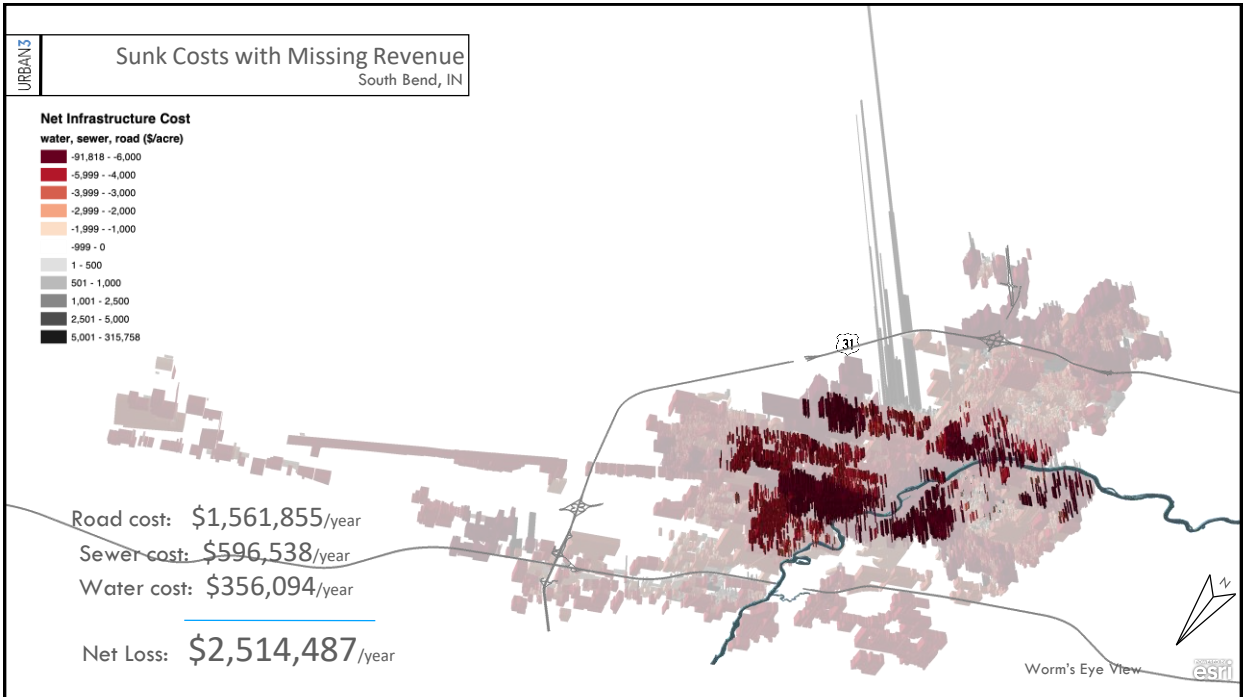
105



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2022

Case Study:

Asheville, North Carolina

Examining the ongoing impact of bias in the current tax assessment system

URBAN3

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URBAN3

Property Characteristic Data
Buncombe County, NC 2021

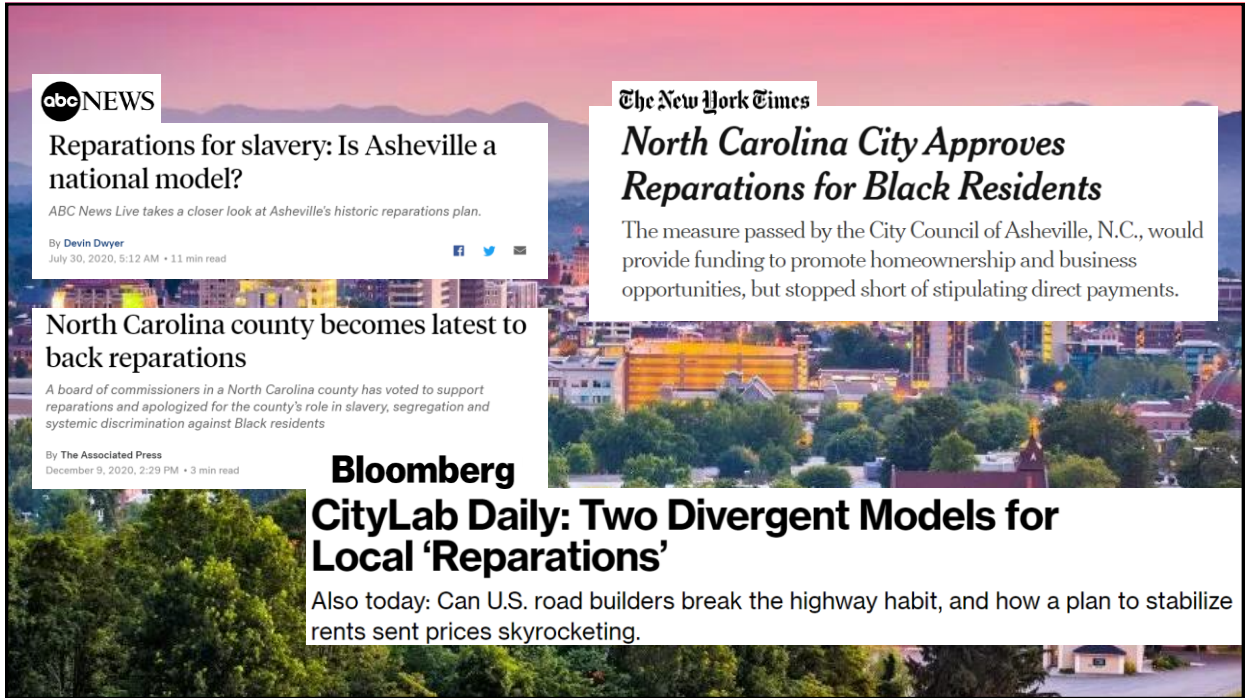
Input Property
Characteristic
Data

- # Bedrooms
- # Bathrooms
- Finished Basement
- Sq. Ft. Living Area
- Sq. Ft. Unfinished Area

Computer Assisted
Mass Appraisal

Assessed
Value

110



111

URBANS	<p>Reparations Resolutions Buncombe Count and the City of Asheville</p>
<p>CITY OF ASHEVILLE REPARATIONS RESOLUTION</p> <p>WHEREAS, Black People have been denied housing through racist practices in the private realty market, <u>including redlining, steering, blockbusting, denial of mortgages, and gentrification</u>; and</p> <p>WHEREAS, Black People have been denied housing, <u>displaced and inadequately housed by government housing policies that include discriminatory VA/FHA practices, Urban Renewal, and a variety of local and federal "affordable" housing programs</u>; and</p>	
<p>BUNCOMBE COUNTY REPARATIONS RESOLUTION</p> <p>(8) directs county staff, including the newly-formed Equity and Inclusion Workgroup, to continue prioritizing racial equity in the implementation of the Buncombe County Strategic plan, including but not limited to the following urgent priority areas for Black residents of Buncombe County:</p> <ul style="list-style-type: none"> • Expanding access to quality early childhood education and taking other steps to reduce the opportunity and achievement gap in the local public school systems; • <u>Increasing Black home ownership</u>, business ownership and other strategies to support upward mobility and build generational wealth within the Black community; • Reducing health disparities, including infant mortality; 	

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URBANS

Asheville's History of Redlining

Redline Map Asheville, NC

LEGEND

-A = First Grade
-B = Second Grade
-C = Third Grade
-D = Fourth Grade

NO FORM-6
6-26-57

AREA DESCRIPTION

1. NAME OF CITY Asheville, N. C. SOCIETY GRADE D AREA NO. 1

2. DESCRIPTION OF TERRAIN: Rolling to mountainous on Western side and Eastern side.

3. FAVORABLE INFLUENCES: Schools - churches in area - all city conveniences - Adequate transportation.

4. DETRIMENTAL INFLUENCES: Industrial plants along railroad tracks on western side of town. Cheap construction, cheap filling stations and some cheap stores on business road. Two-way business floors in the part nearest main business district.

5. DEMERITS:

a. Type - Urban laborers ; b. Estimated annual family income \$500 - 1000

c. Foreign-born None ; d. Negro Yes ; % 75 ;

e. Infiltration of None ; f. Relief facilities None ;

g. Population is increasing ; decreasing

6. BUILDINGS:

a. Type or types single ; b. Type of construction

c. Average age 30 years ; d. Repair

7. HISTORY:

YEAR	SALE VALUES		RENTAL VALUES	
	RANGE	INDEX	RANGE	INDEX
1929 level	1700 - 3000	1000	20 - 30	100%
1933 low	1000 - 1500	1000	4 - 10	50
current	700 - 2000	1000	4 - 10	50

Peak sale values occurred in 1929 and were 100% of the 1929 level.

Peak rental values occurred in 1929 and were 100% of the 1929 level.

14. CLARIFYING REMARKS: North end of Western side almost a mountain. Southern side contains railroad depot, big negro business district, and cheap houses. Eastern side very rolling. Better part is that nearest main business district.

15. INFORMATION FOR THIS FORM WAS OBTAINED FROM William Williams - First Service Field Representative Date Sept. 1 1957

113

URBANS

Asheville's History of Redlining

Redline Map Asheville, NC

LEGEND

-A = First Grade
-B = Second Grade
-C = Third Grade
-D = Fourth Grade

NO FORM-6
6-26-57

AREA DESCRIPTION

1. NAME OF CITY Asheville, N. C. SOCIETY GRADE D AREA NO. 1

2. DESCRIPTION OF TERRAIN: Part in valley - mountainous on all sides.

3. FAVORABLE INFLUENCES: City conveniences

4. DETRIMENTAL INFLUENCES: Location built around old brick road. Sluggish streets. Transportation inadequate.

5. DEMERITS:

a. Type - Urban laborers-dwelling ; b. Estimated annual family income 1000 - 2000

c. Foreign-born None ; d. Negro Yes ; % 100 ;

e. Infiltration of None ; f. Relief facilities None ;

g. Population is increasing ; decreasing

6. BUILDINGS:

a. Type or types small cottages ; b. Type of construction

c. Average age 30 years ; d. Repair

7. HISTORY:

YEAR	SALE VALUES		RENTAL VALUES	
	RANGE	INDEX	RANGE	INDEX
1929 level	1000 - 1500	1000	24 - 18.00	100%
1933 low	300 - 800	1000	4 - 10.00	50
current	400 - 1000	1000	4 - 10.00	50

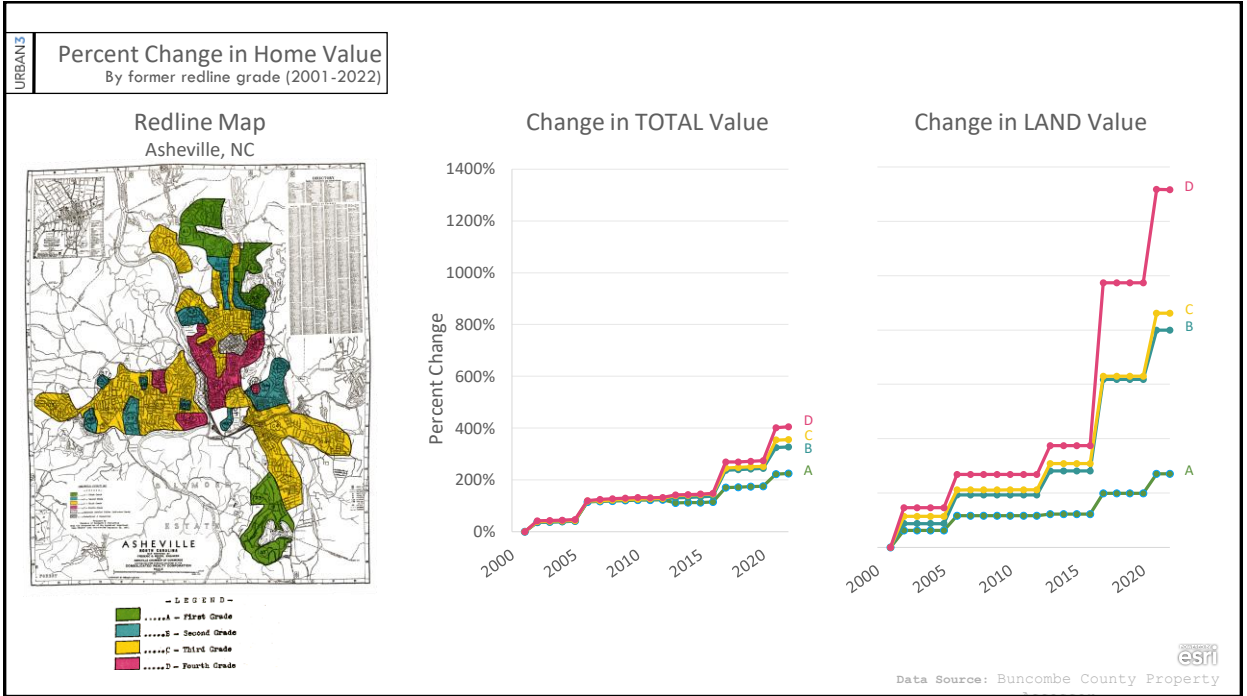
Peak sale values occurred in 1929 and were 100% of the 1929 level.

Peak rental values occurred in 1929 and were 100% of the 1929 level.

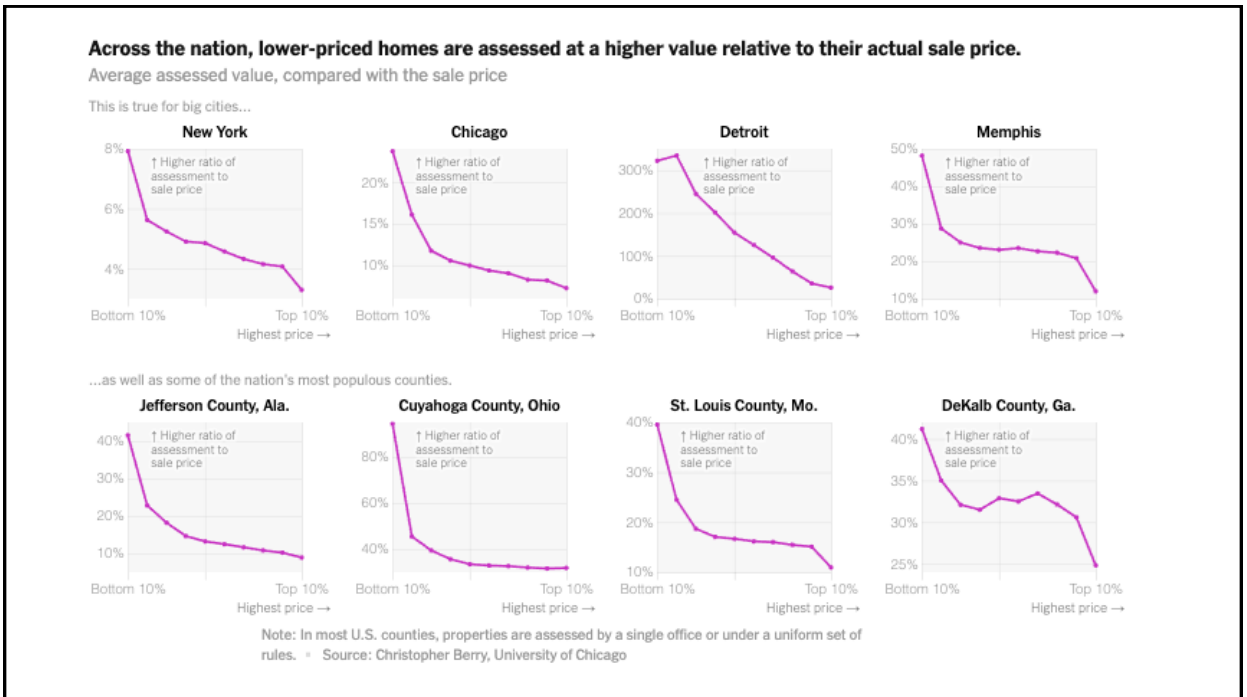
14. CLARIFYING REMARKS: This is a very cheap negro section all but North end being in valley. Mountains in East, West and South on which white people live.

15. INFORMATION FOR THIS FORM WAS OBTAINED FROM Wm. Williams, First Service Field Representative Date Sept. 1 1957

114



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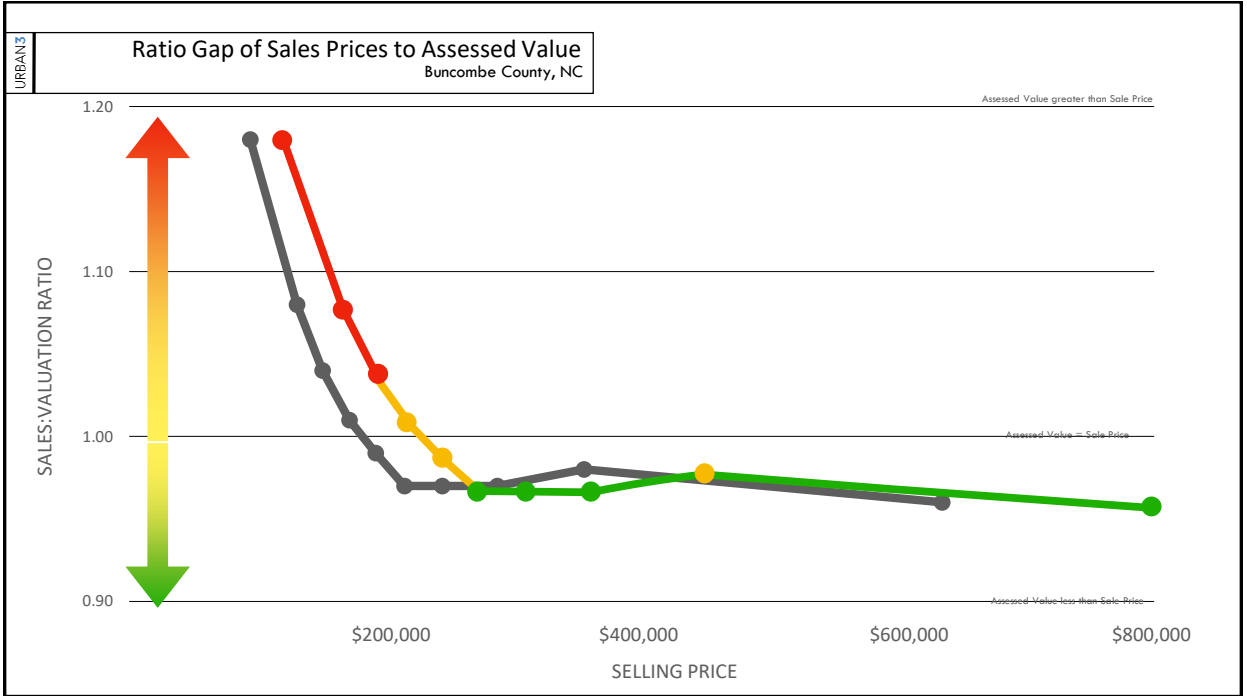
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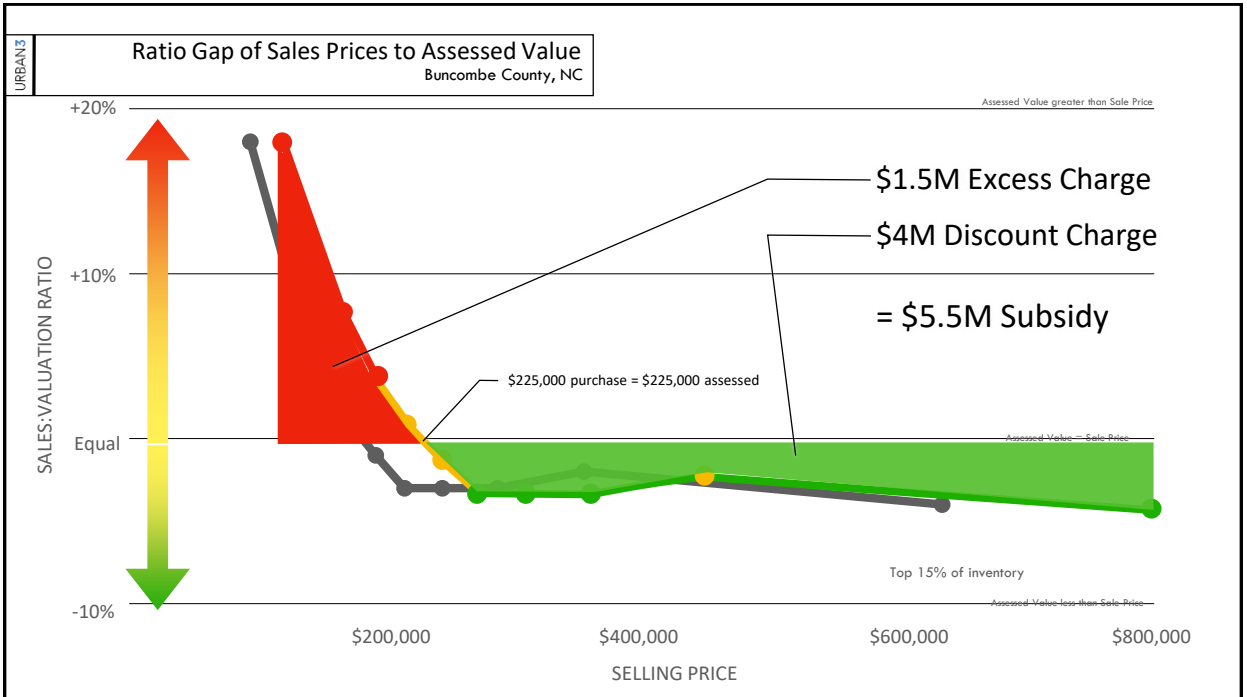
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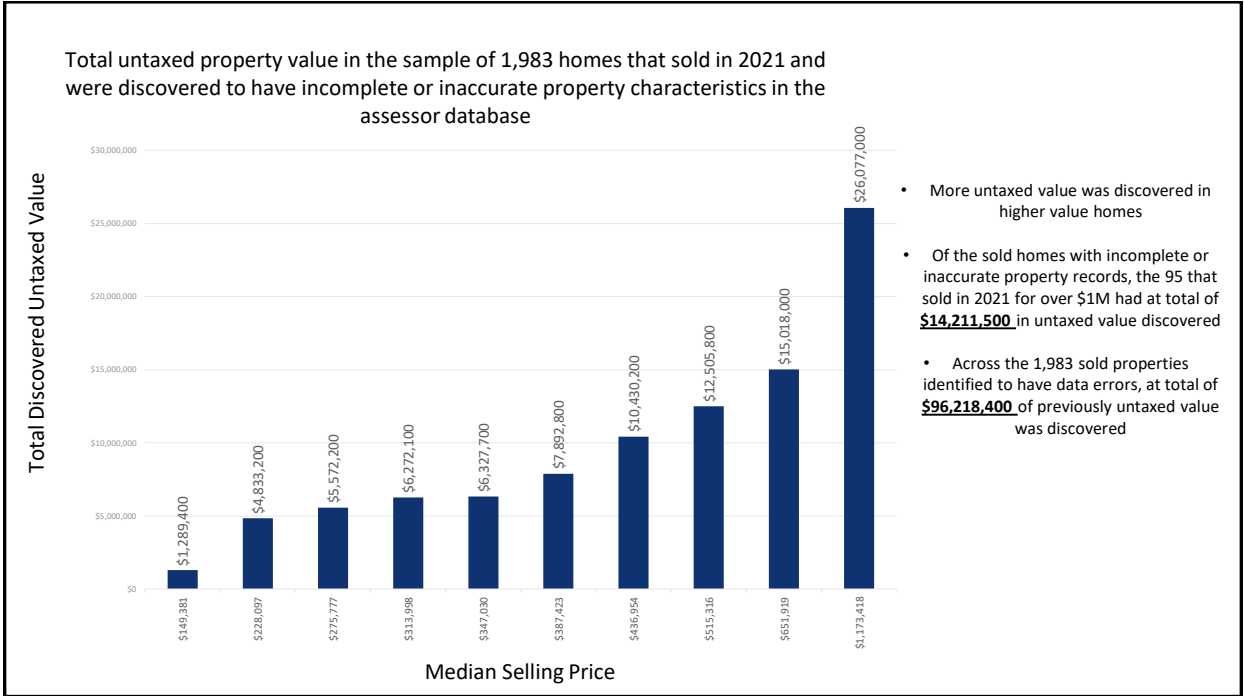
128



129



130



131

\$96 Million
in Un-Taxed Value Discovered from Less than 2% of the Housing Stock (n=1,983)

... that's the equivalent of not taxing over 2 of the Biltmore mansions

132

Billion-dollar flaws in the property assessment system place disparate financial burden on low-income households and residents of color.

133



2022

Case Study:

St. Paul, Minnesota

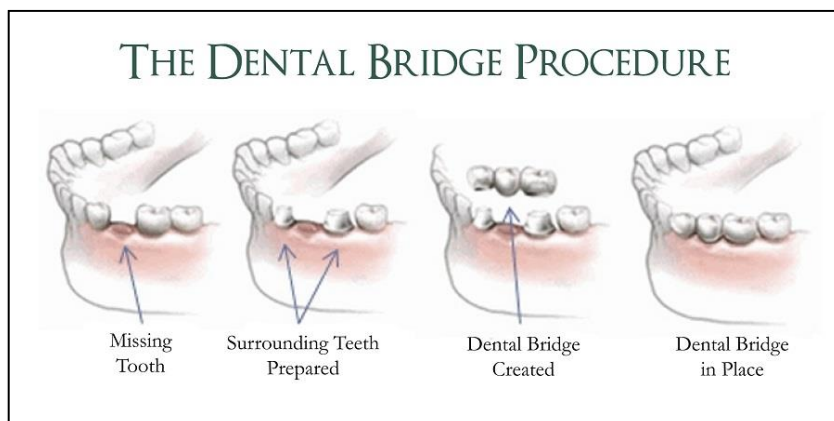
Practicing restorative development by reconnecting a redlined neighborhood with a highway cap

134

Restorative Development

135

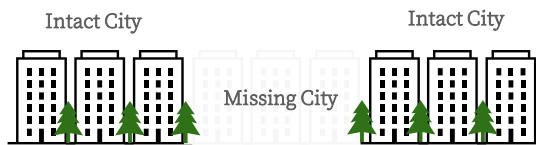
Restorative Dentistry



136

Restorative Development

The Land Bridge Procedure



137

Restorative Development

The Land Bridge Procedure



138

Restorative Development

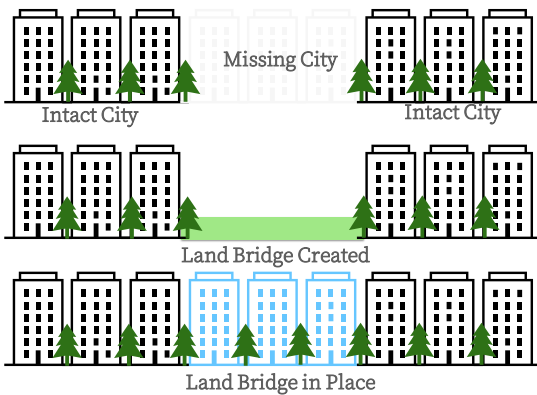
The Land Bridge Procedure



139

Restorative Development

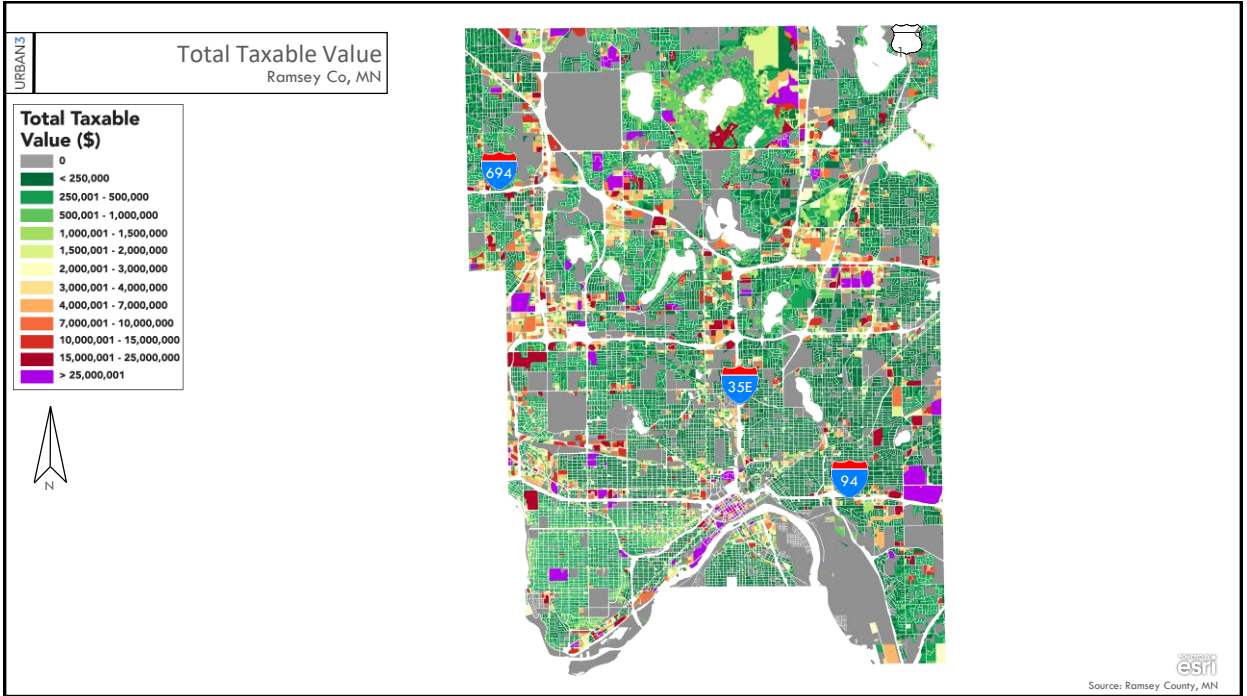
The Land Bridge Procedure



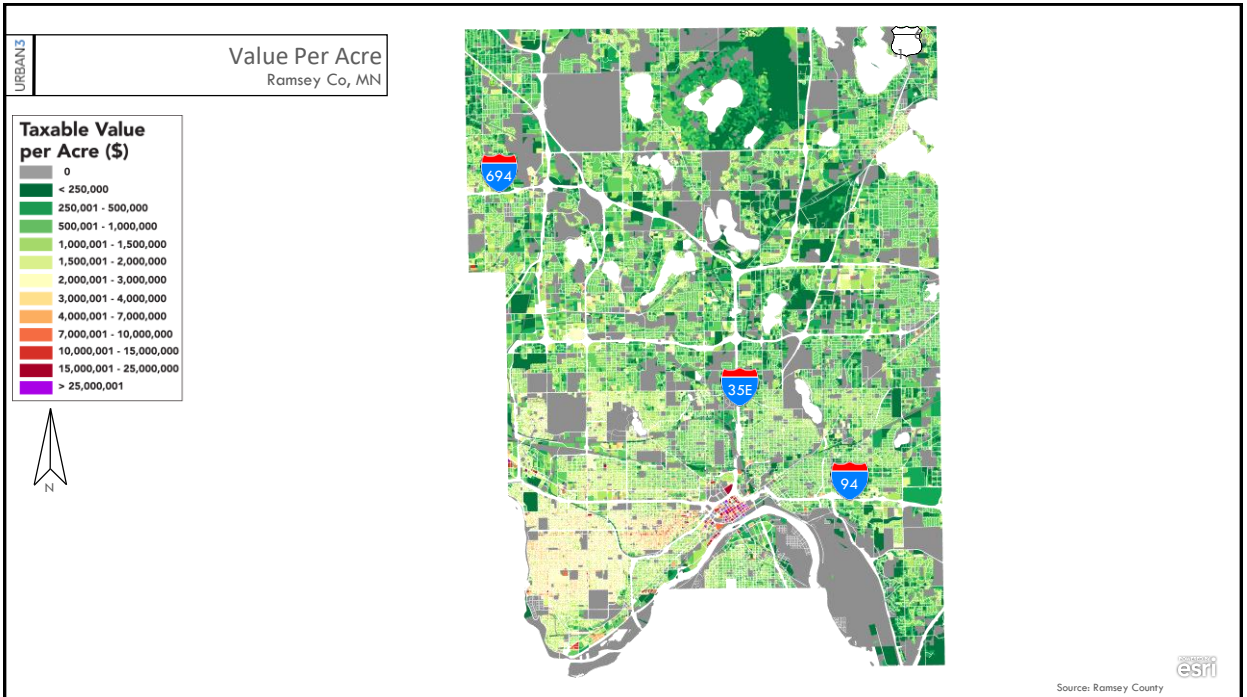
Rondo Land Bridge



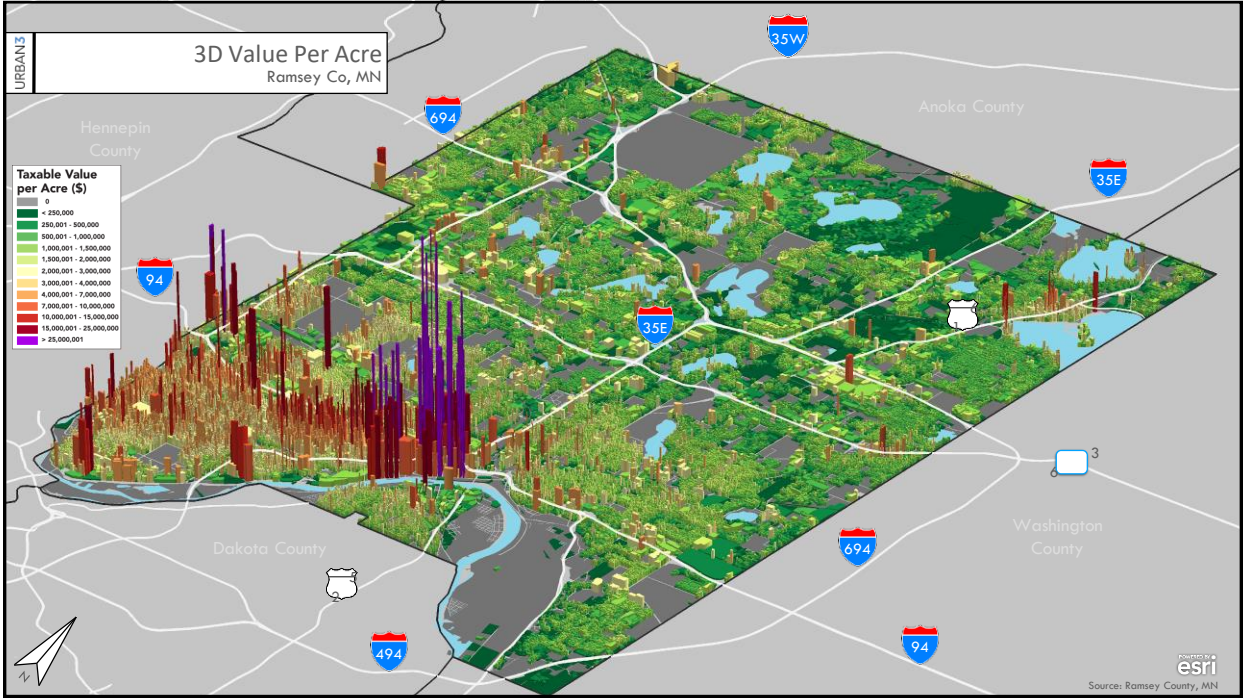
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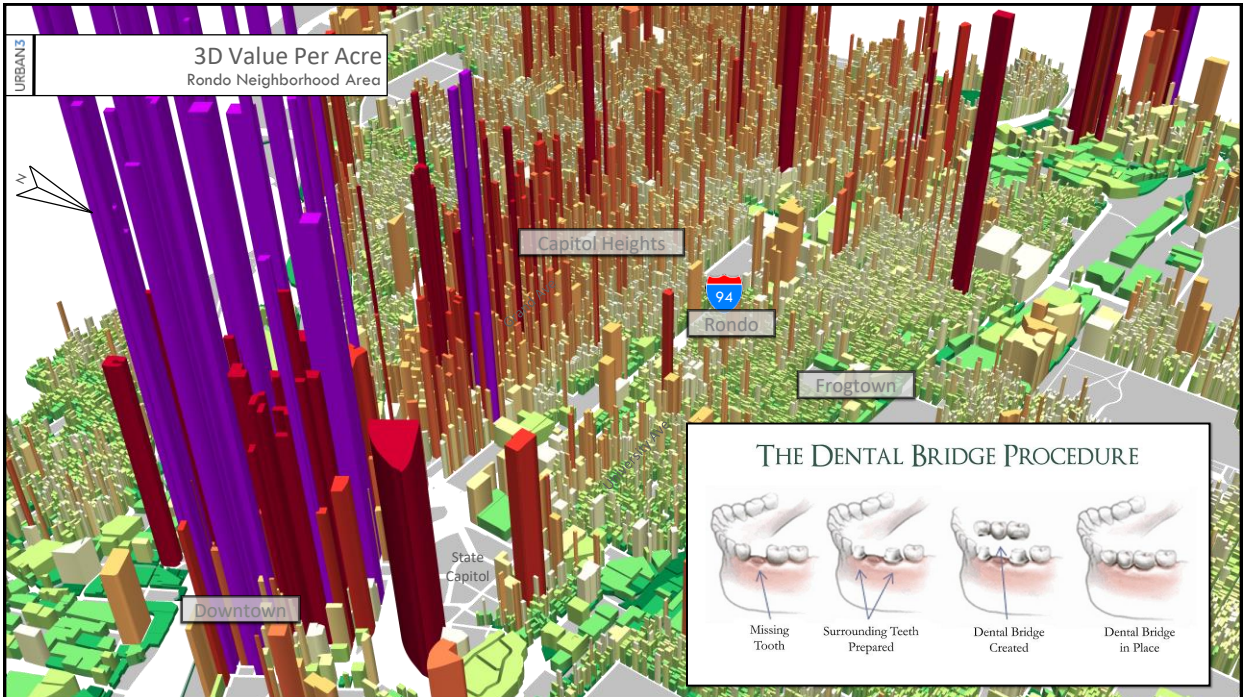
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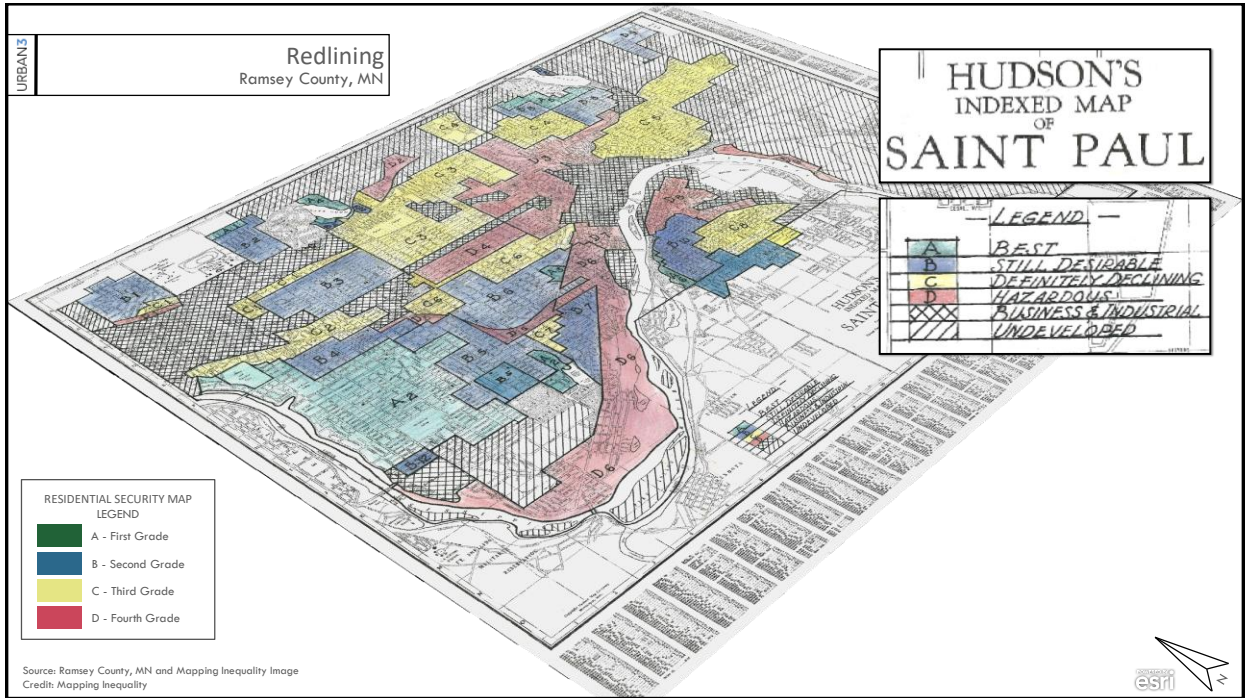
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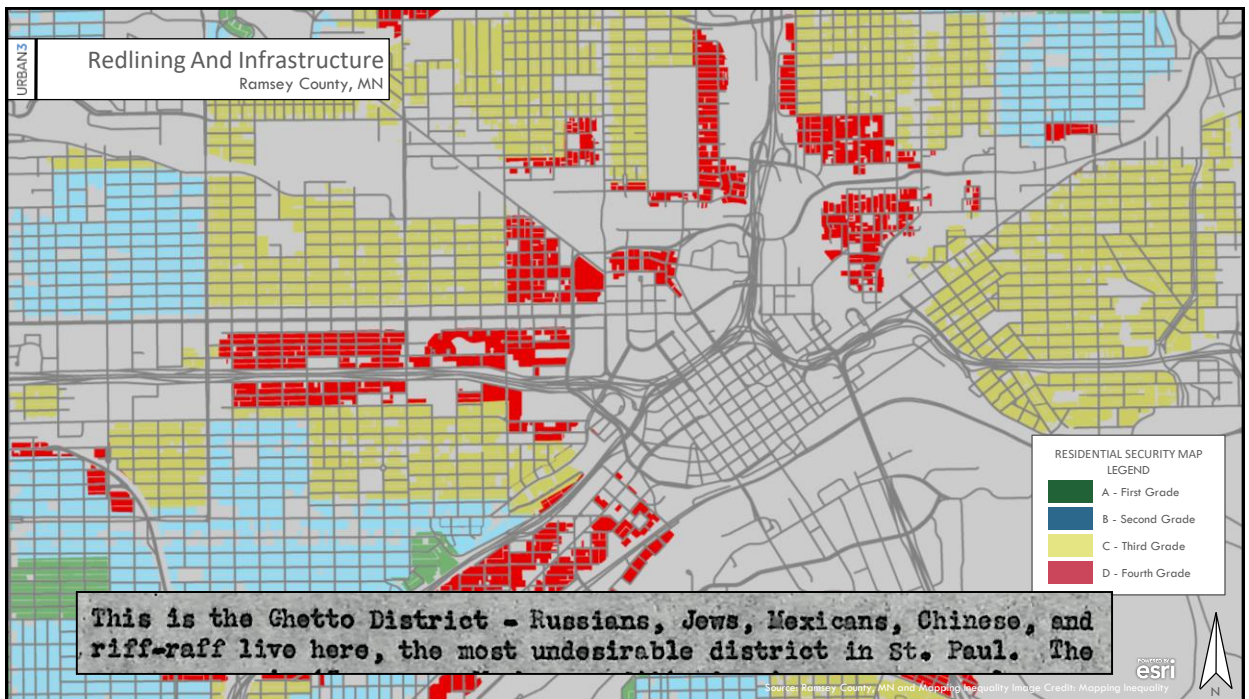
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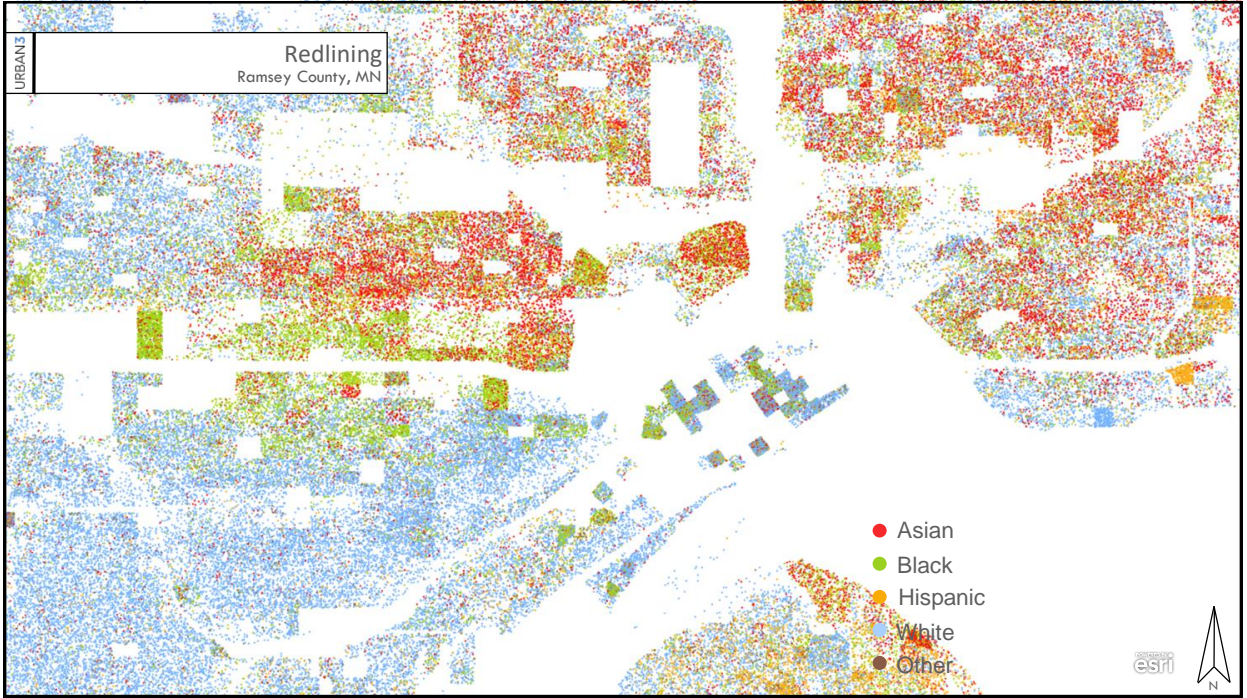
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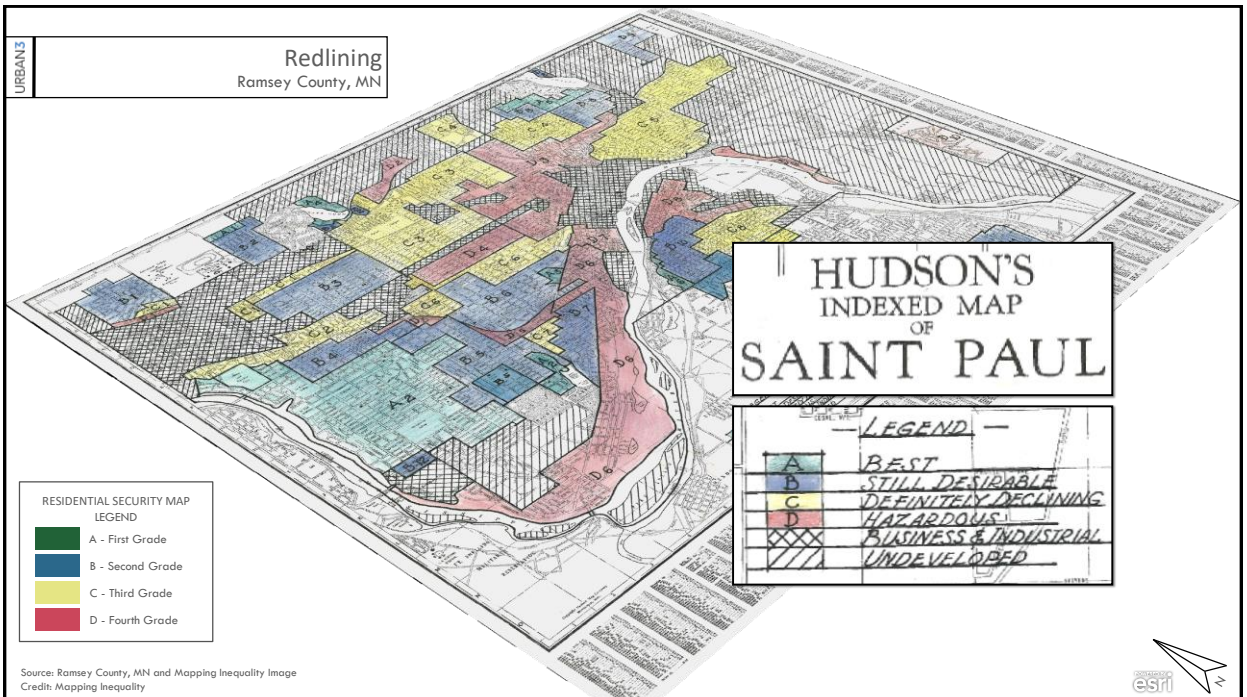
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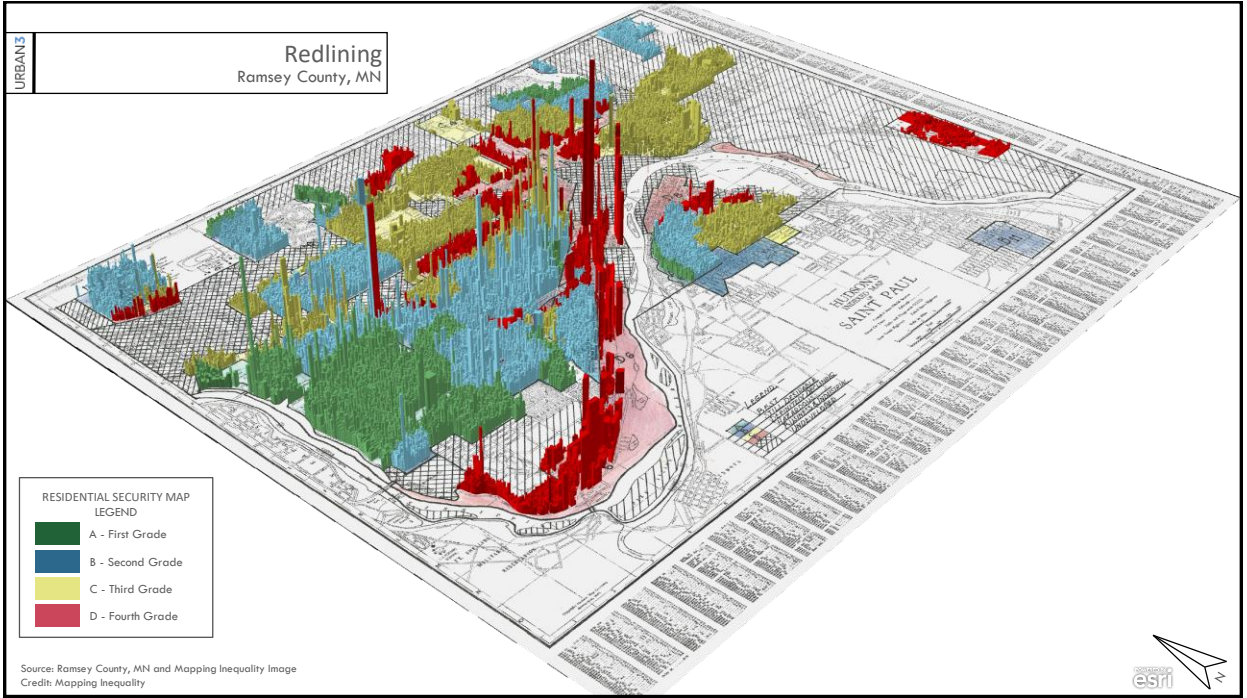
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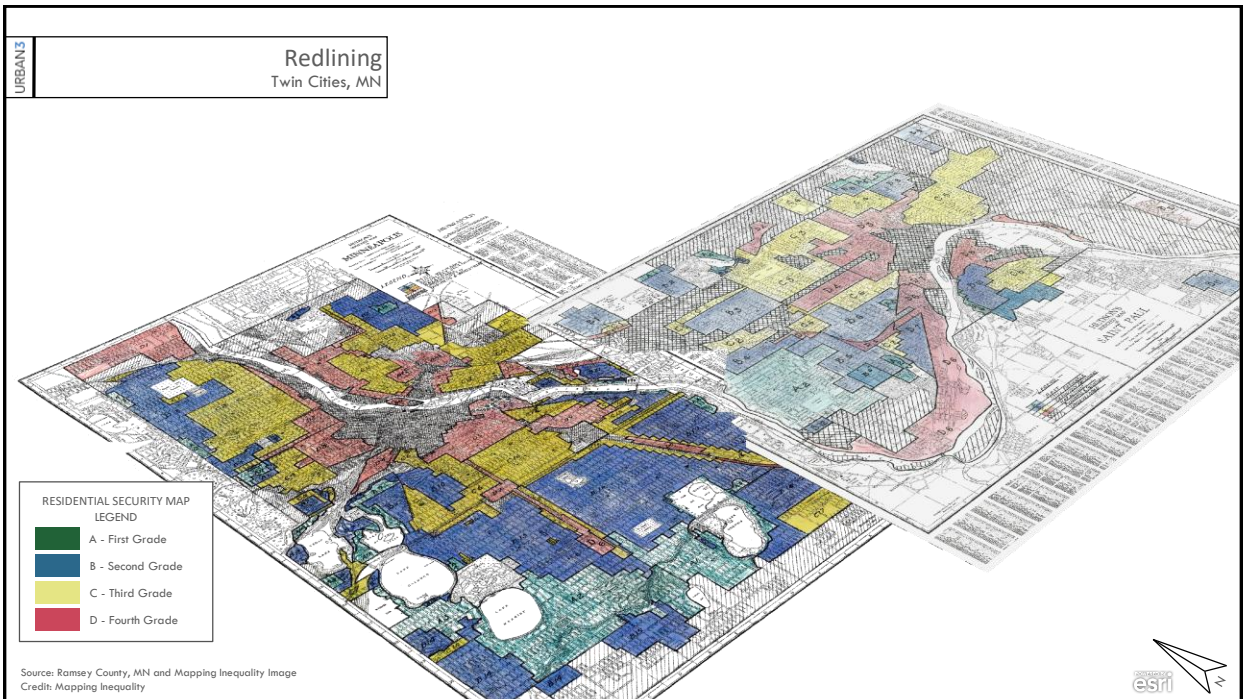
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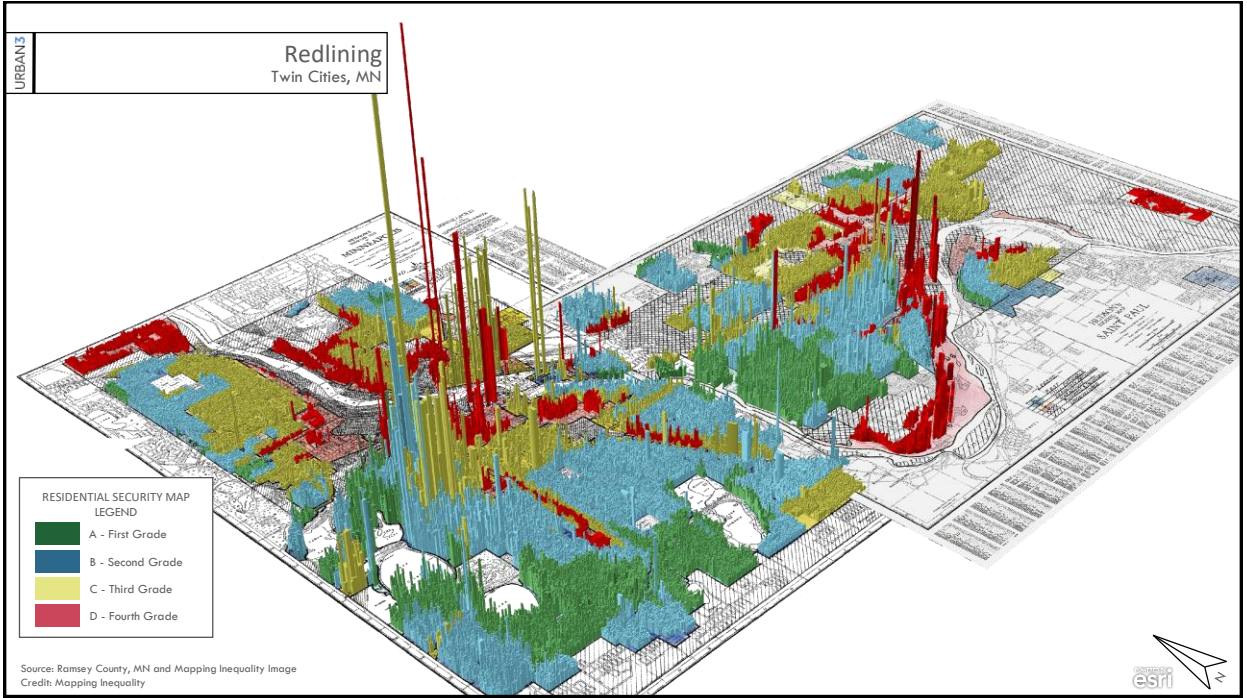
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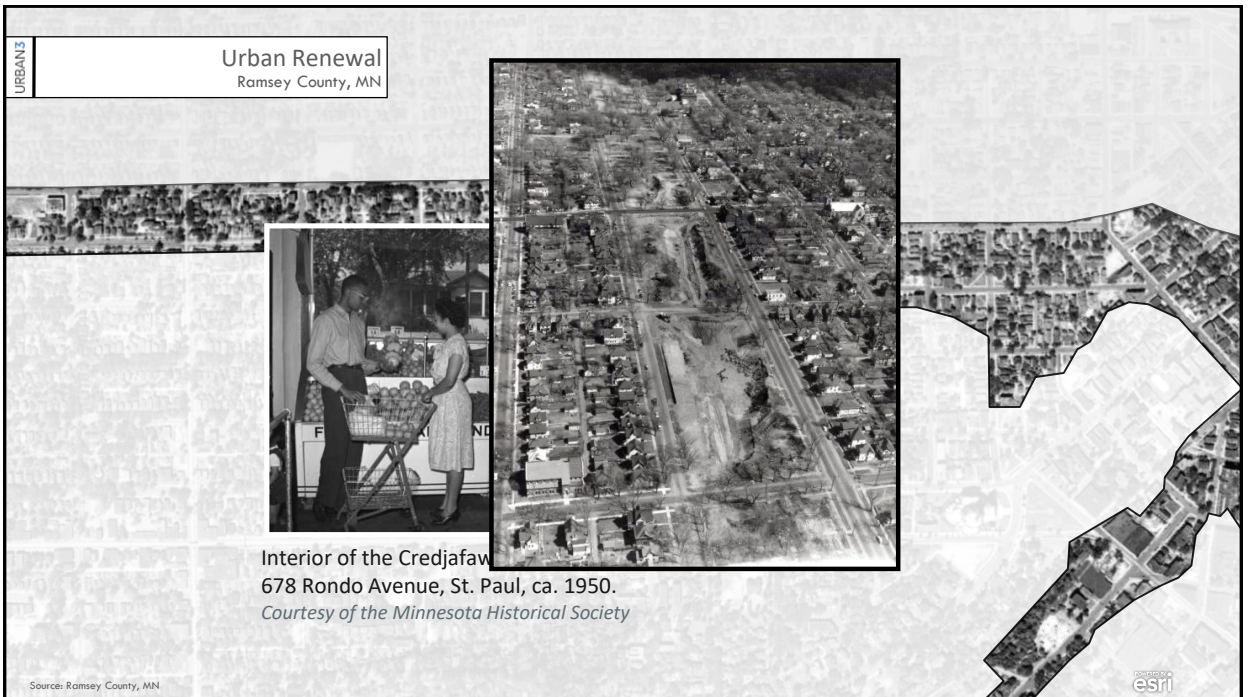
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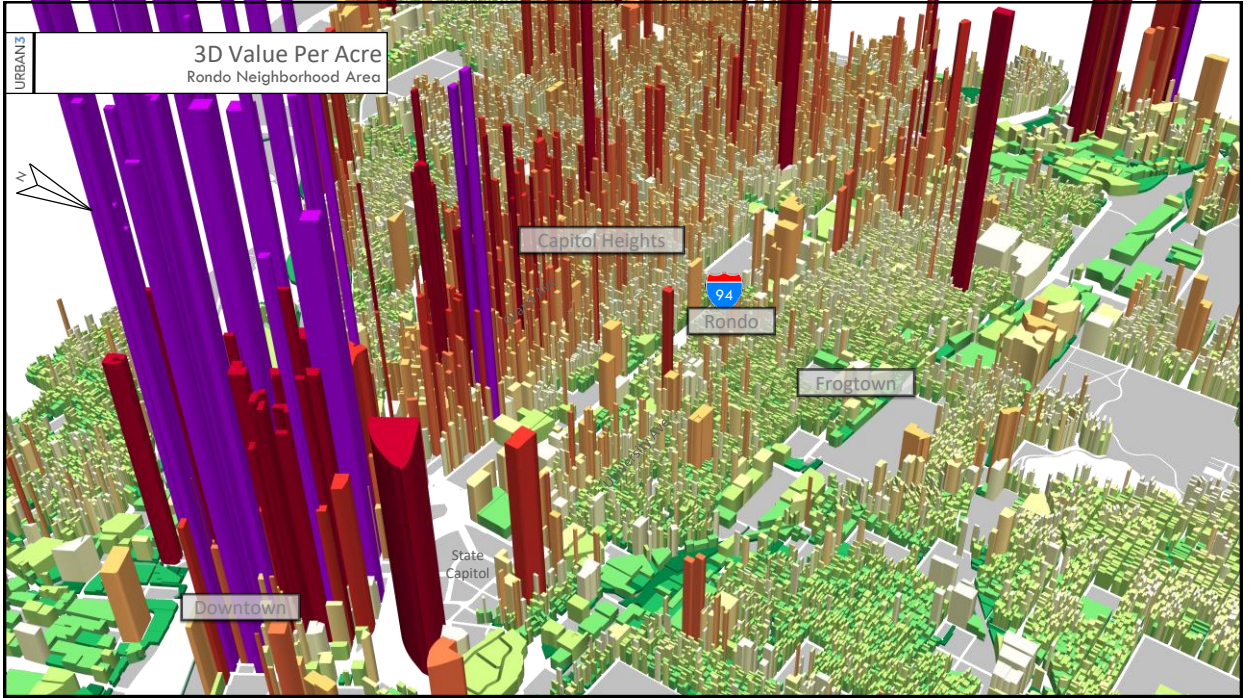
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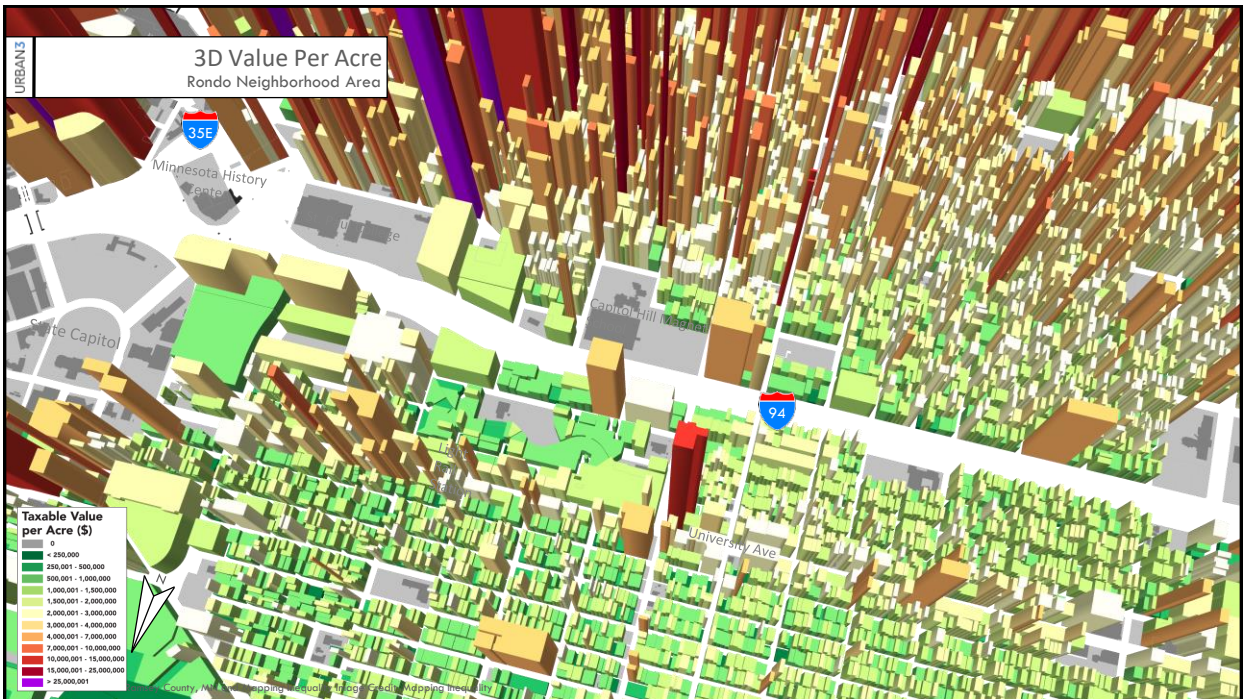
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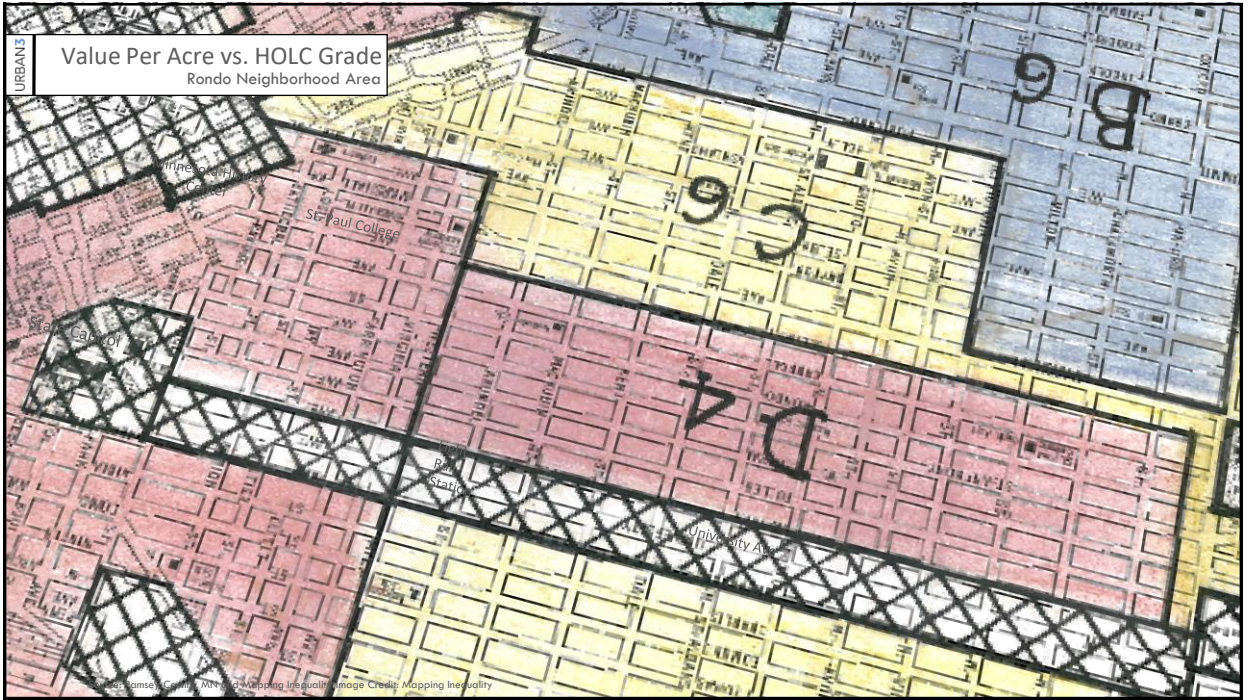
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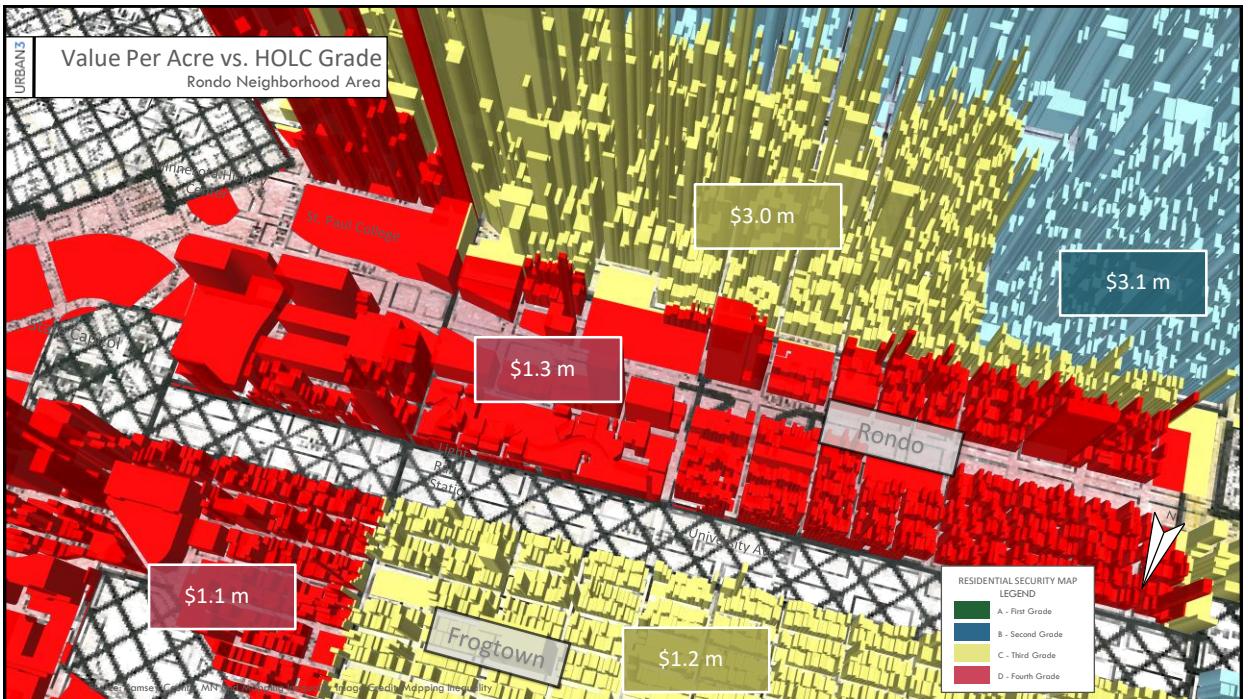
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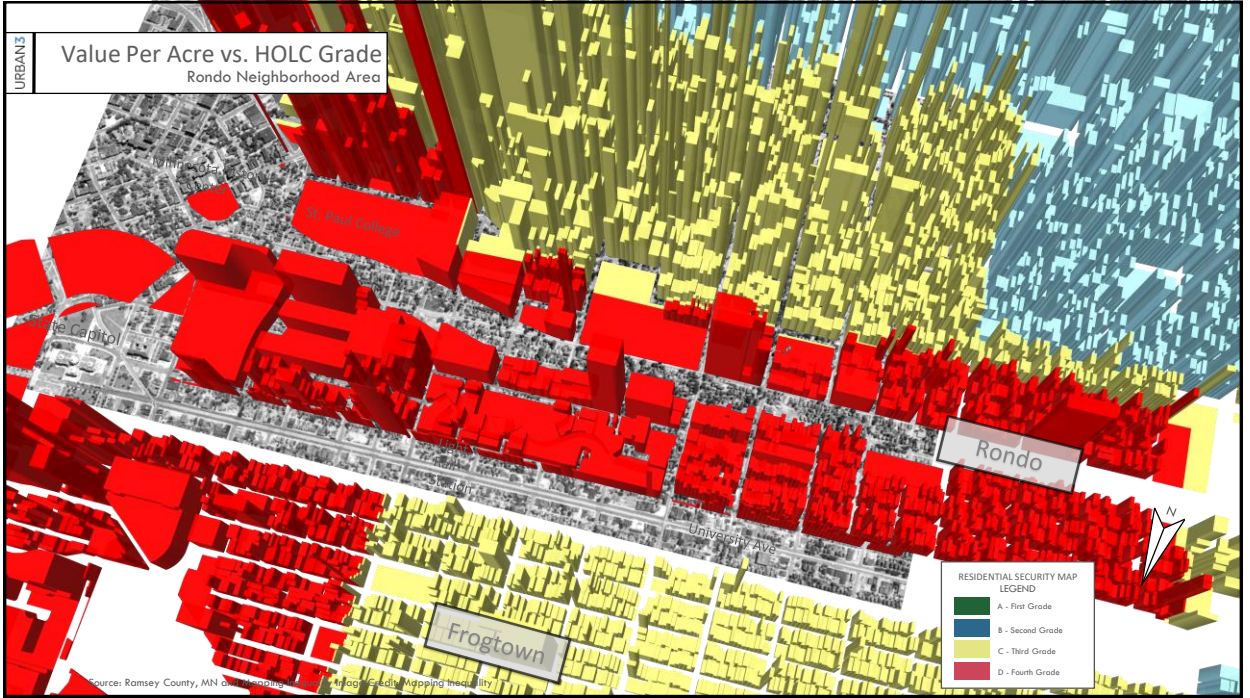
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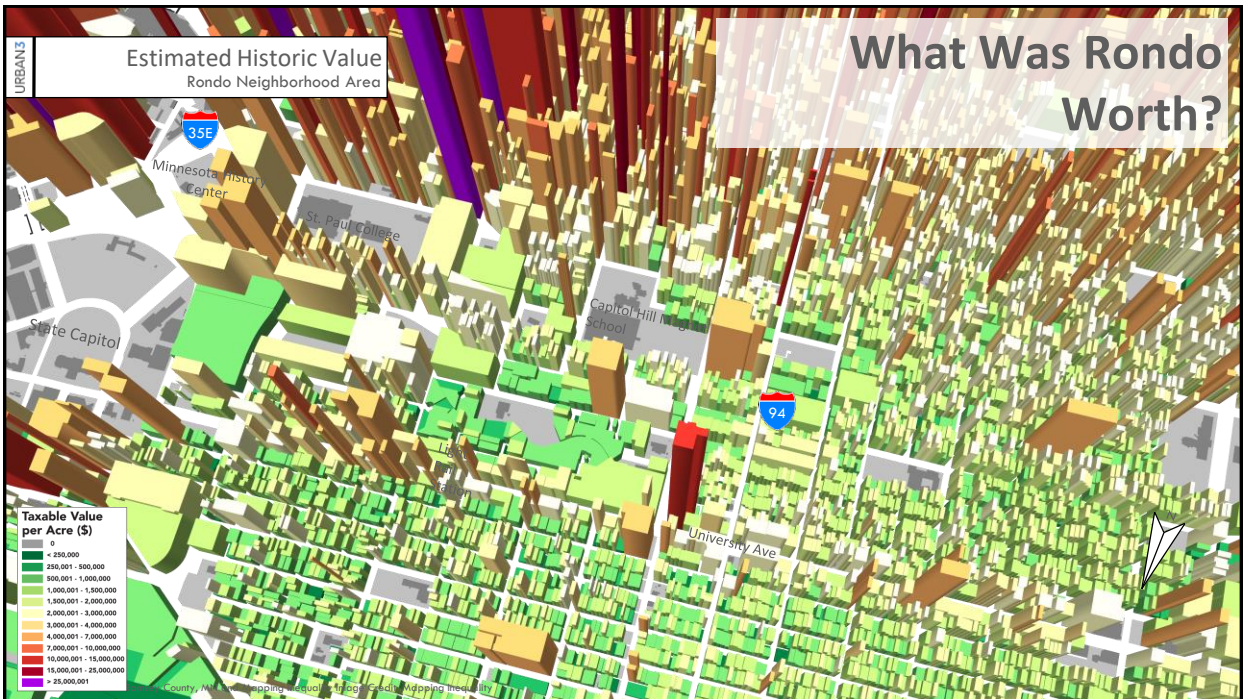
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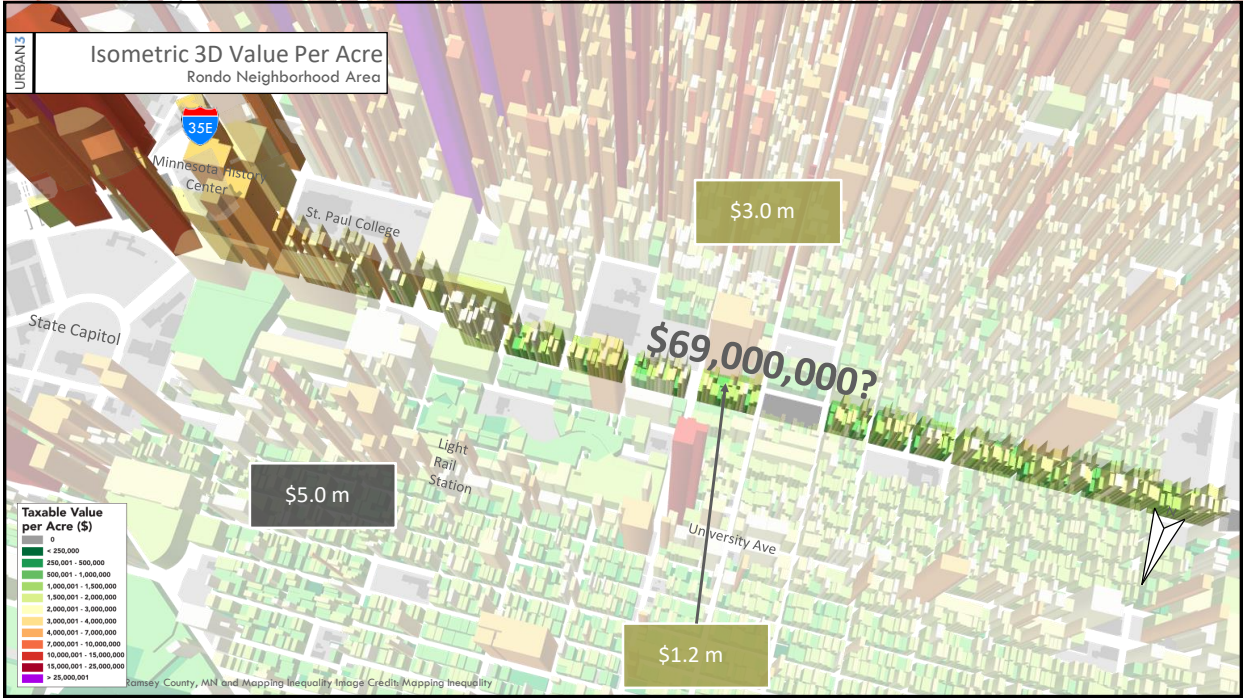
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159



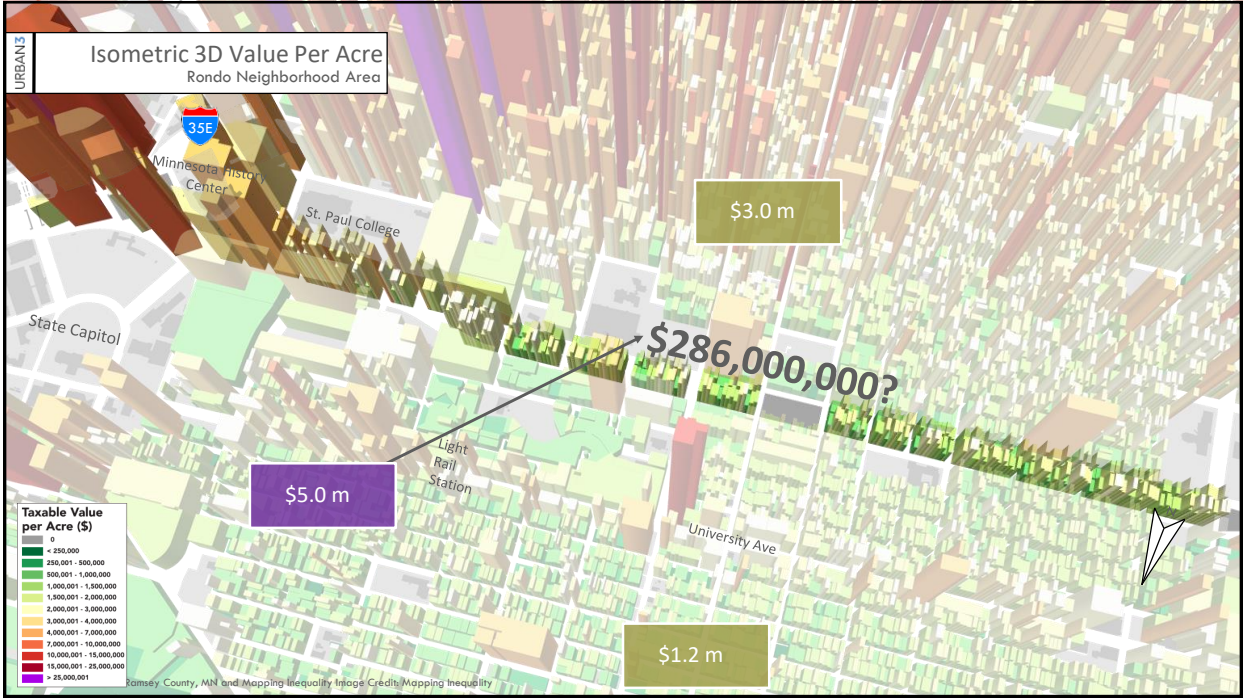
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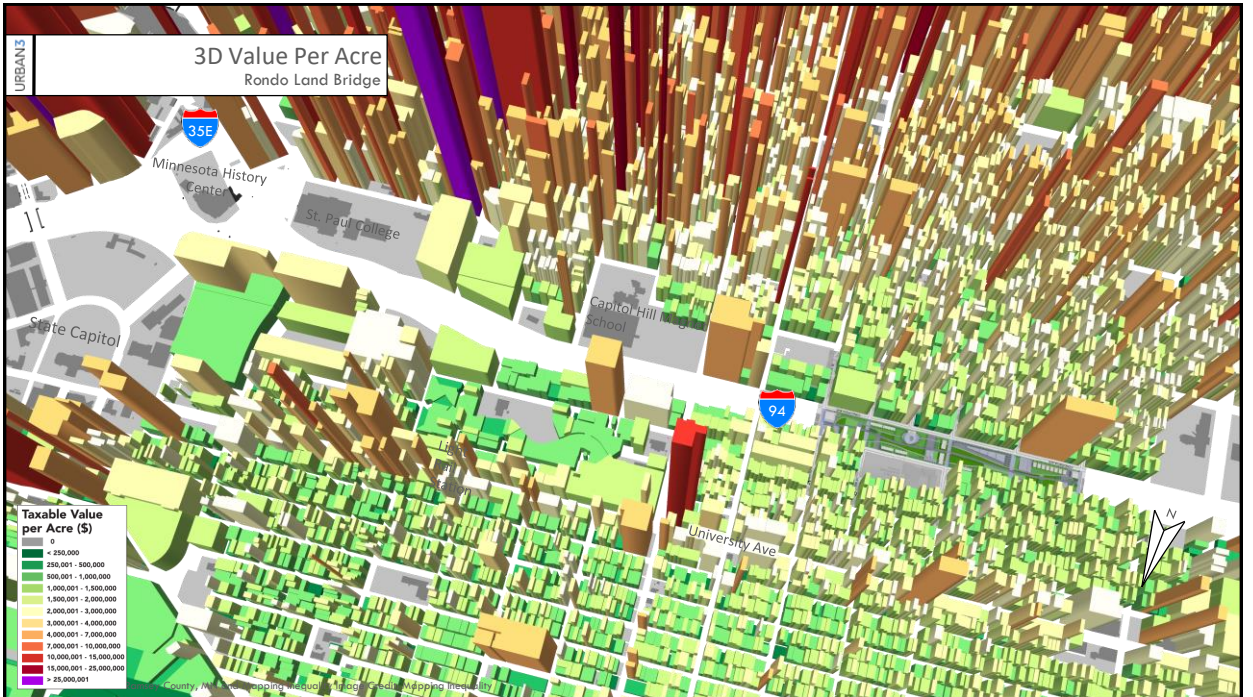
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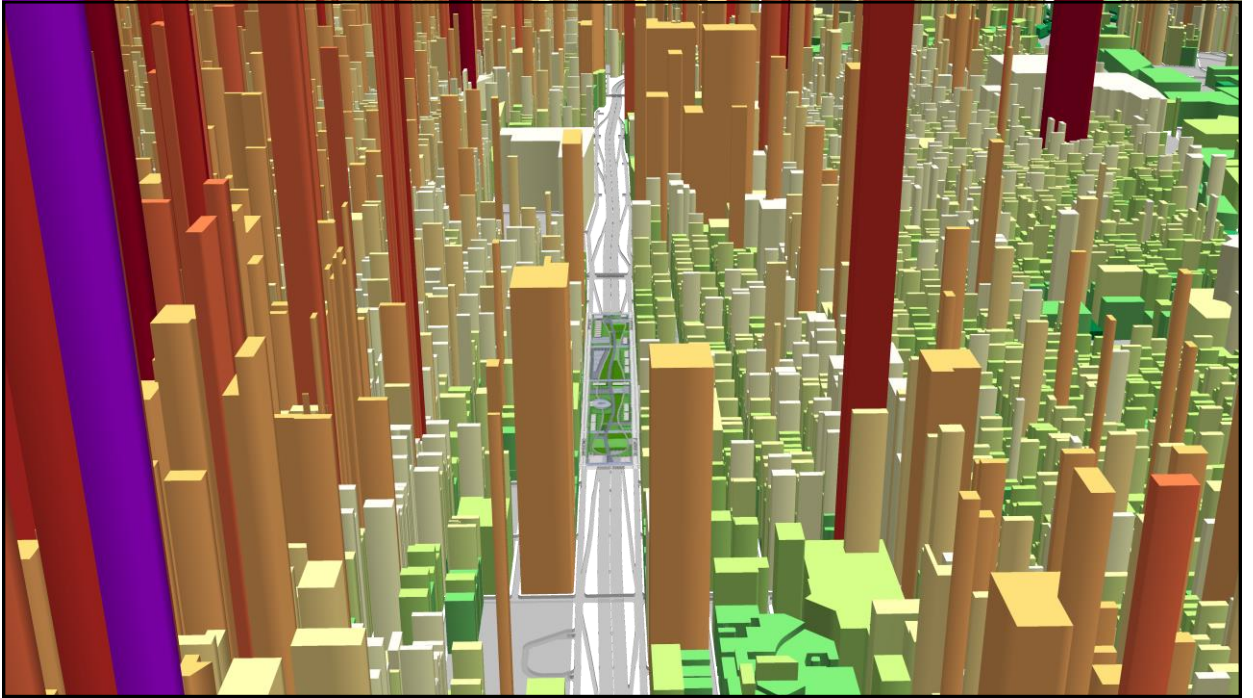
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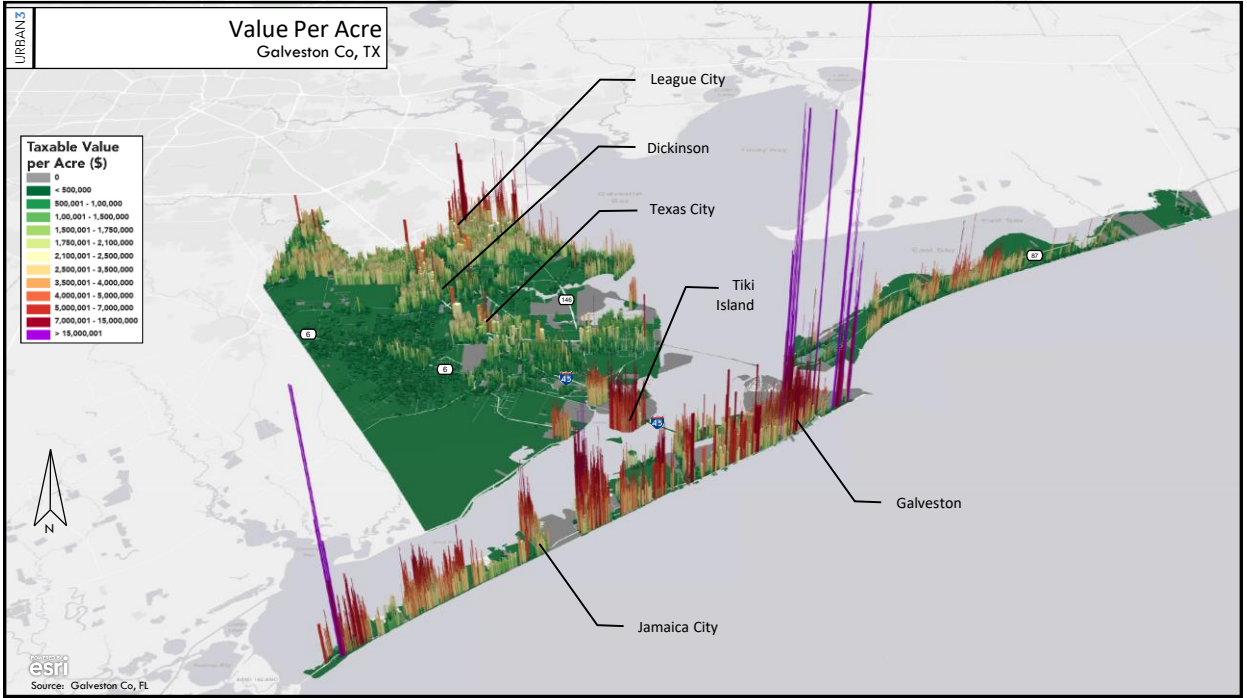
Case Study:

Galveston, Texas

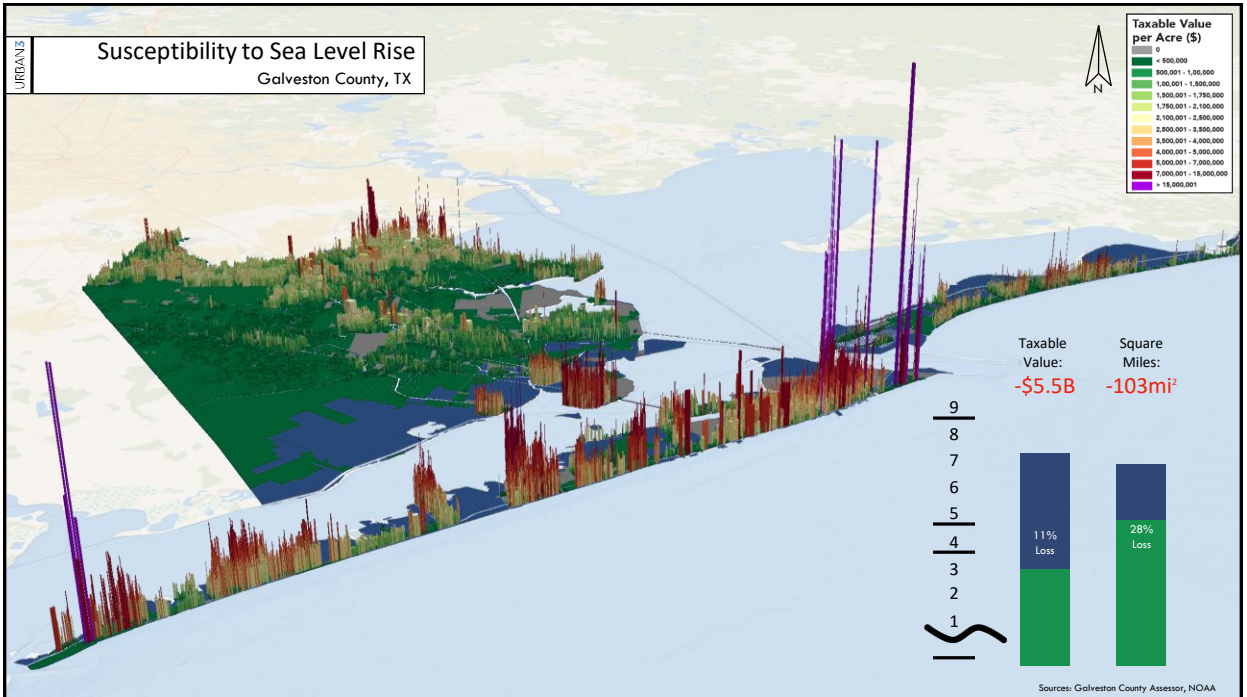
Climate migration adds a special sense of urgency for action

URBAN3

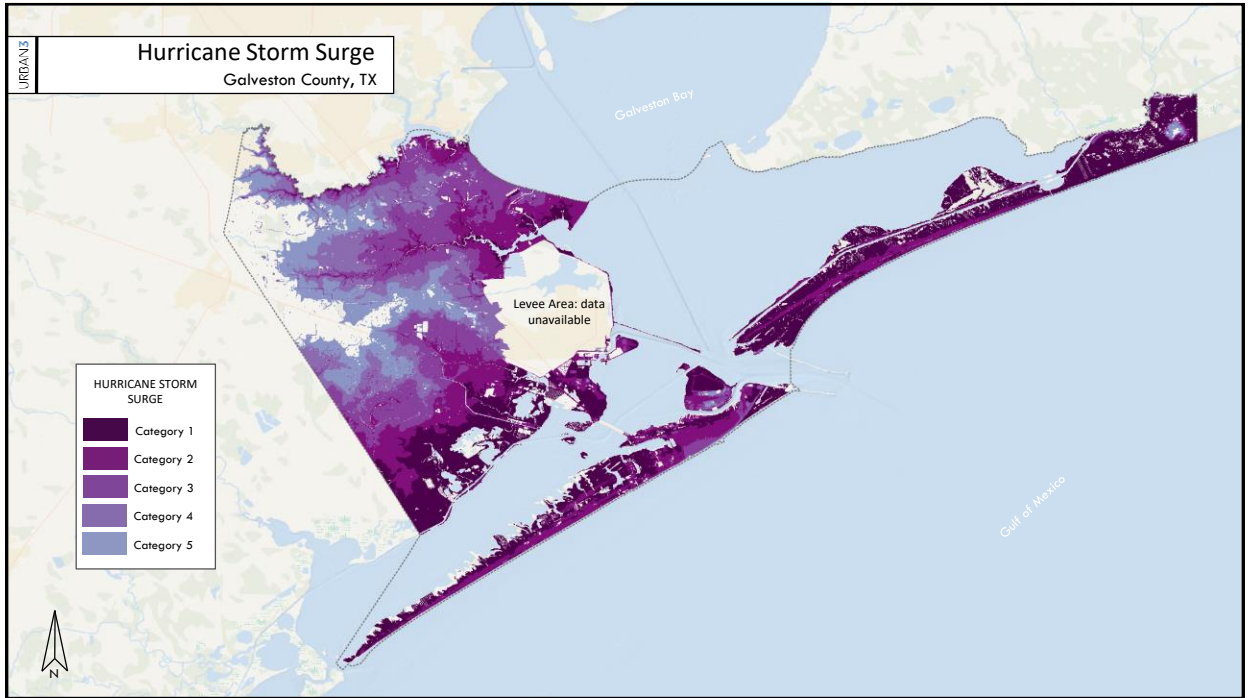
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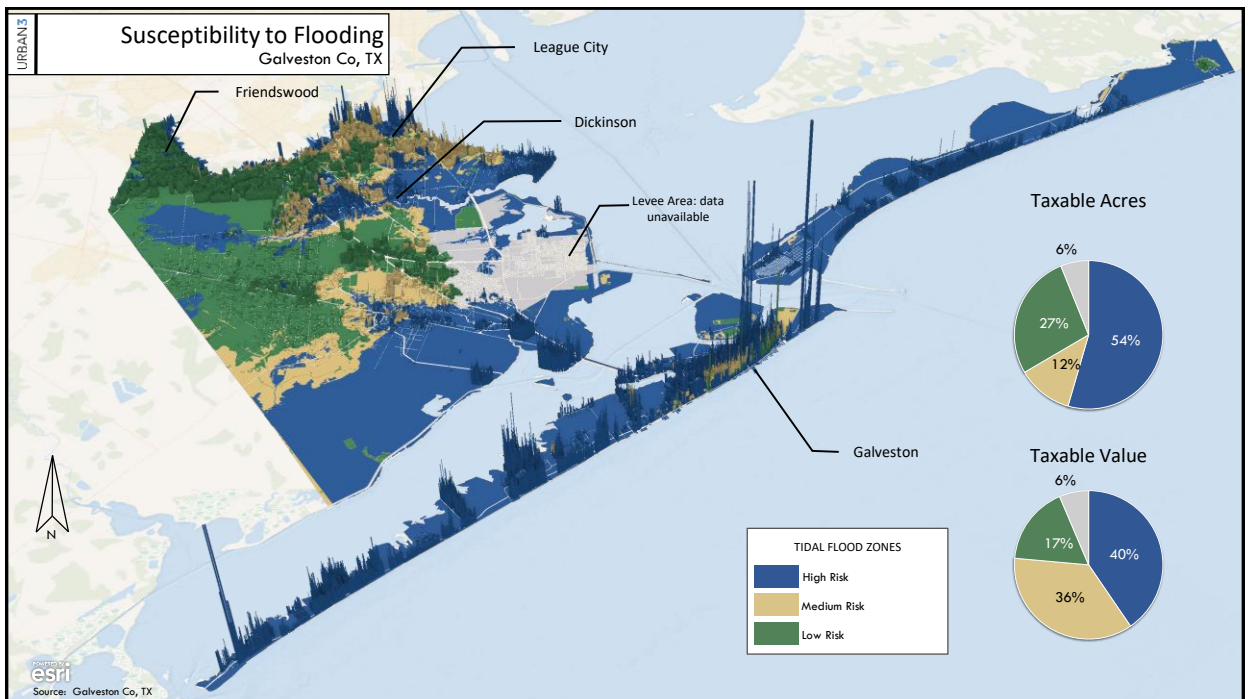
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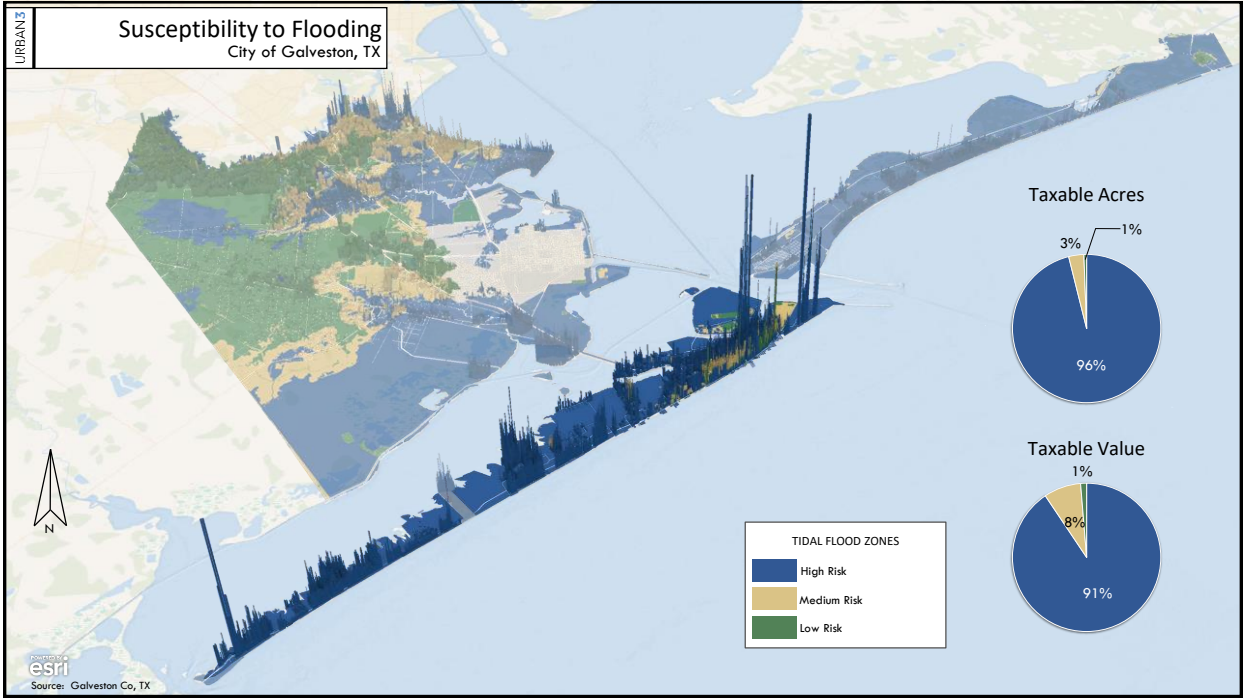
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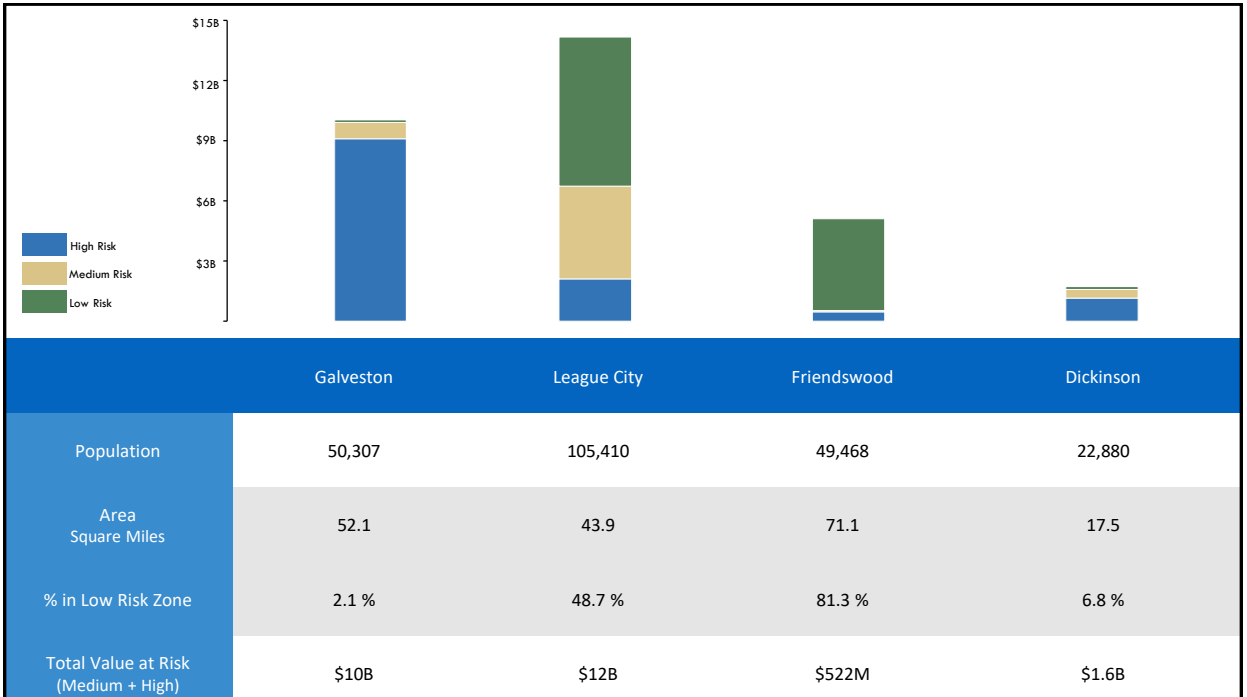
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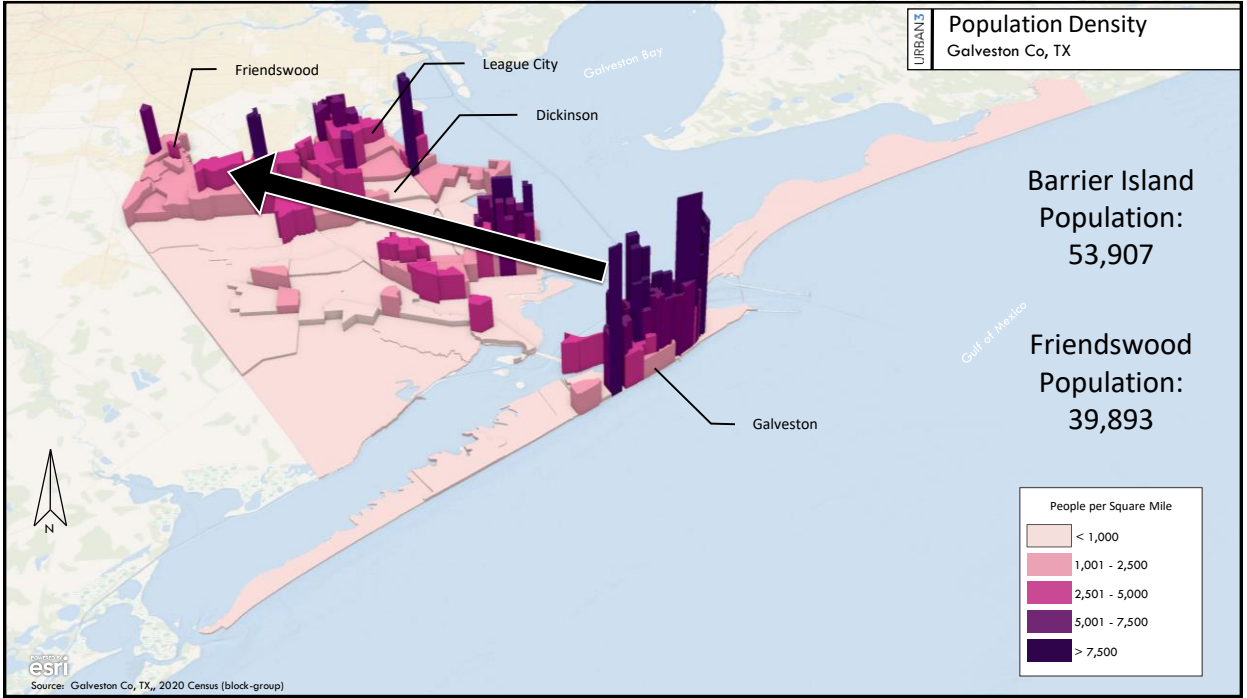
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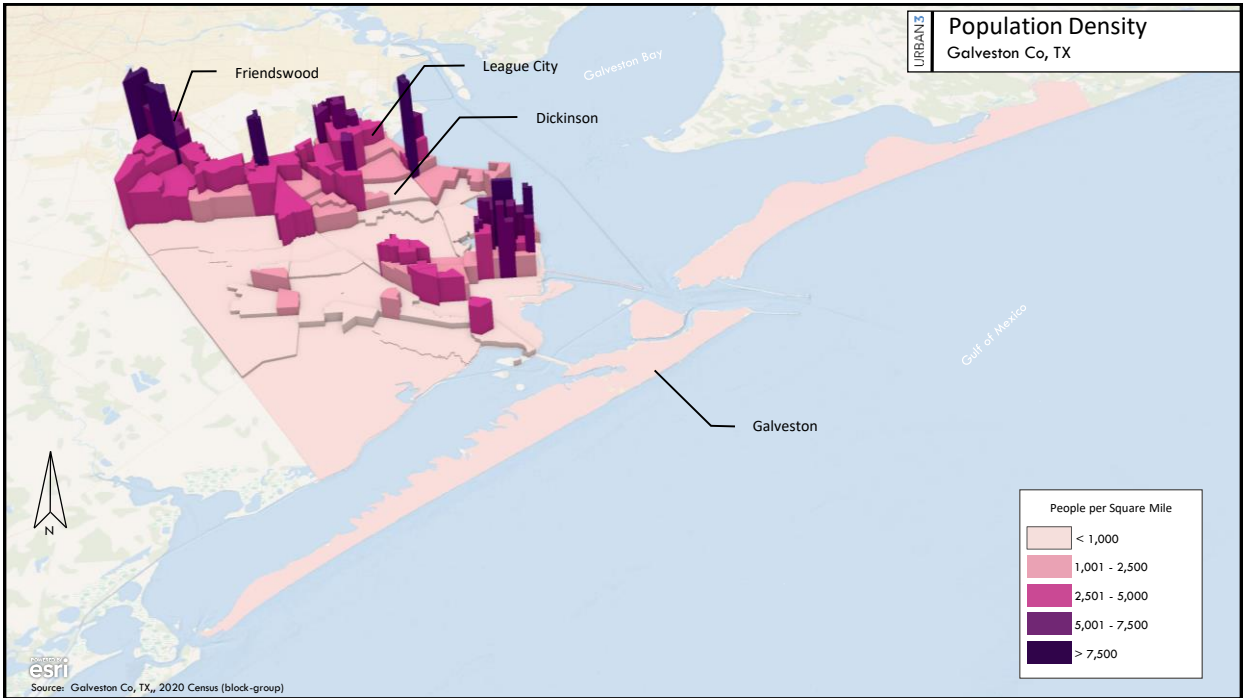
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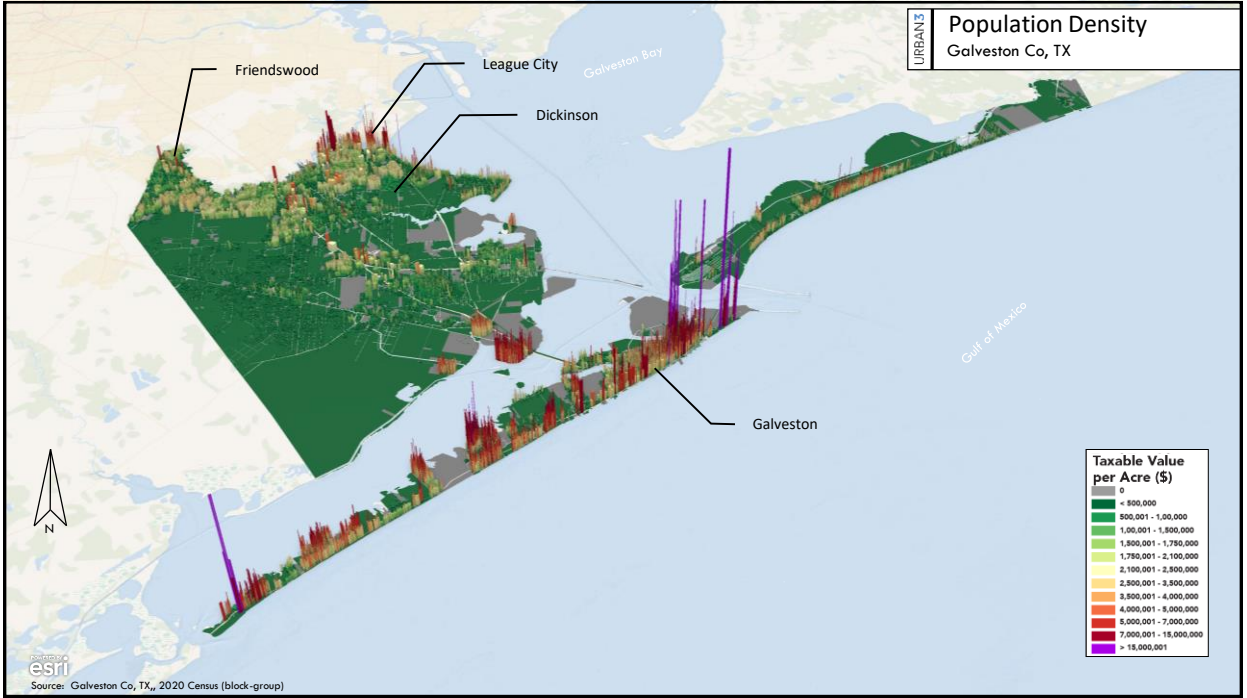
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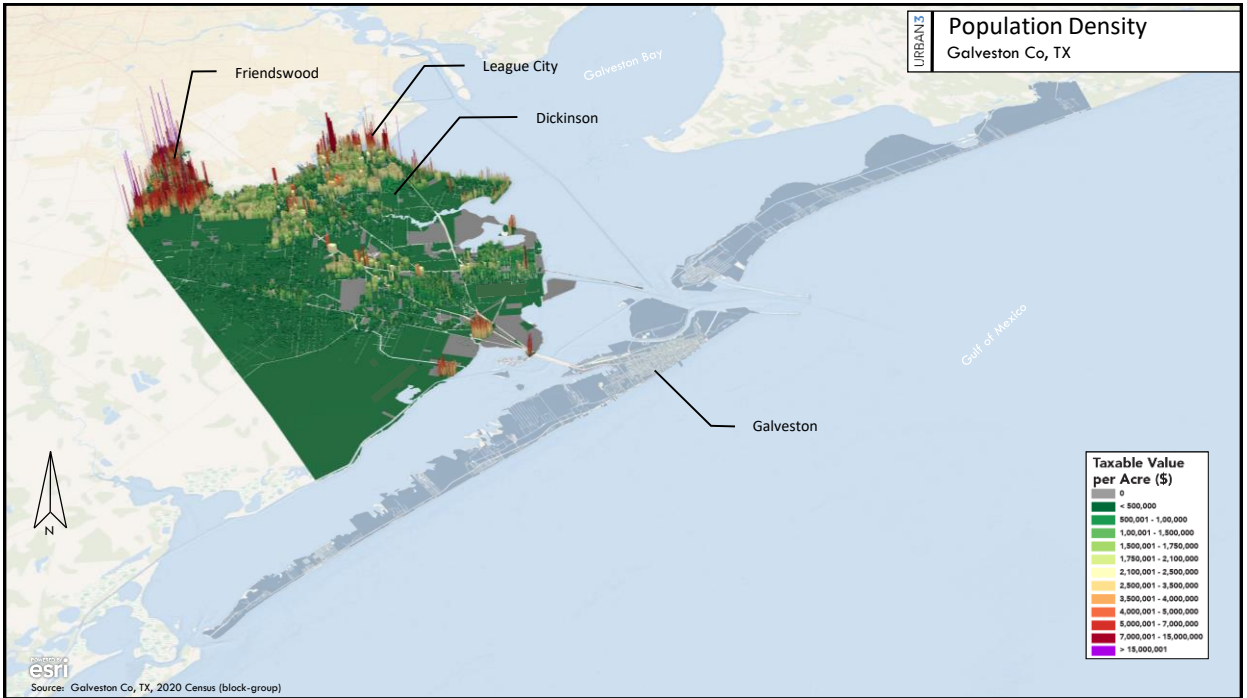
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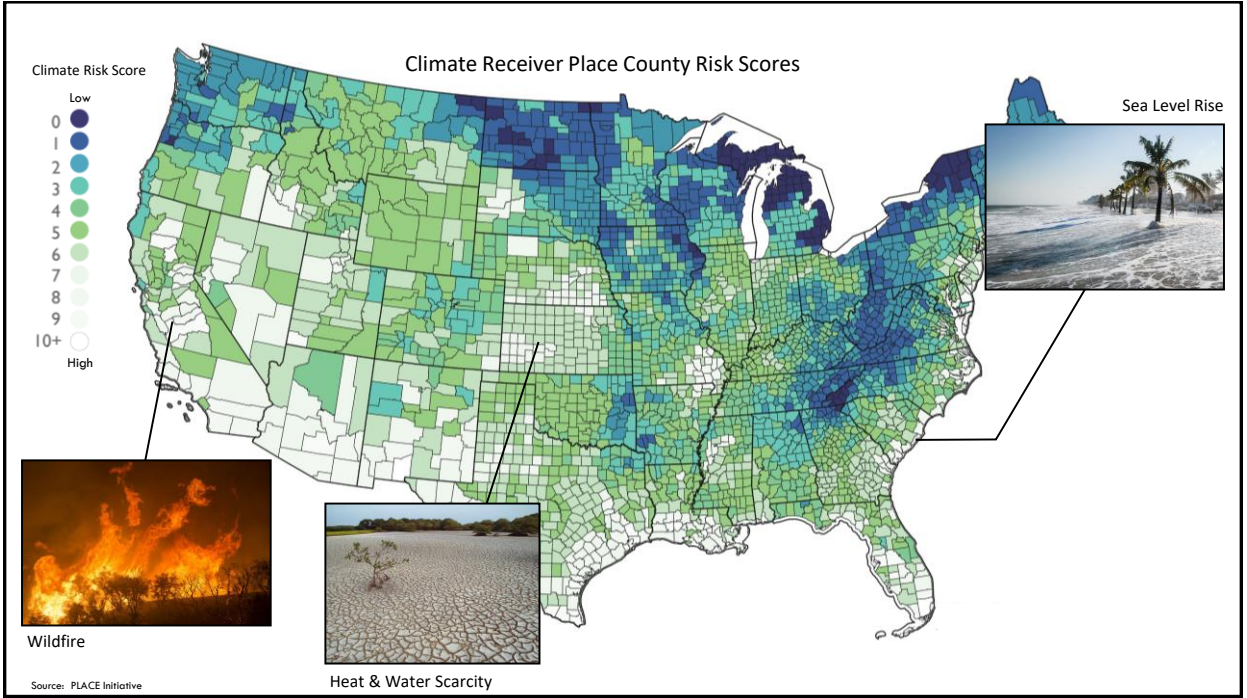
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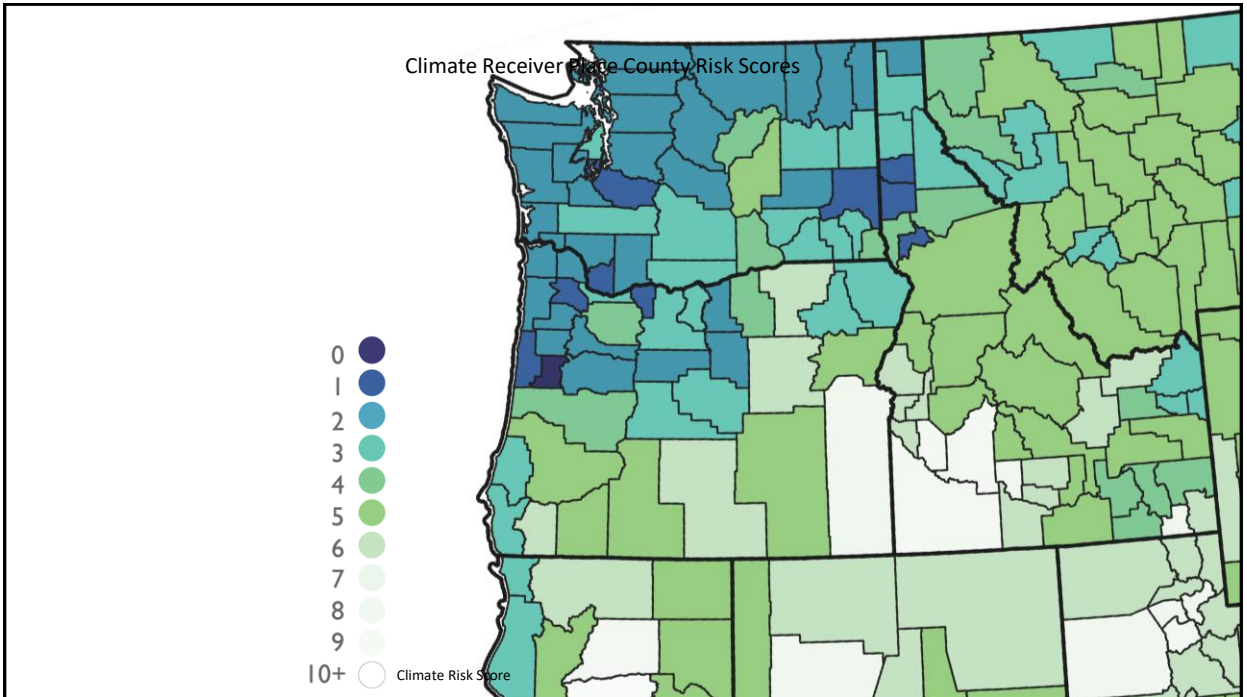
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DO THE MATH