



Value per acre map of
Auckland, New Zealand

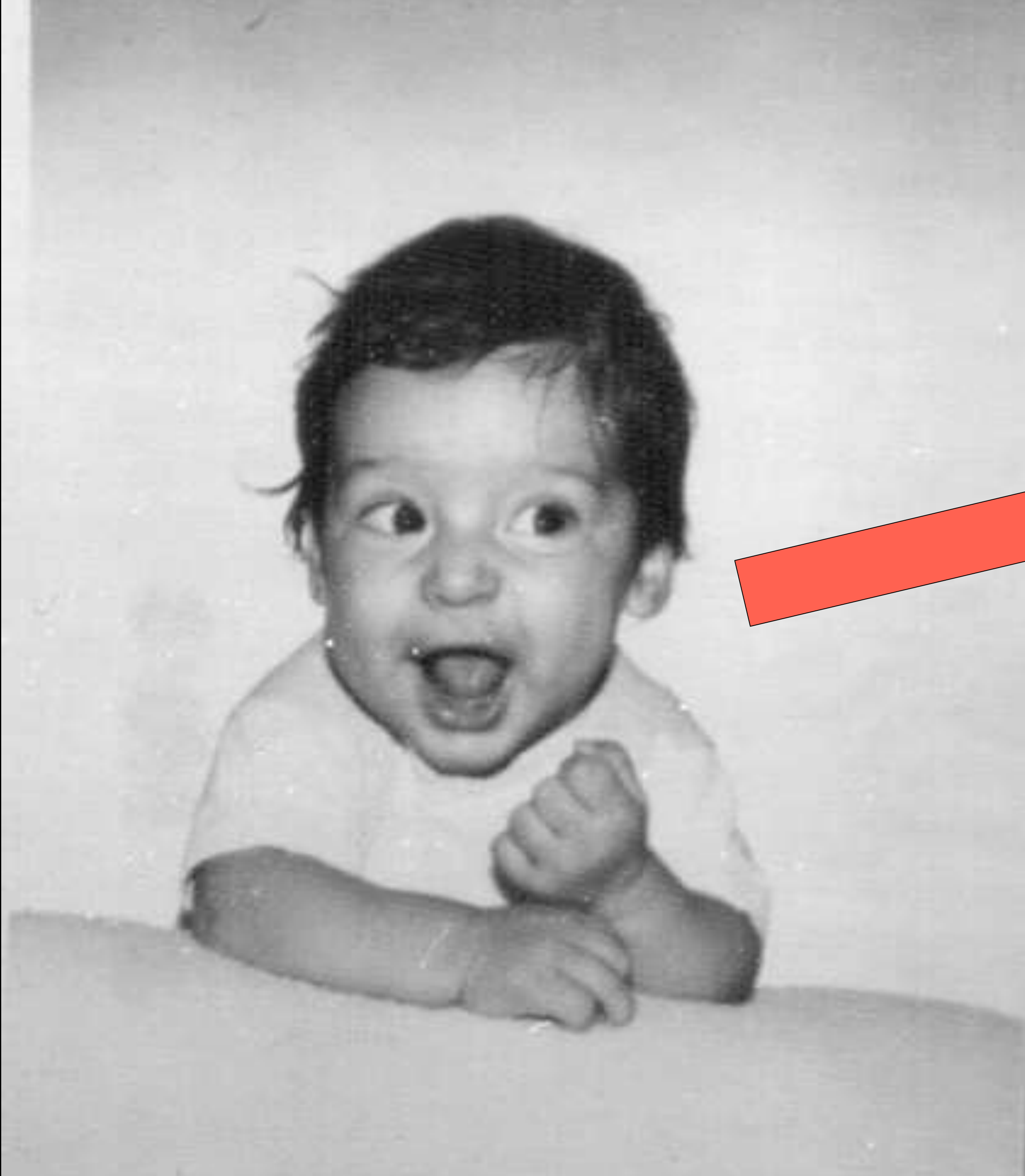
URBAN3

The Dollars and \$ense of City Design



"Greetings from Spook Hill"

D N N A





N-662

GREETINGS

from



E-6264



New York City

Kansas City

Asheville

Memphis

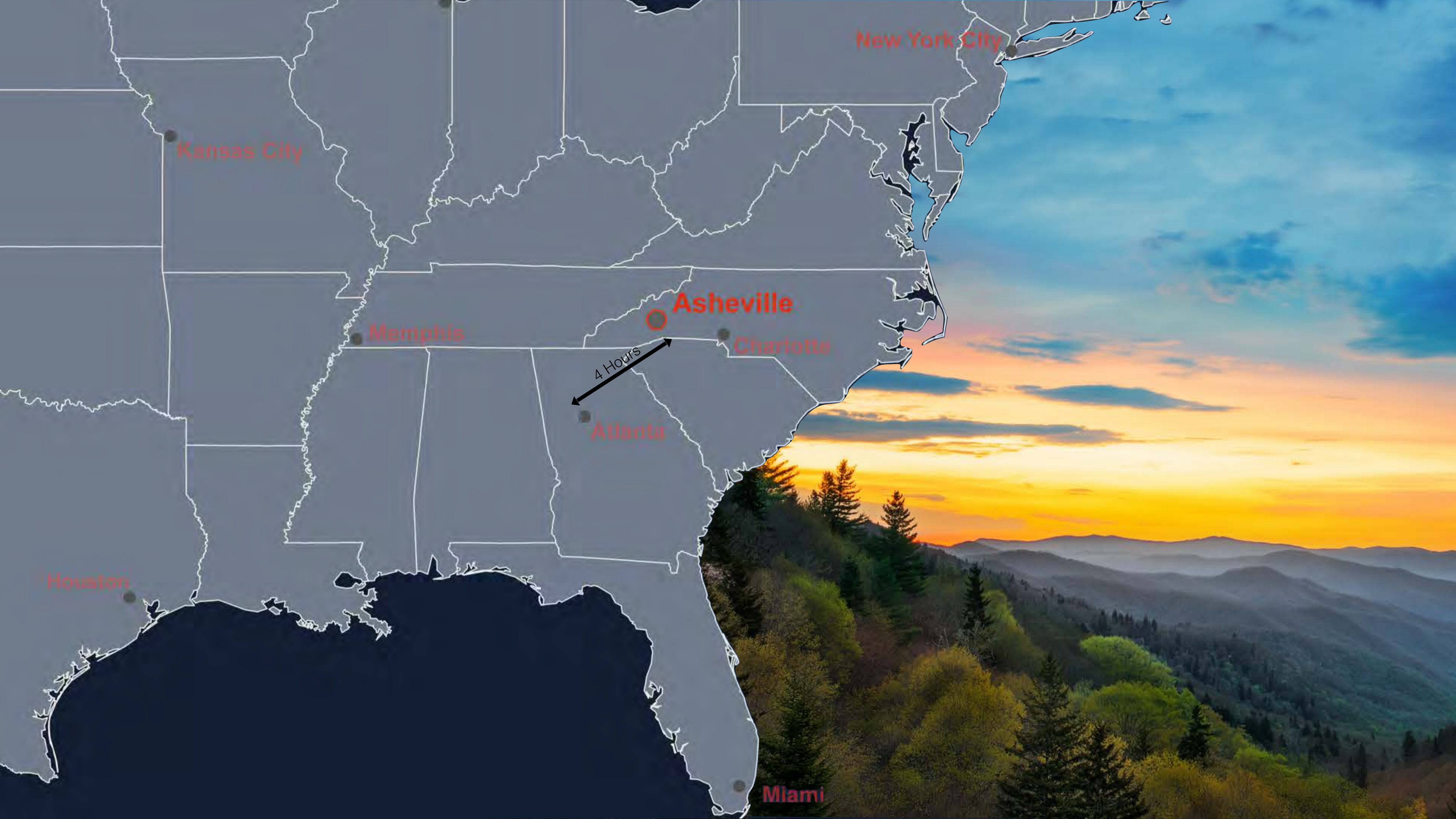
Charlotte

4 Hours

Atlanta

Houston

Miami



New York City

Kansas City

Asheville

Memphis

Charlotte

4 Hours

Atlanta

Houston

Miami





New York City

Asheville

Charlotte

Atlanta

Houston

Miami



hours





New York City

Asheville

Charlotte

Atlanta

Houston

Miami





New York City

Asheville

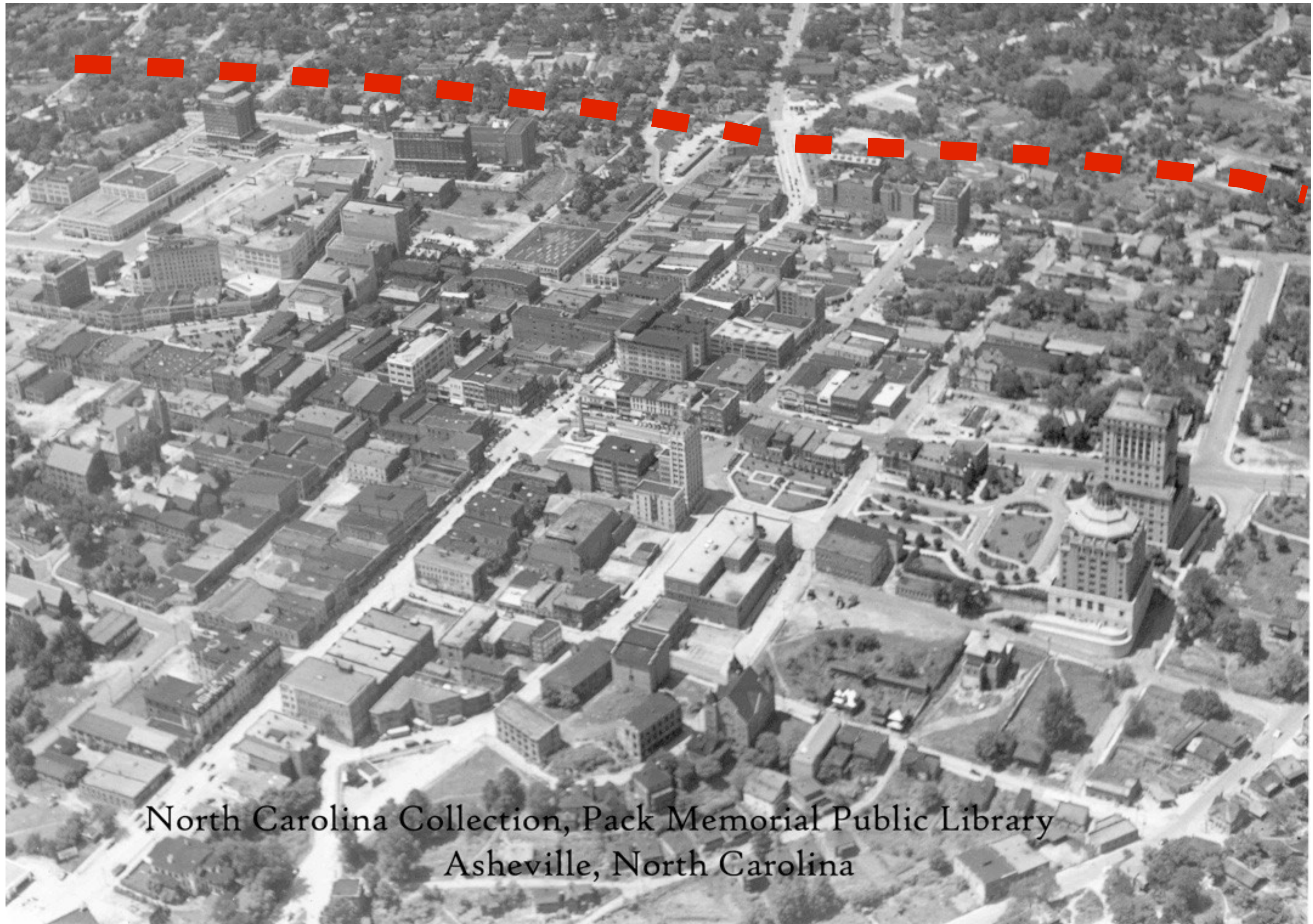
Charlotte

hours



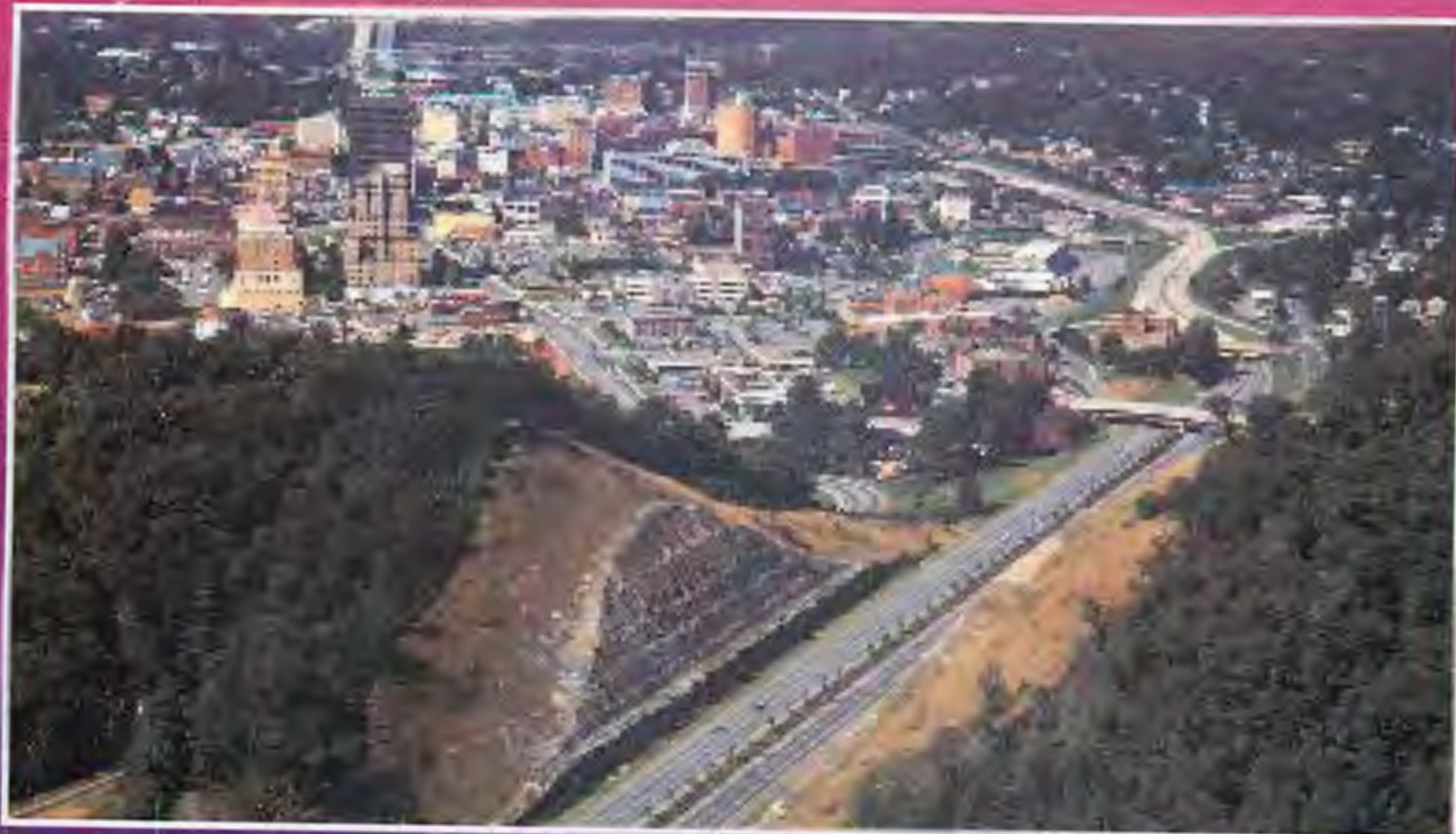


North Carolina Collection, Pack Memorial Public Library
Asheville, North Carolina



North Carolina Collection, Pack Memorial Public Library
Asheville, North Carolina





Asheville, N.C.

Land of the Sky

The
73
acre
Asheville
Mall



In the 70's and 80's our downtown died





EDWARDS

AMERICAN SERVICE CENTER



In the 70's and 80's
our downtown died.



Asheville's de facto motto was:

“That will never work here - don't even try.”



Julian Price

1941 - 11/19/2001



the Alternative Reading Room

The Mountain Xpress

Public Interest Projects

Salsa's & Zambras

City Seeds



URBAN3



51 Biltmore



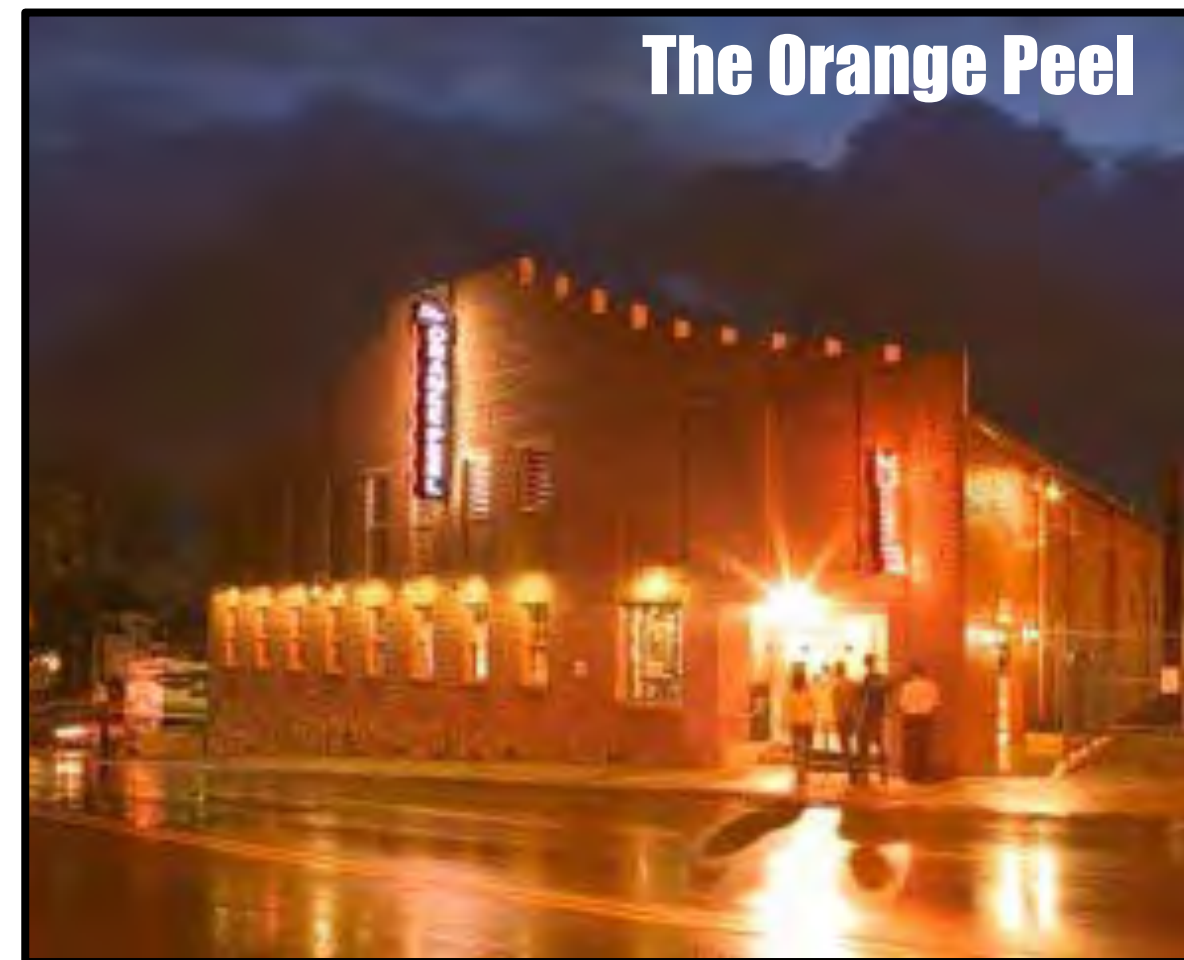
Downtown benches



The Laughing Seed



the Dogwood Fund



The Orange Peel

YWCA

The Public Service Building



JACK SCHULMAN

53

BUYERS MARKET



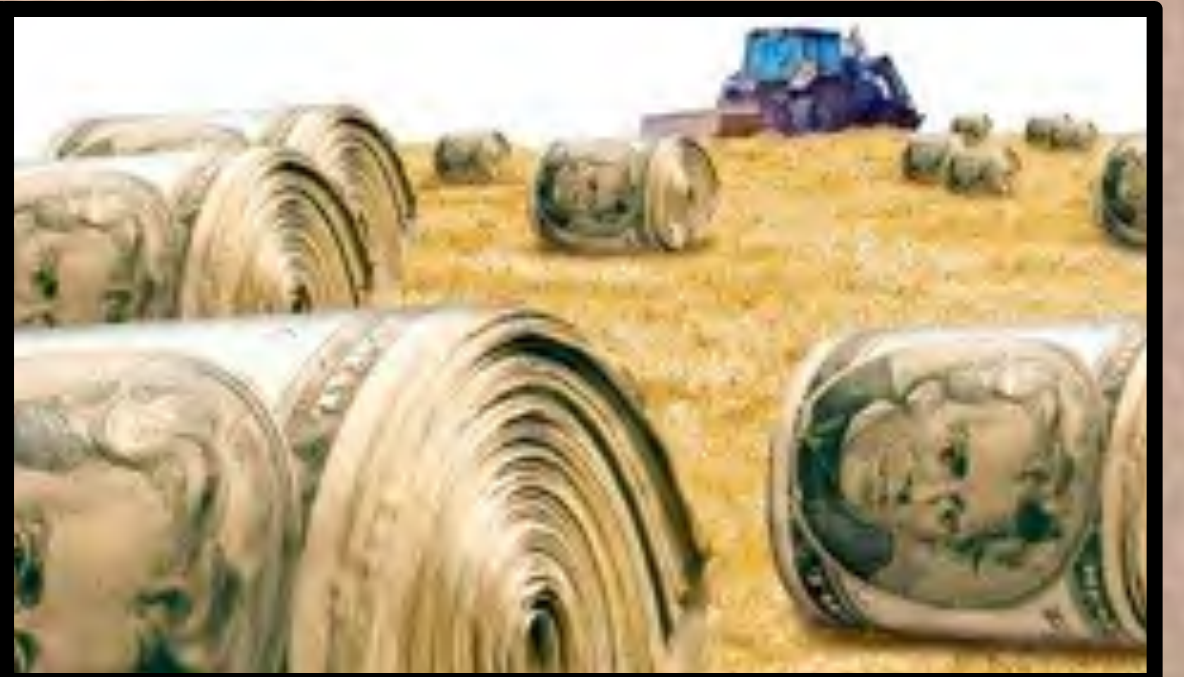
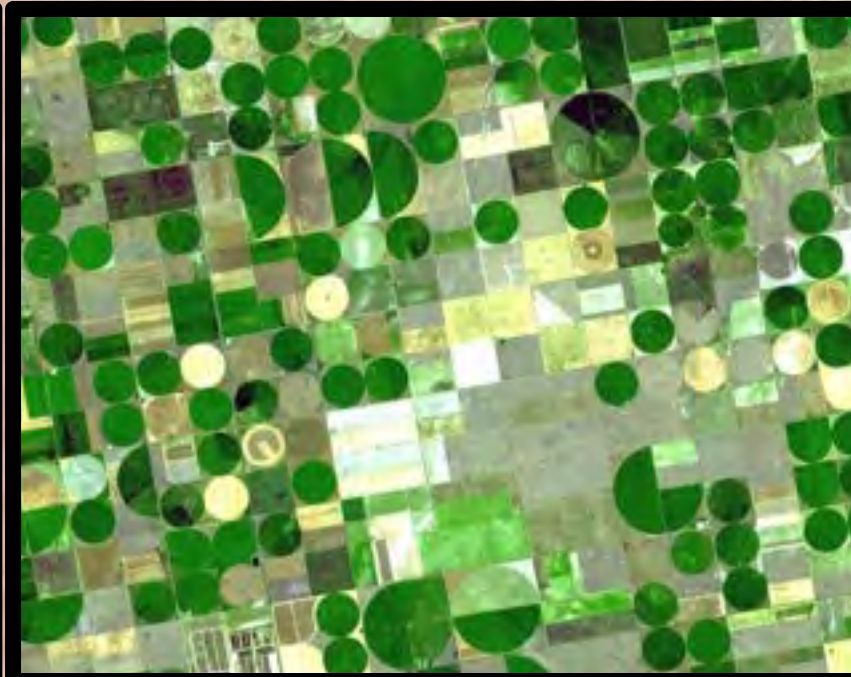


**In God we trust;
everyone else,
bring data.**

Mayor Michael Bloomberg



Land Production





For 40 years this building remained vacant..... its tax value in 1991 was just over **\$300,000**



Today the building is valued at over **\$11,000,000**



For 40 years this building remained vacant..... its tax value in 1991 was just over **\$300,000**



Today the building is valued at over **\$11,000,000**





For 40 years this building remained vacant..... its tax value in 1991 was just over **\$300,000**



Today the building is valued at over **\$11,000,000**

An increase > **3500%**

in **15 years**

The lot is less than **1/5 acre**



Asheville Walmart



Downtown



\$11,000,000 Tax Value

Asheville Walmart



\$20,000,000 Tax Value

Downtown



\$11,000,000 Tax Value

Asheville Walmart



\$20,000,000 Tax Value

Downtown



\$11,000,000 Tax Value



Land Consumed (acres)

Asheville Walmart

Downtown



\$20,000,000 Tax Value



\$11,000,000 Tax Value



Land Consumed (acres)

\$6.5k



\$634k

Total Property Taxes/Acre

Asheville Walmart

Downtown



\$20,000,000 Tax Value



\$11,000,000 Tax Value



Land Consumed (acres)



Total Property Taxes/Acre



City Sales Taxes/Acre

Asheville Walmart

Downtown



\$20,000,000 Tax Value

\$11,000,000 Tax Value

34

0.2

Land Consumed (acres)

\$6.5k

\$634k

Total Property Taxes/Acre

\$48k

\$84k

City Sales Taxes/Acre

0

90

Residents/Acre

Asheville Walmart

Downtown



\$20,000,000 Tax Value

\$11,000,000 Tax Value

34

0.2

Land Consumed (acres)

\$6.5k

\$634k

Total Property Taxes/Acre

\$48k

\$84k

City Sales Taxes/Acre

0

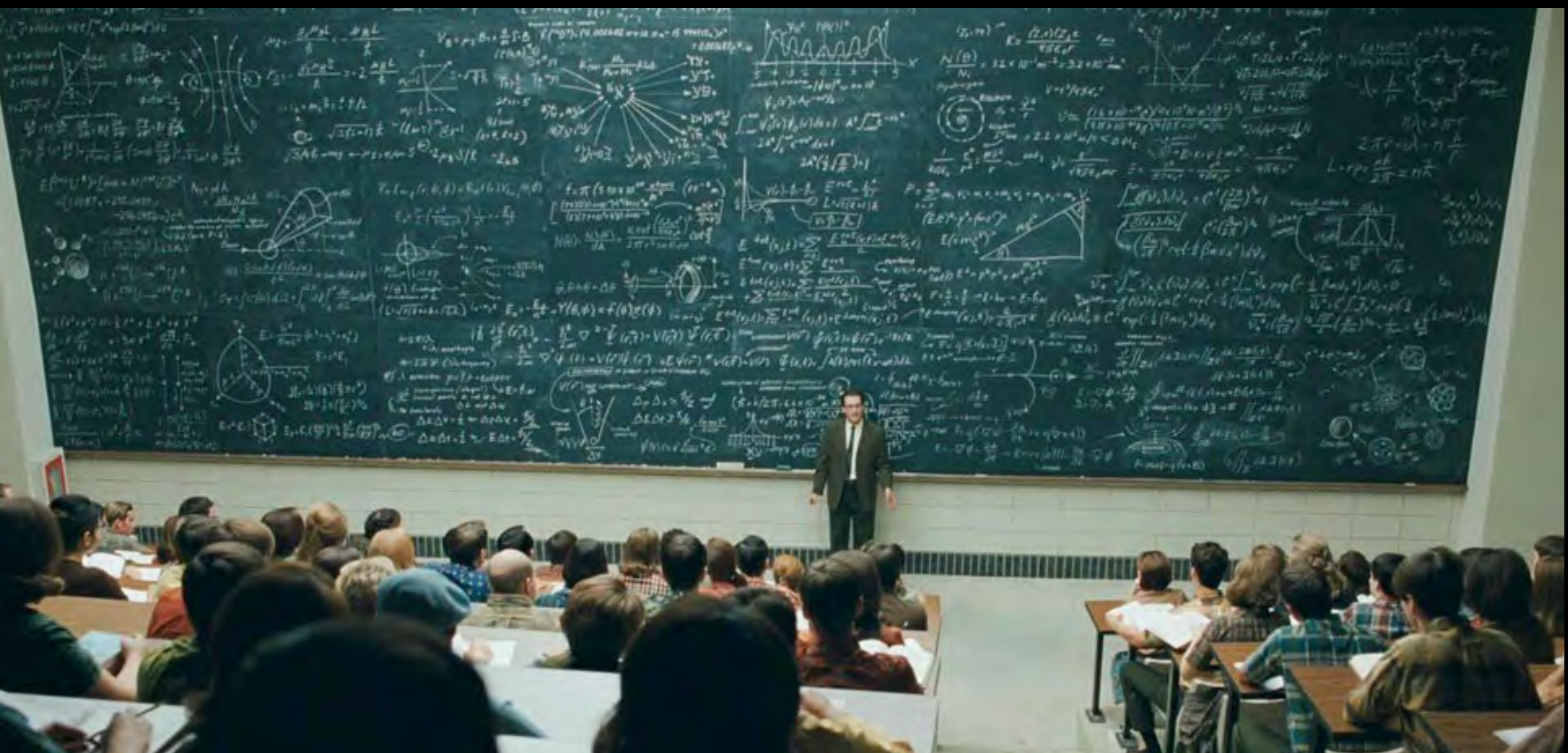
90

Residents/Acre

6

74

Jobs/Acre



Scary Math

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

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

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

How do you compare cars?



Ford F150 Lariat LTD
13/18 mpg



Toyota Prius
51/48 mpg



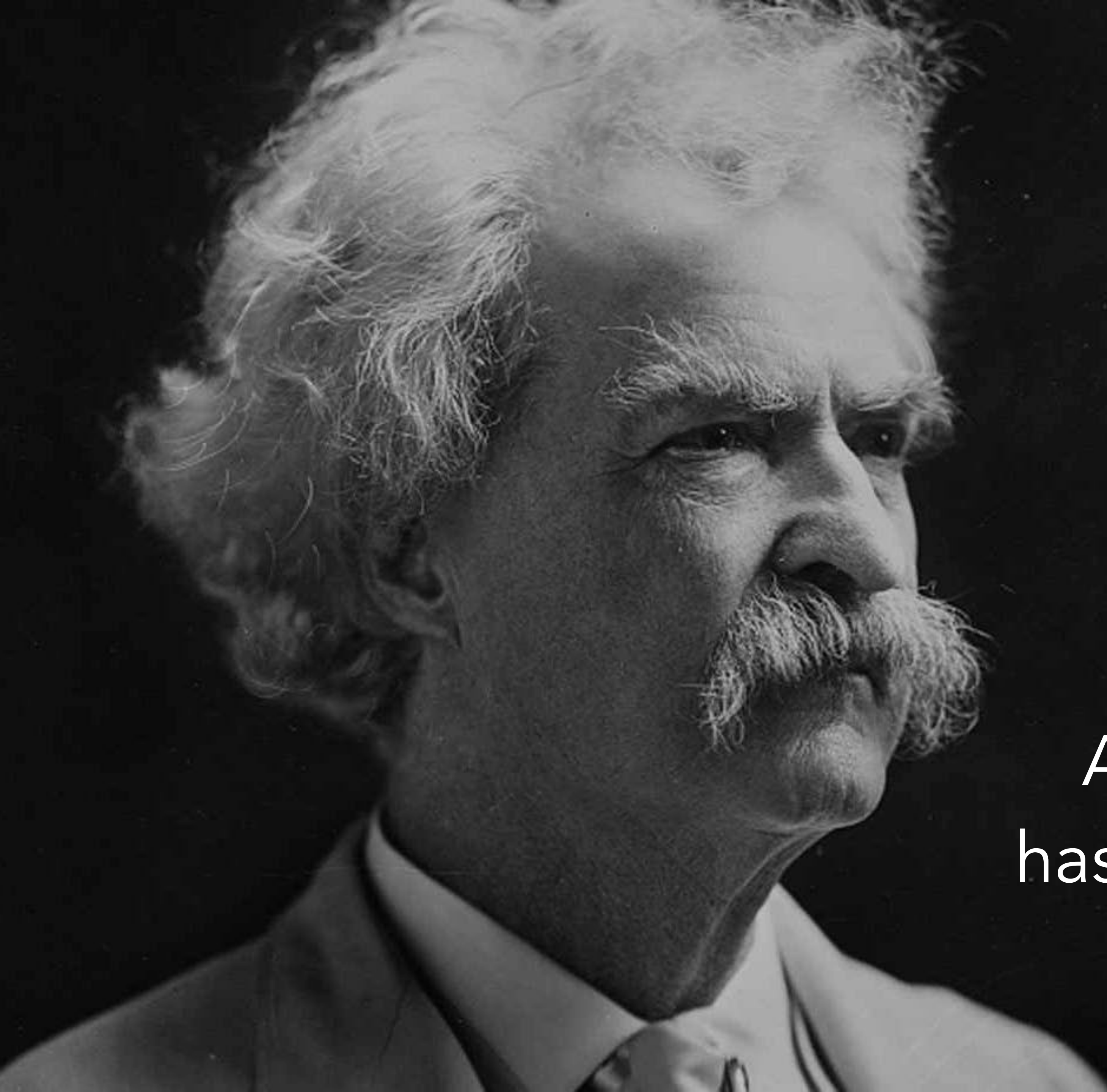
1955 BMW Isetta
50/70 mpg



Rolls-Royce Phantom Drophead
11/18 mpg



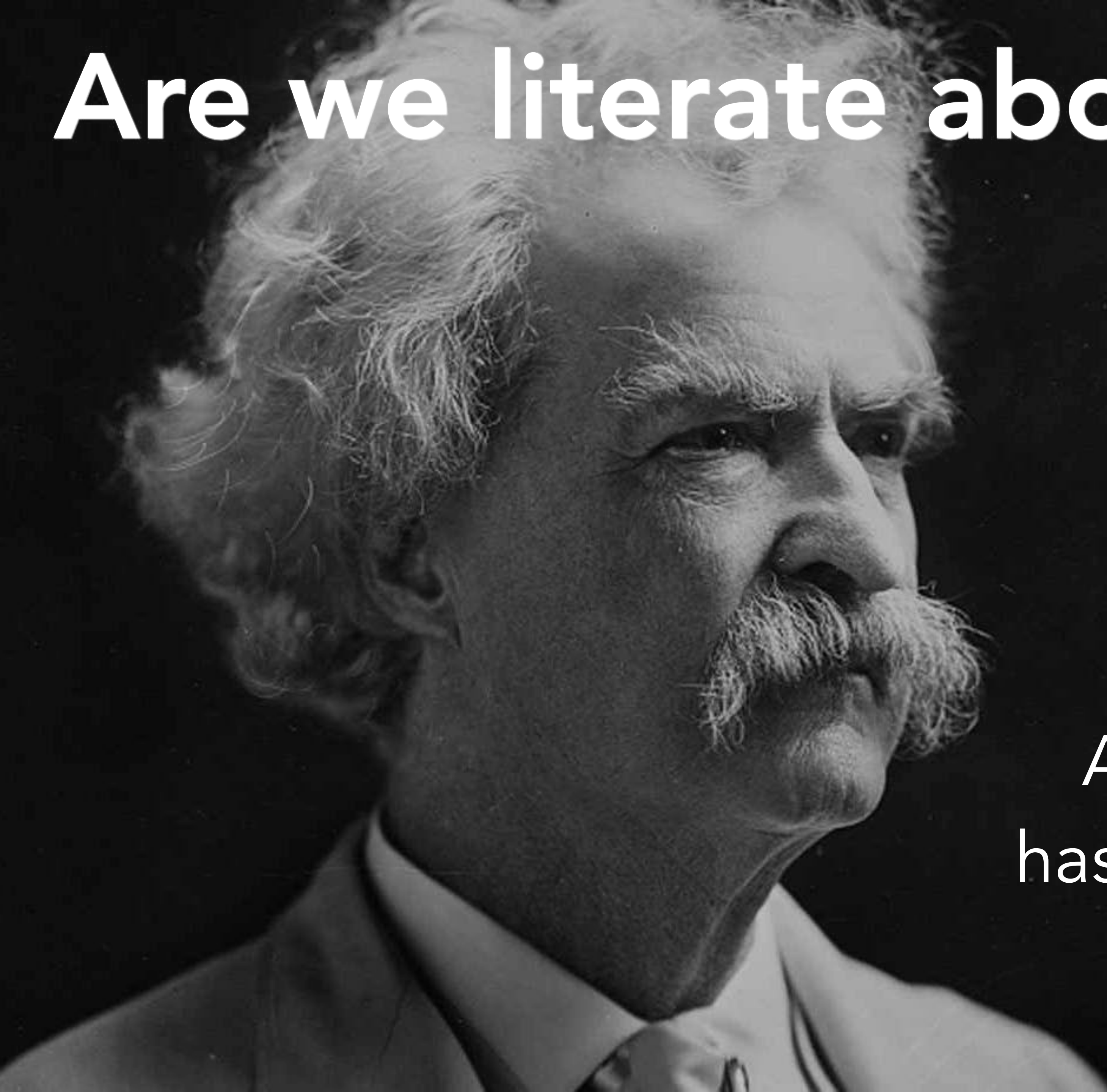
Bugatti Veyron SS
8/14 mpg



A person who won't read
has no advantage over one
who can't read.

Mark Twain

Are we literate about tax policy?

A black and white portrait of Mark Twain, showing his characteristic wild white hair and mustache. He is looking slightly to the right of the frame. The background is dark.

A person who won't read
has no advantage over one
who can't read.

Mark Twain

Question:

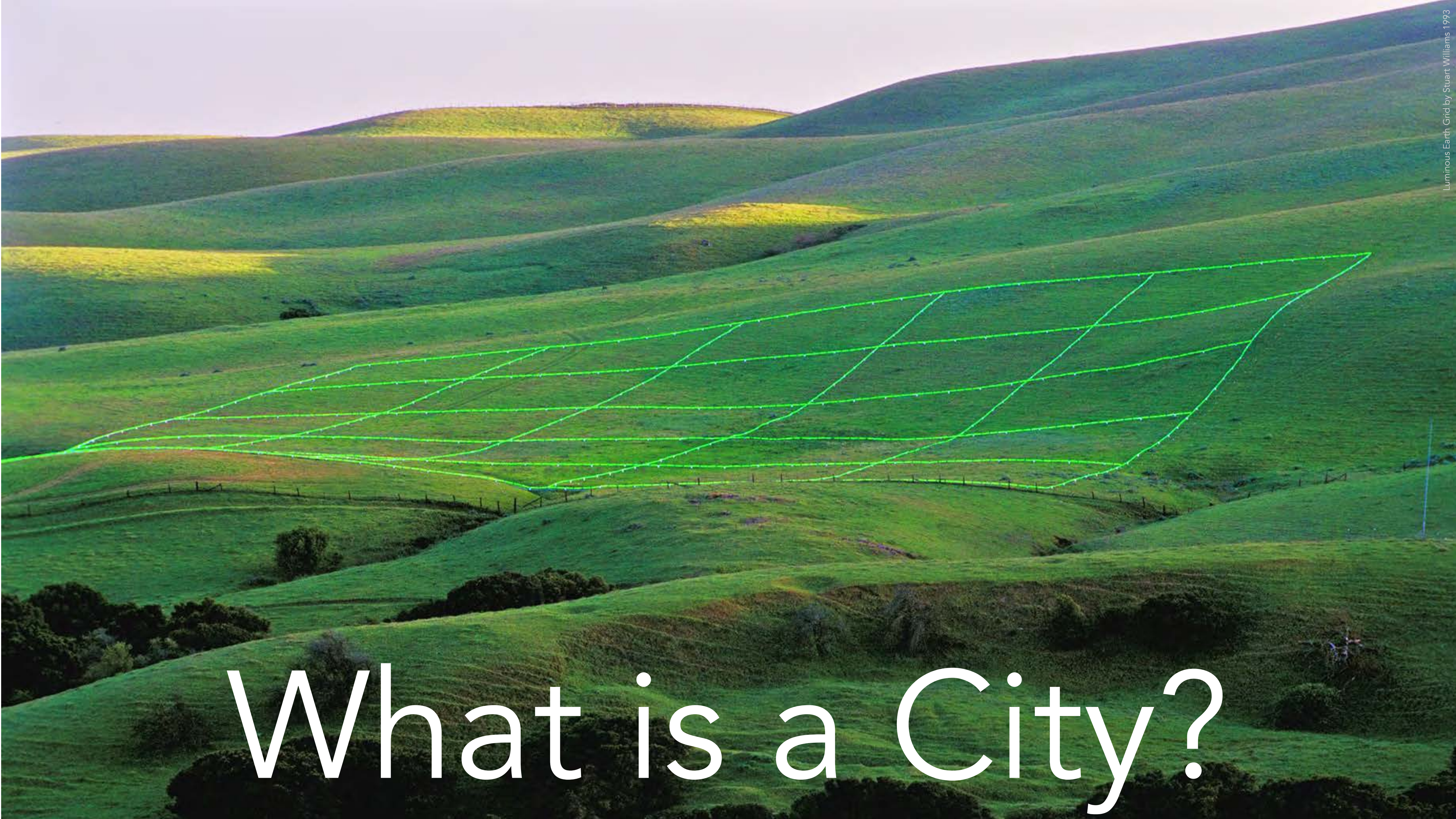
**But why does tax policy
matter?**

Question:

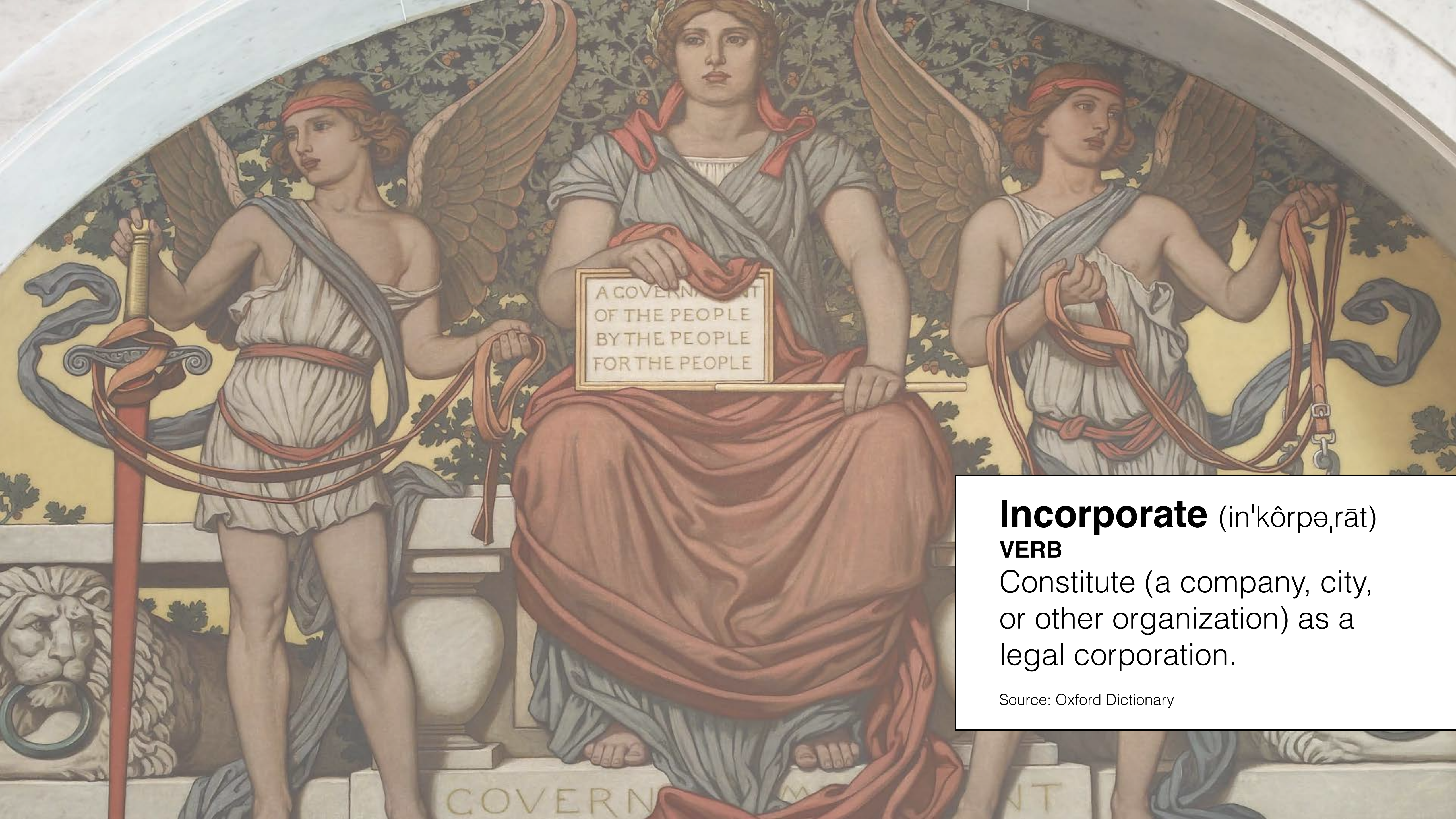
... taxes pay for stuff.



What is a City?



What is a City?



Incorporate (in'kôrpə,rāt)

VERB

Constitute (a company, city, or other organization) as a legal corporation.

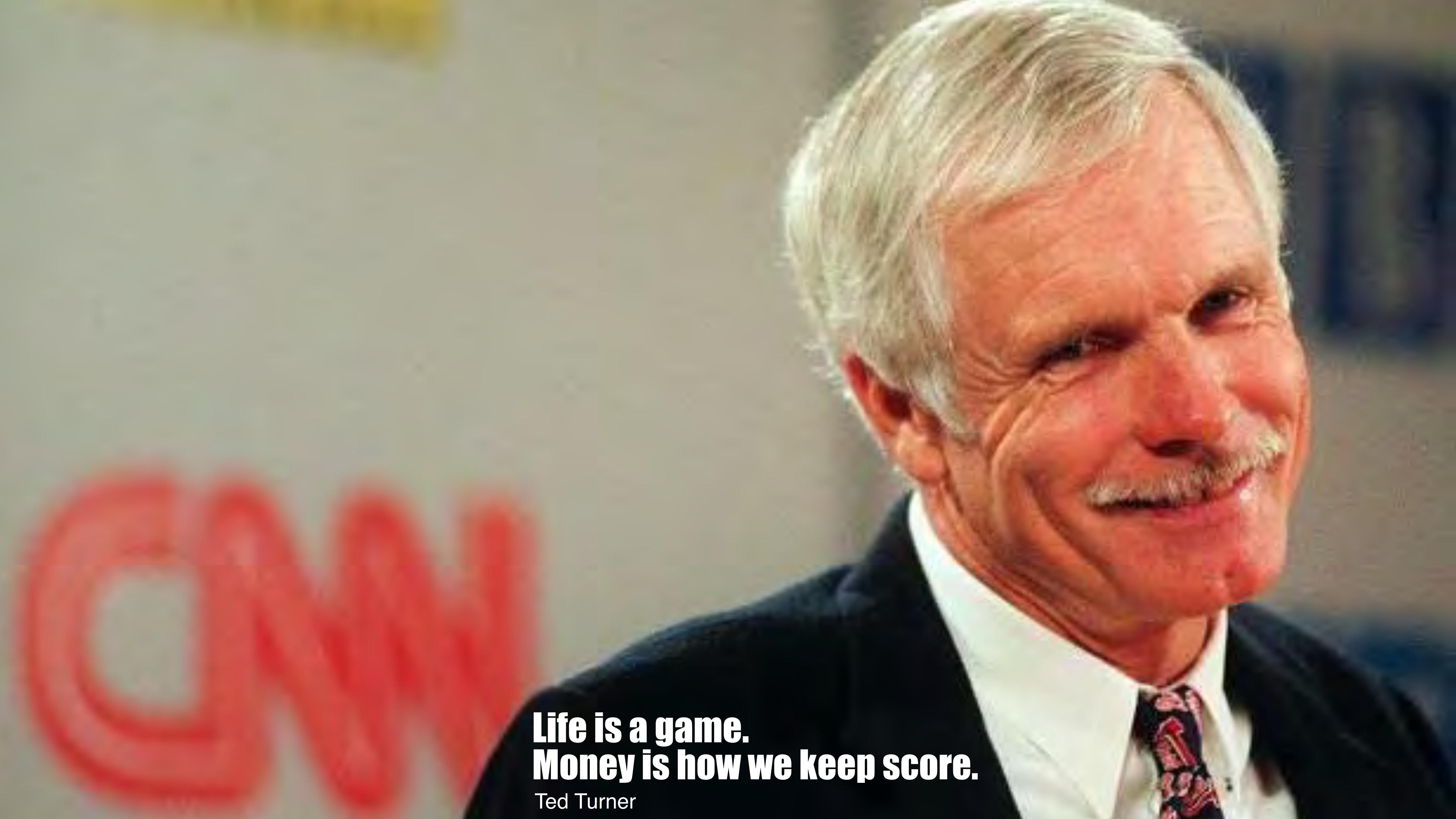
Source: Oxford Dictionary

A photograph of Joe Biden and Stephen Colbert on the set of the Late Show. Joe Biden is seated on the left, wearing a dark suit and a blue and white striped tie. Stephen Colbert is seated on the right, wearing a dark suit and glasses. They are both looking towards each other. The background is a cityscape at night with lights. A blue mug with the 'Late Show' logo is on the table in front of them.

“The United States
is the largest
corporation
in the world.”

Joe Biden

United States Vice President
Late Show: 12/6/2016



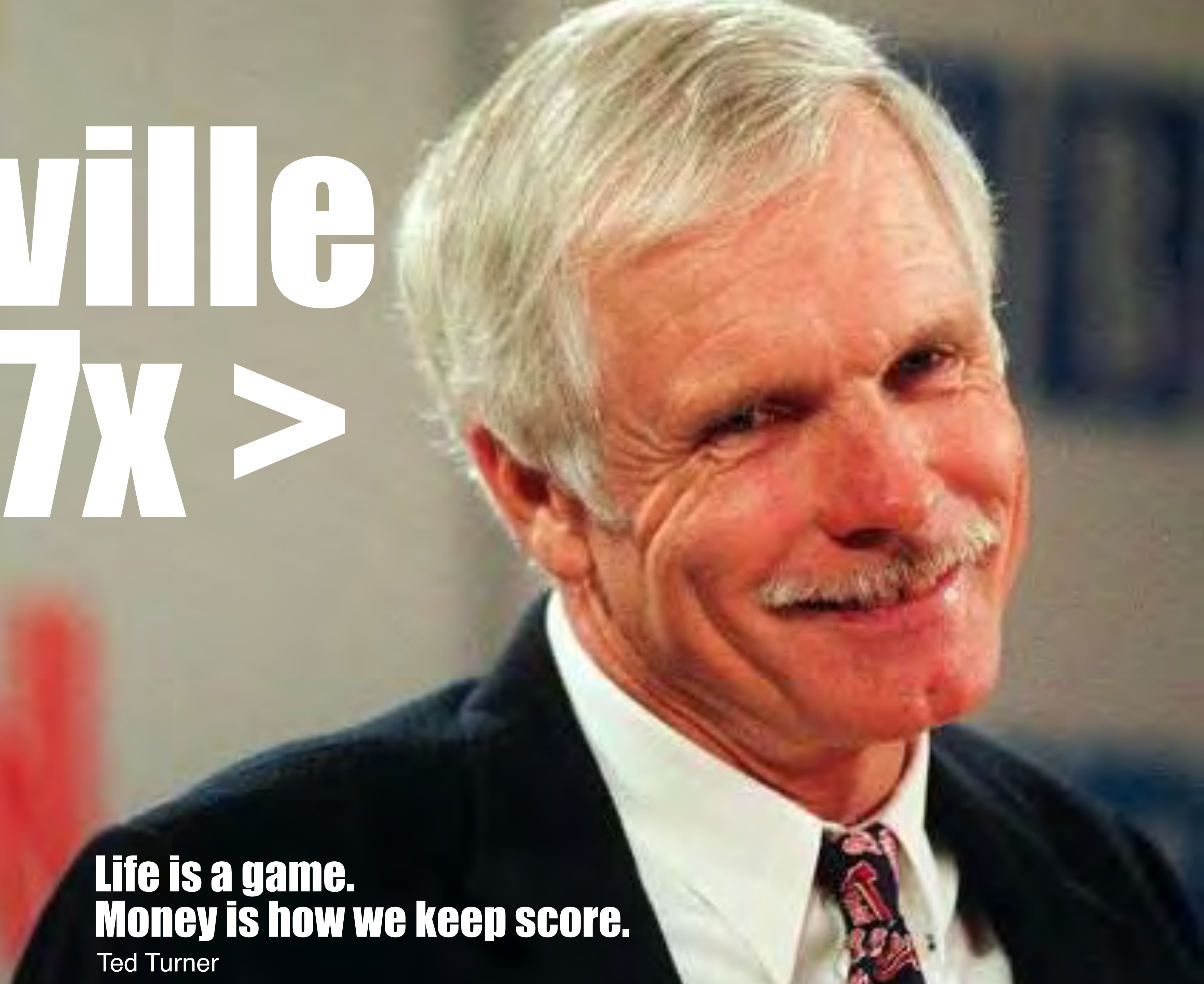
**Life is a game.
Money is how we keep score.**

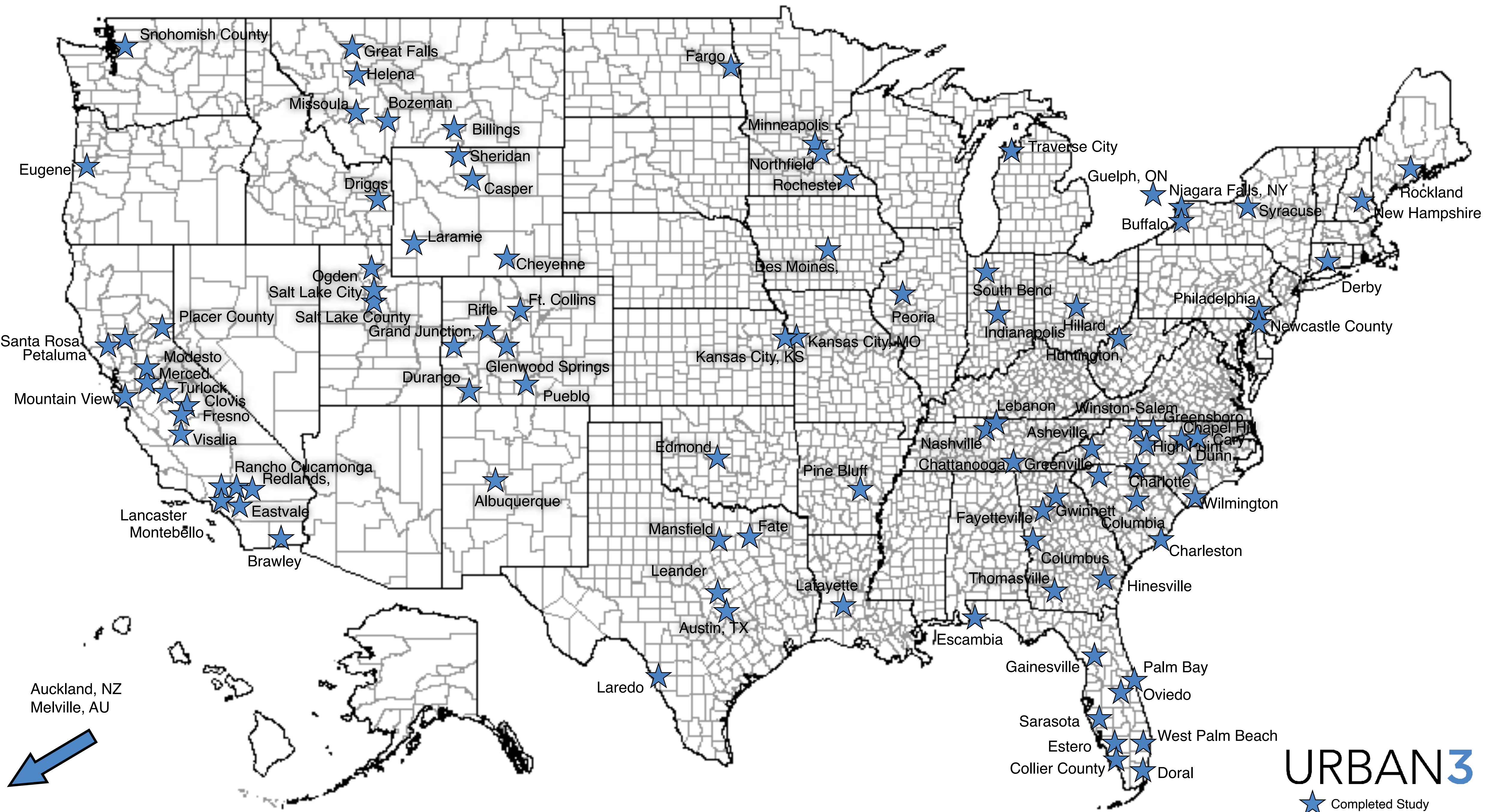
Ted Turner

Asheville
is 7x >

Life is a game.
Money is how we keep score.

Ted Turner



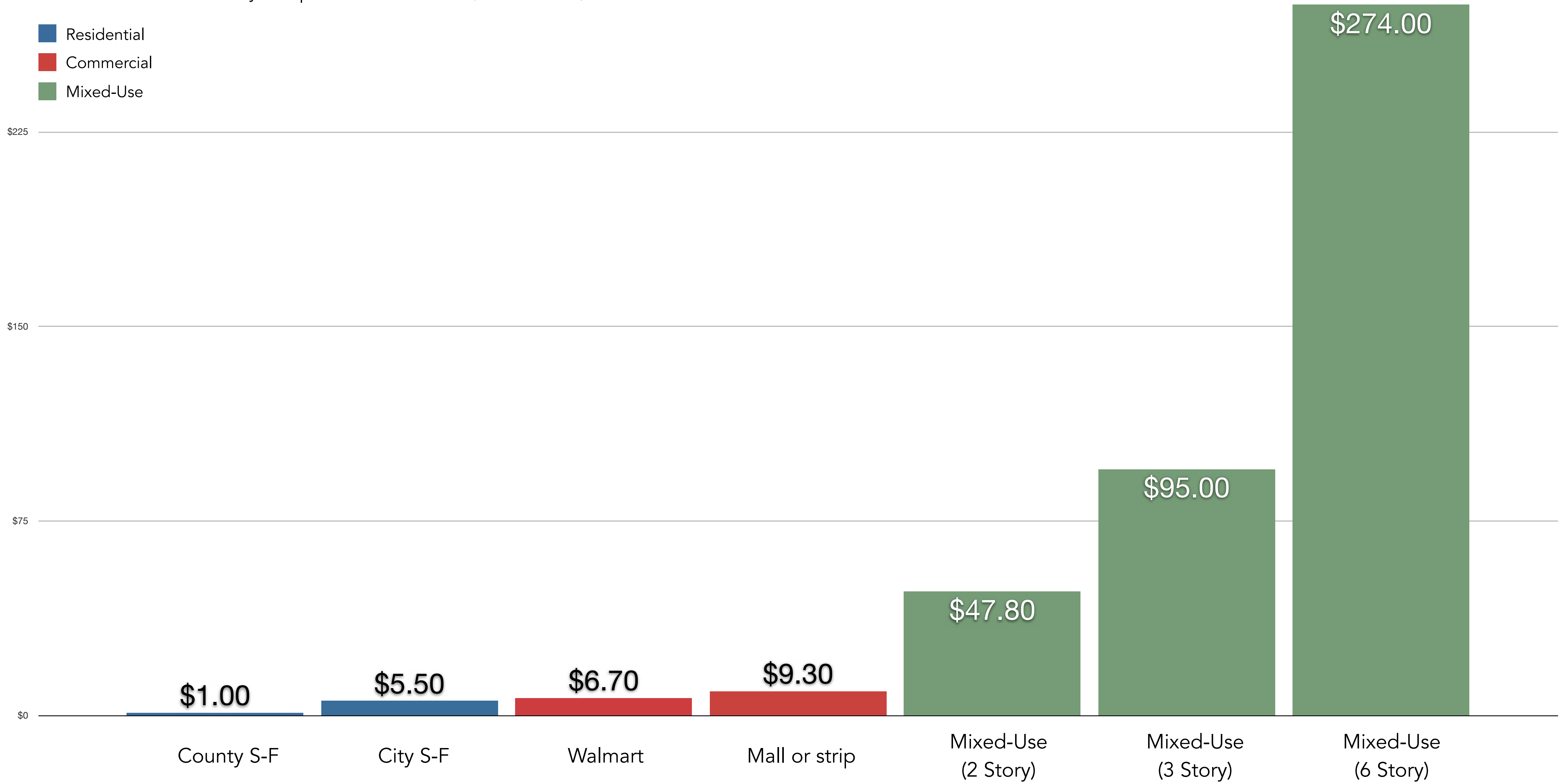


Auckland, NZ
Melville, AU

County Property Taxes/Acre

Ratio Difference of 60 City Sample Set, in 21 States (+ a Province)

- Residential
- Commercial
- Mixed-Use



International Association of Assessing Officers

80th International Conference

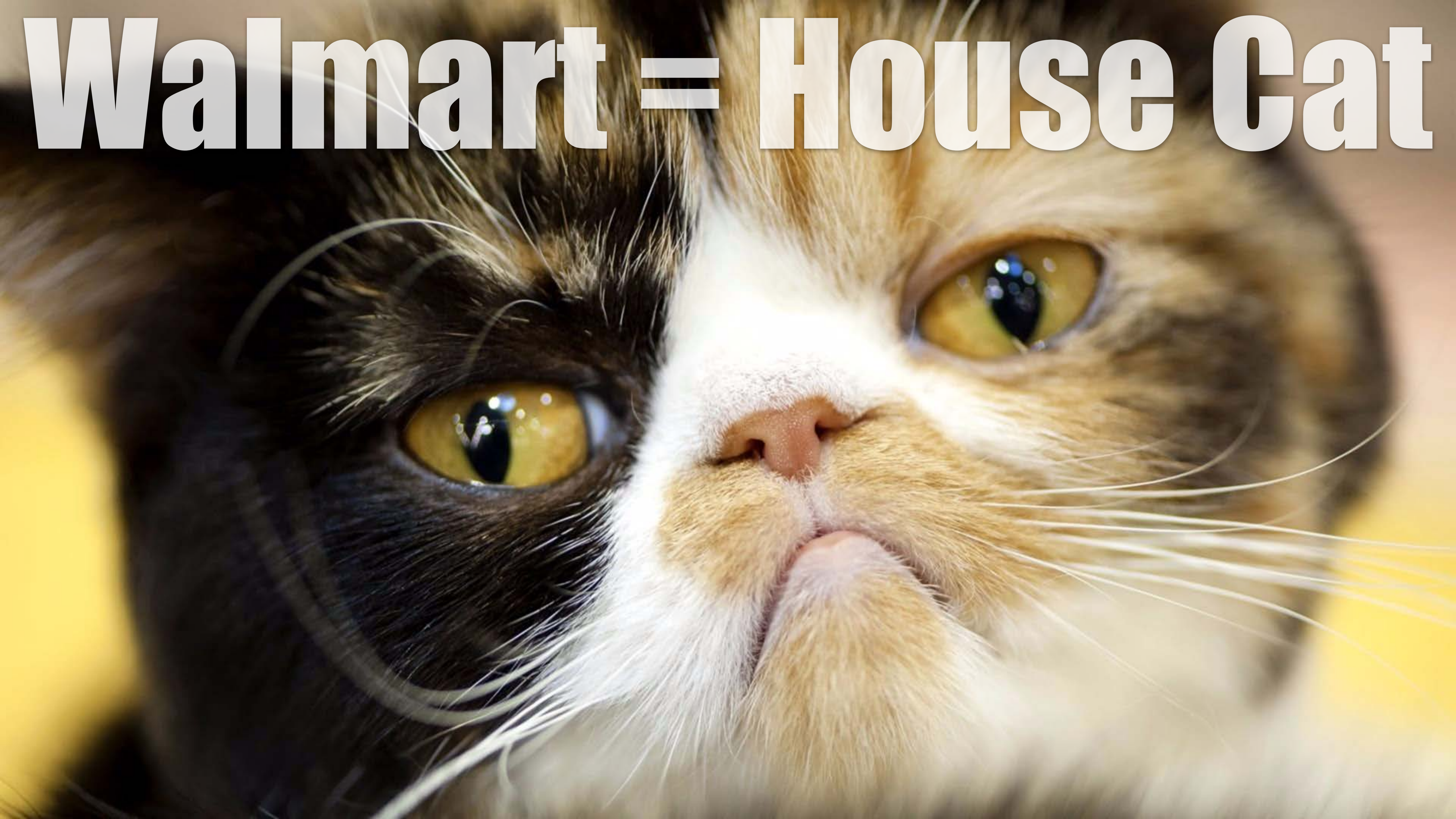
Sacramento, CA

August 26, 2014



Charles Terrell, CMI
Director of Property Tax

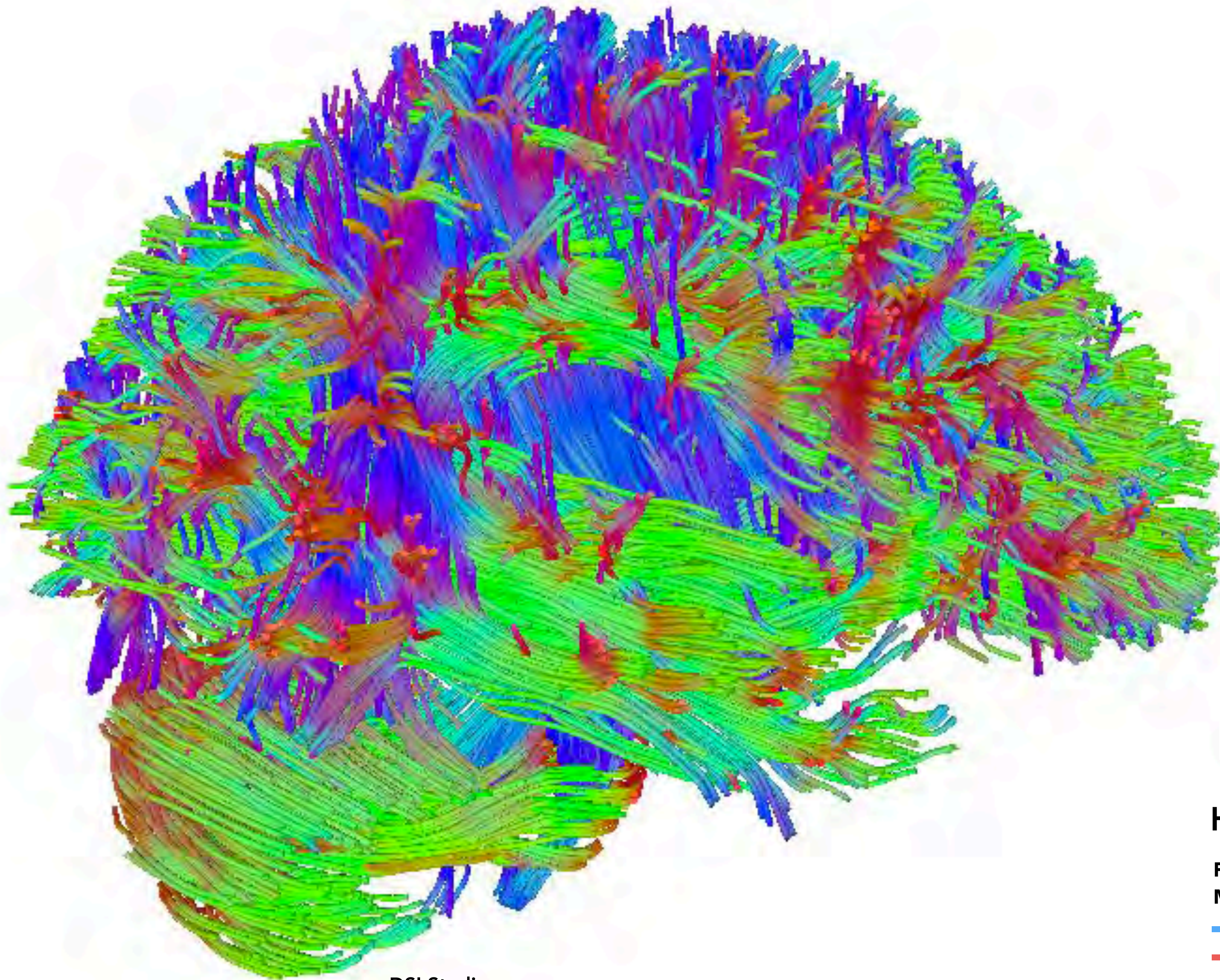




Walmart = House Cat

Question:

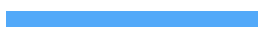


**But why don't people
see that?**



DSI Studio

Human Connectome Project

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

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

Economic MRI™



DSI Studio

Human Connectome Project

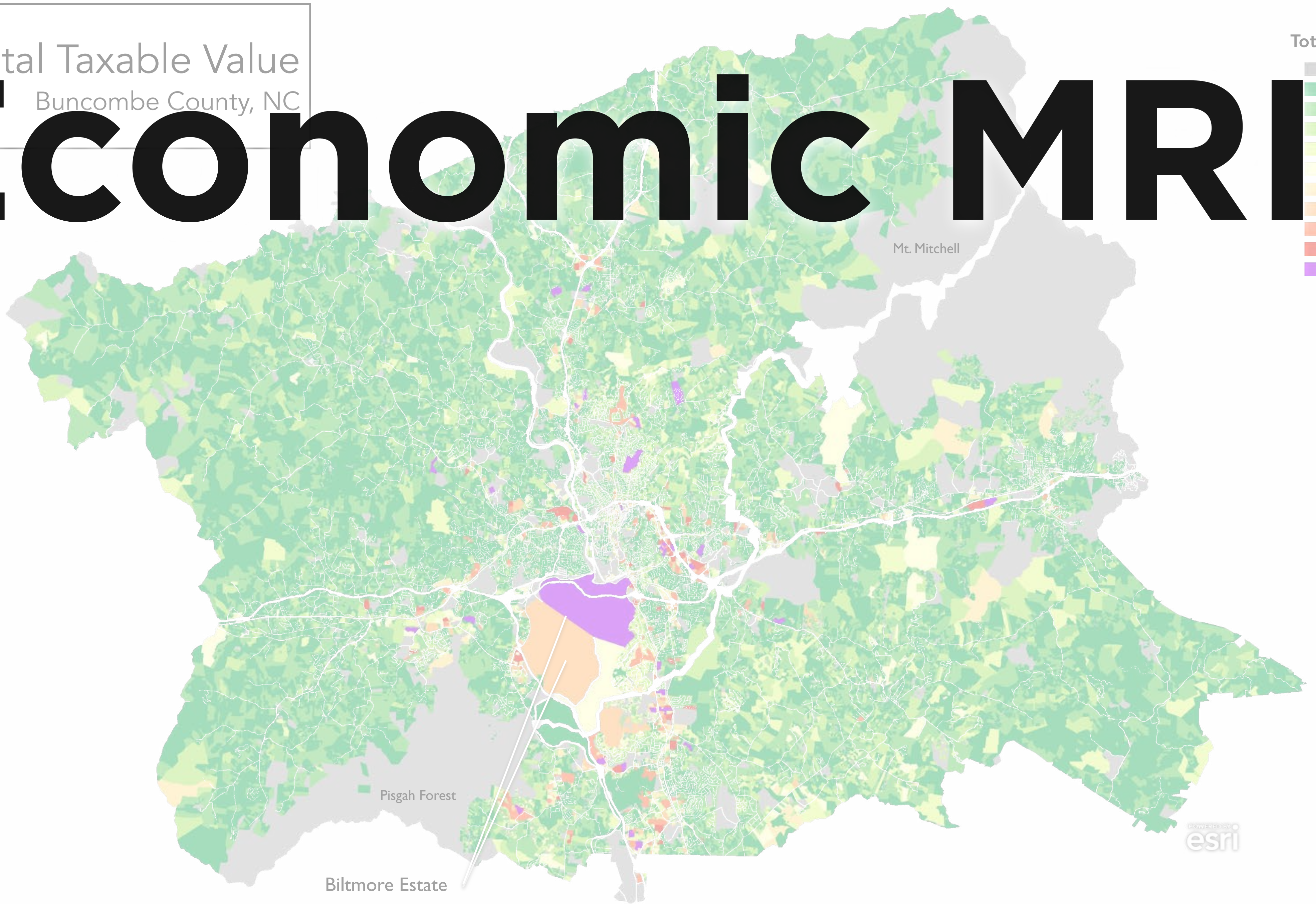
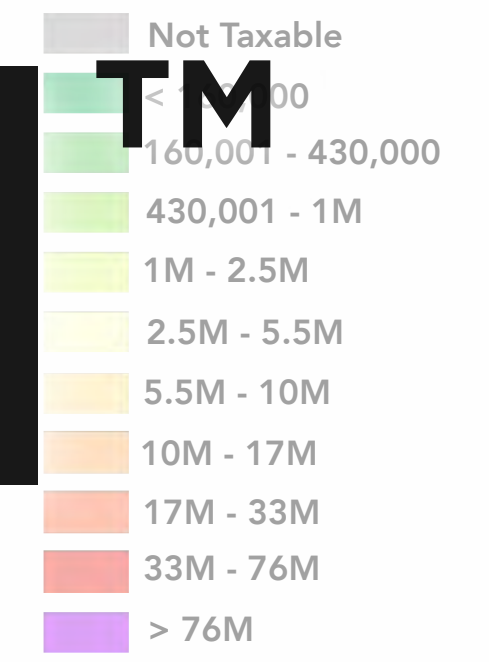
Fiber architecture of the brain.
Measured from diffusion spectral imaging (DSI).

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

Total Taxable Value
Buncombe County, NC

Economic MRI™

Total Tax Value (\$)

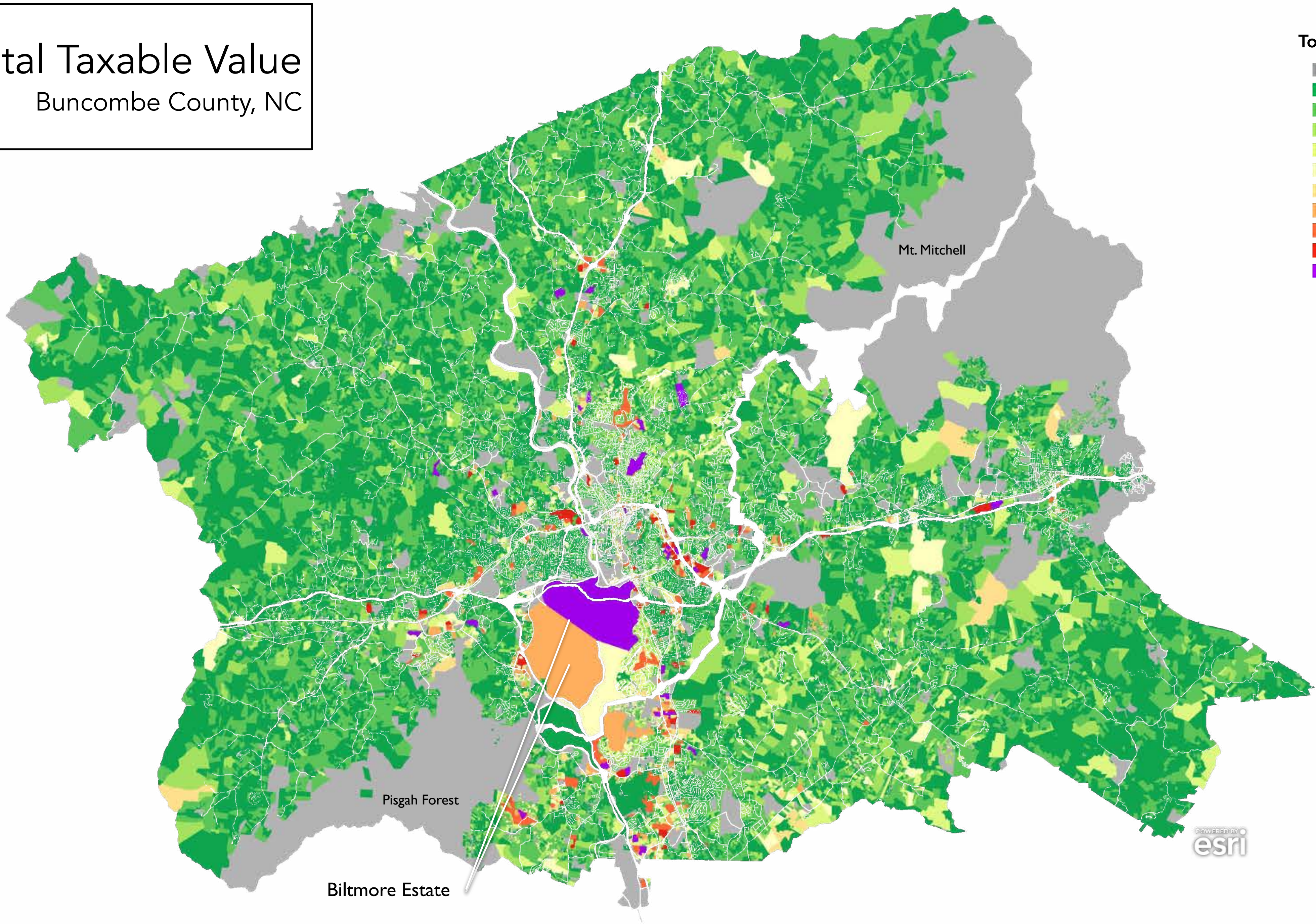


Total Taxable Value

Buncombe County, NC

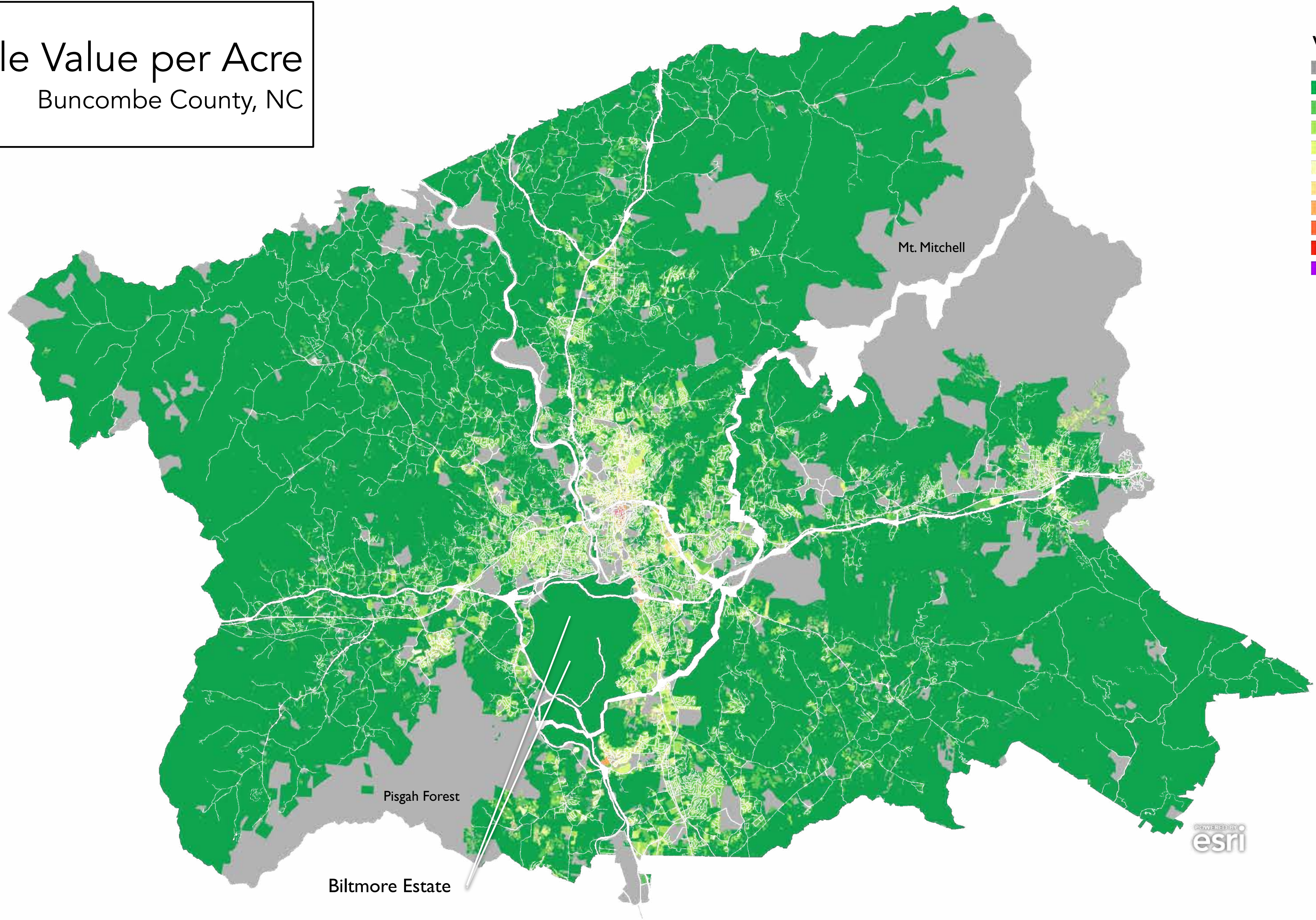
Total Tax Value (\$)

- Not Taxable
- < 160,000
- 160,001 - 430,000
- 430,001 - 1M
- 1M - 2.5M
- 2.5M - 5.5M
- 5.5M - 10M
- 10M - 17M
- 17M - 33M
- 33M - 76M
- > 76M



Taxable Value per Acre

Buncombe County, NC

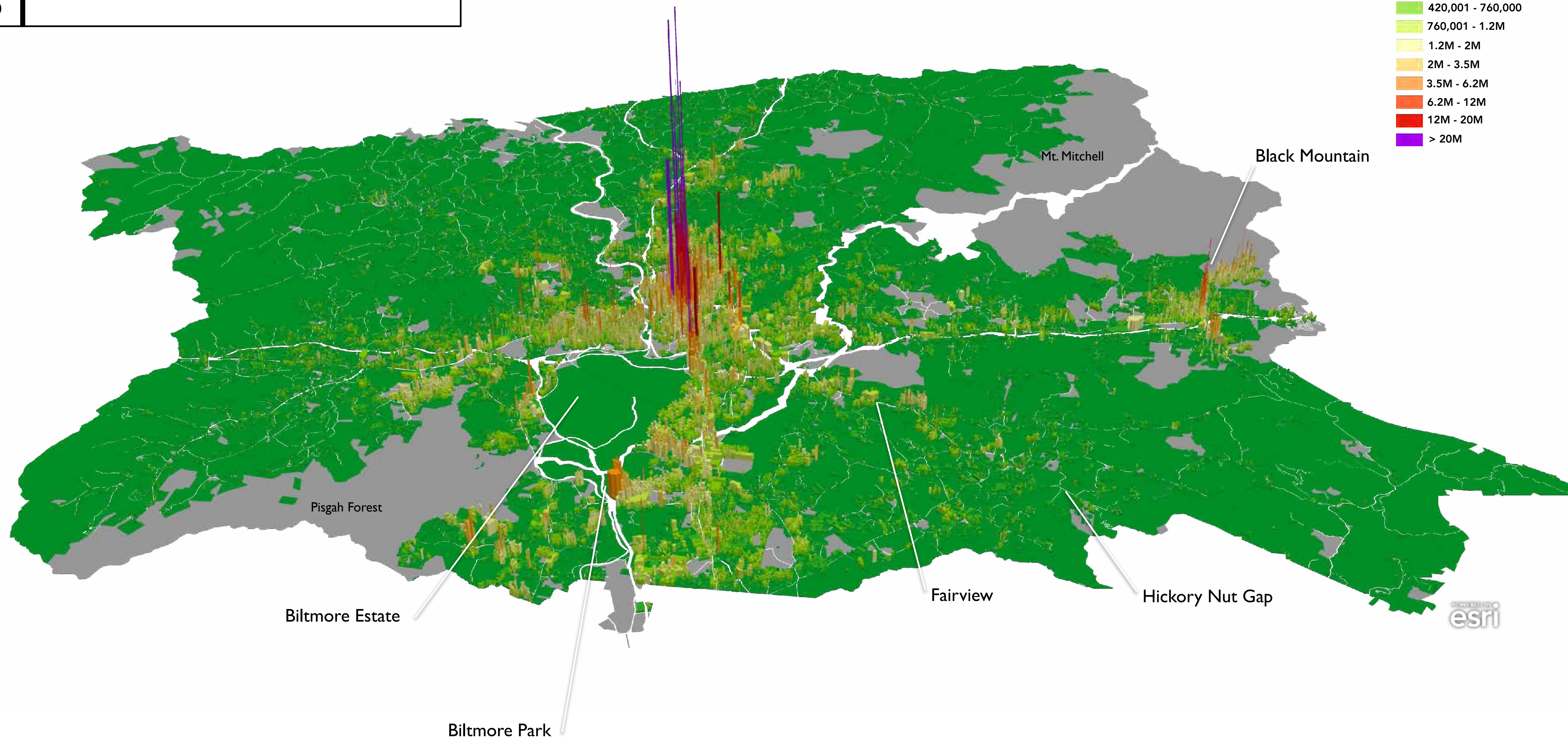
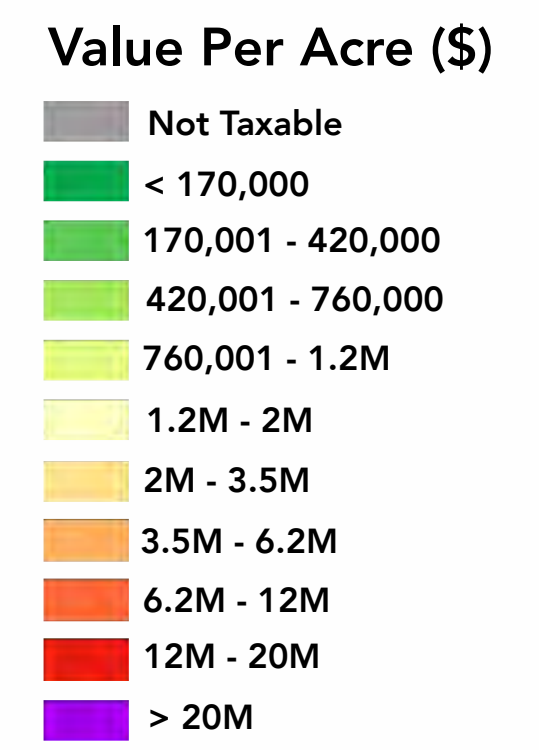


Value Per Acre (\$)

- Not Taxable
- < 170,000
- 170,001 - 420,000
- 420,001 - 760,000
- 760,001 - 1.2M
- 1.2M - 2M
- 2M - 3.5M
- 3.5M - 6.2M
- 6.2M - 12M
- 12M - 20M
- > 20M

Taxable Value per Acre

Buncombe County, NC

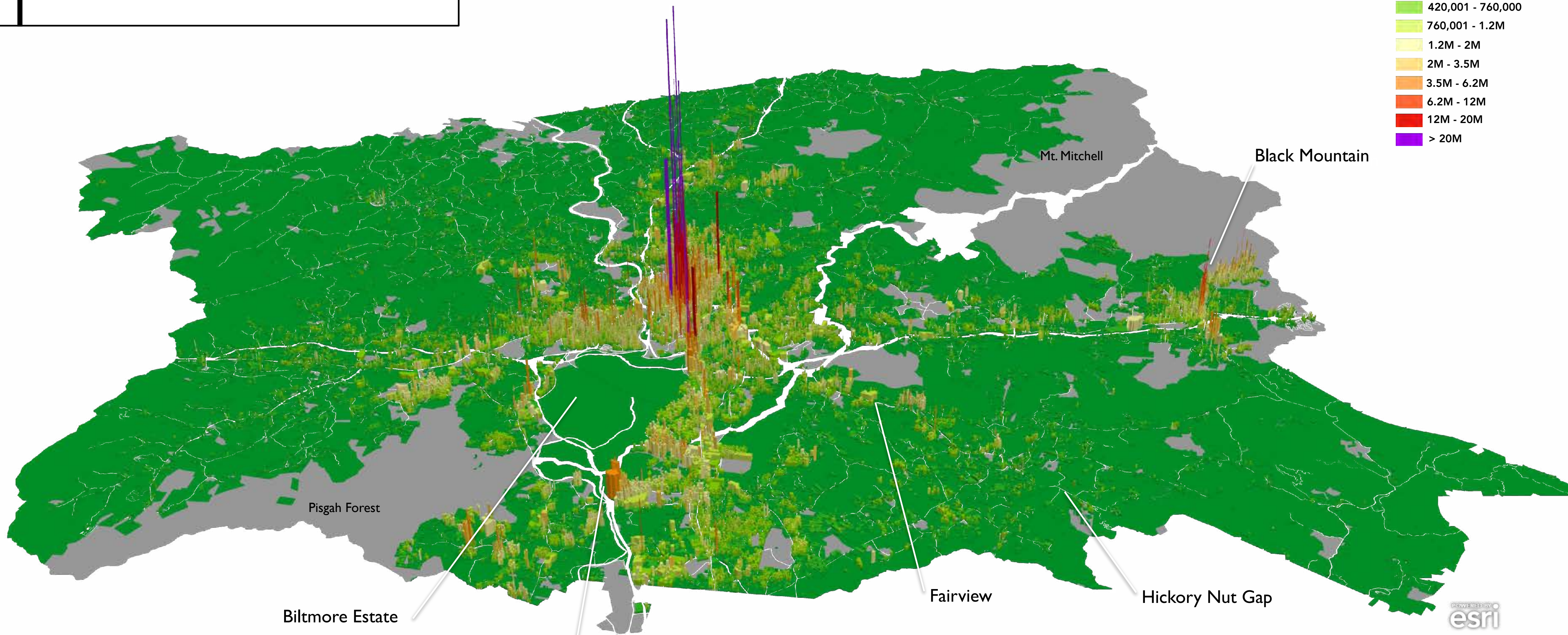


Taxable Value per Acre

Buncombe County, NC

Value Per Acre (\$)

- Not Taxable
- < 170,000
- 170,001 - 420,000
- 420,001 - 760,000
- 760,001 - 1.2M
- 1.2M - 2M
- 2M - 3.5M
- 3.5M - 6.2M
- 6.2M - 12M
- 12M - 20M
- > 20M



show . don't tell.

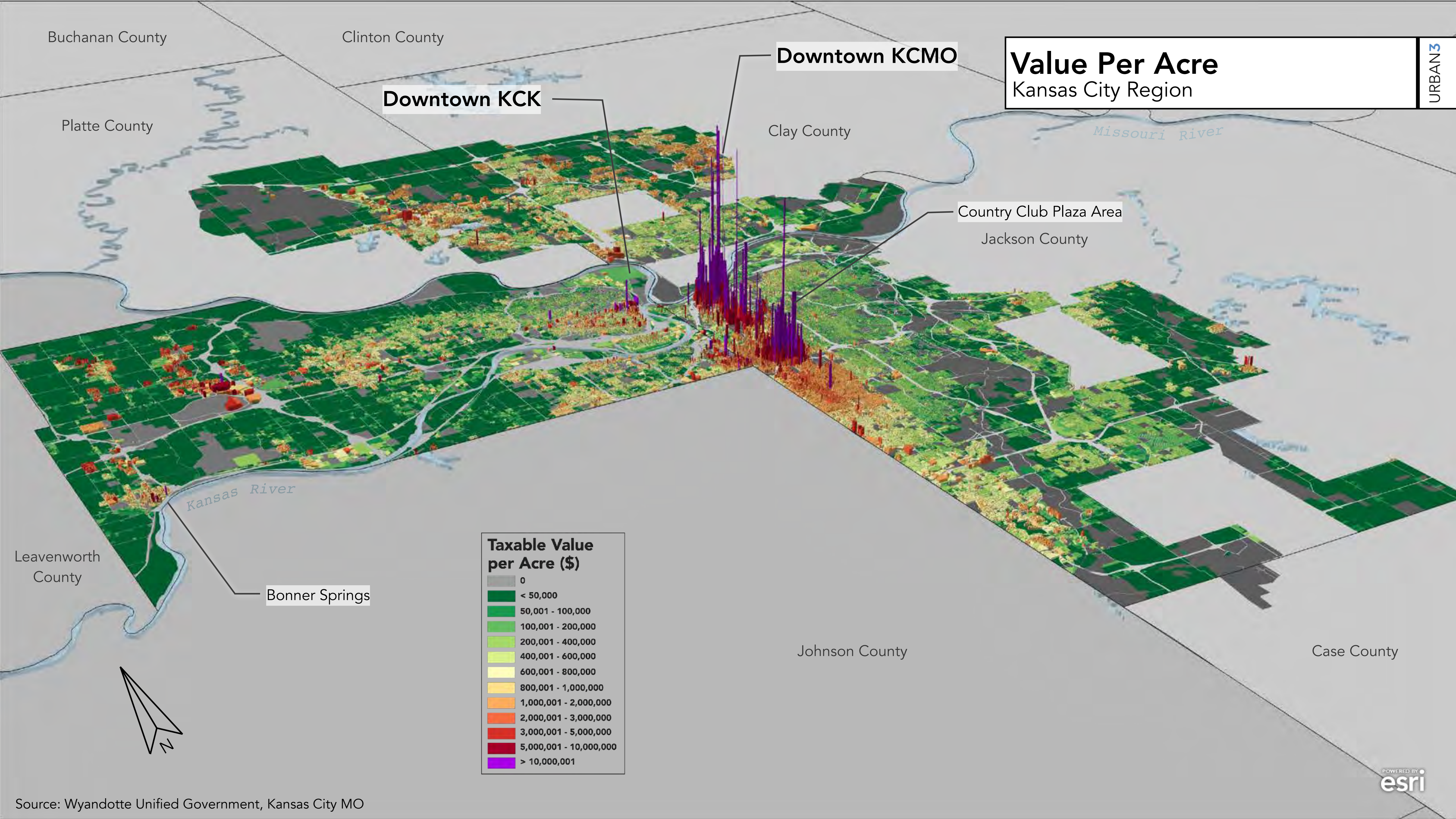
Biltmore Park

Question:

**But that's Asheville,
(insert your state name) _____ is different!**

Value Per Acre

Kansas City Region



Downtown KCK

Downtown KCMO

Country Club Plaza Area
Jackson County

Bonner Springs

Taxable Value per Acre (\$)

0
< 50,000
50,001 - 100,000
100,001 - 200,000
200,001 - 400,000
400,001 - 600,000
600,001 - 800,000
800,001 - 1,000,000
1,000,001 - 2,000,000
2,000,001 - 3,000,000
3,000,001 - 5,000,000
5,000,001 - 10,000,000
> 10,000,001

Buchanan County
Clinton County
Platte County
Leavenworth County

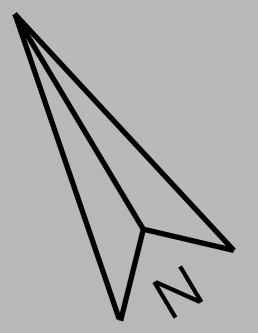
Clay County

Johnson County

Case County

Missouri River

Kansas River

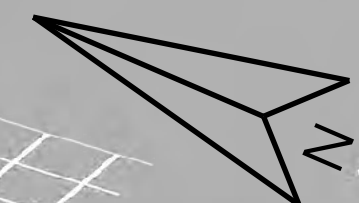
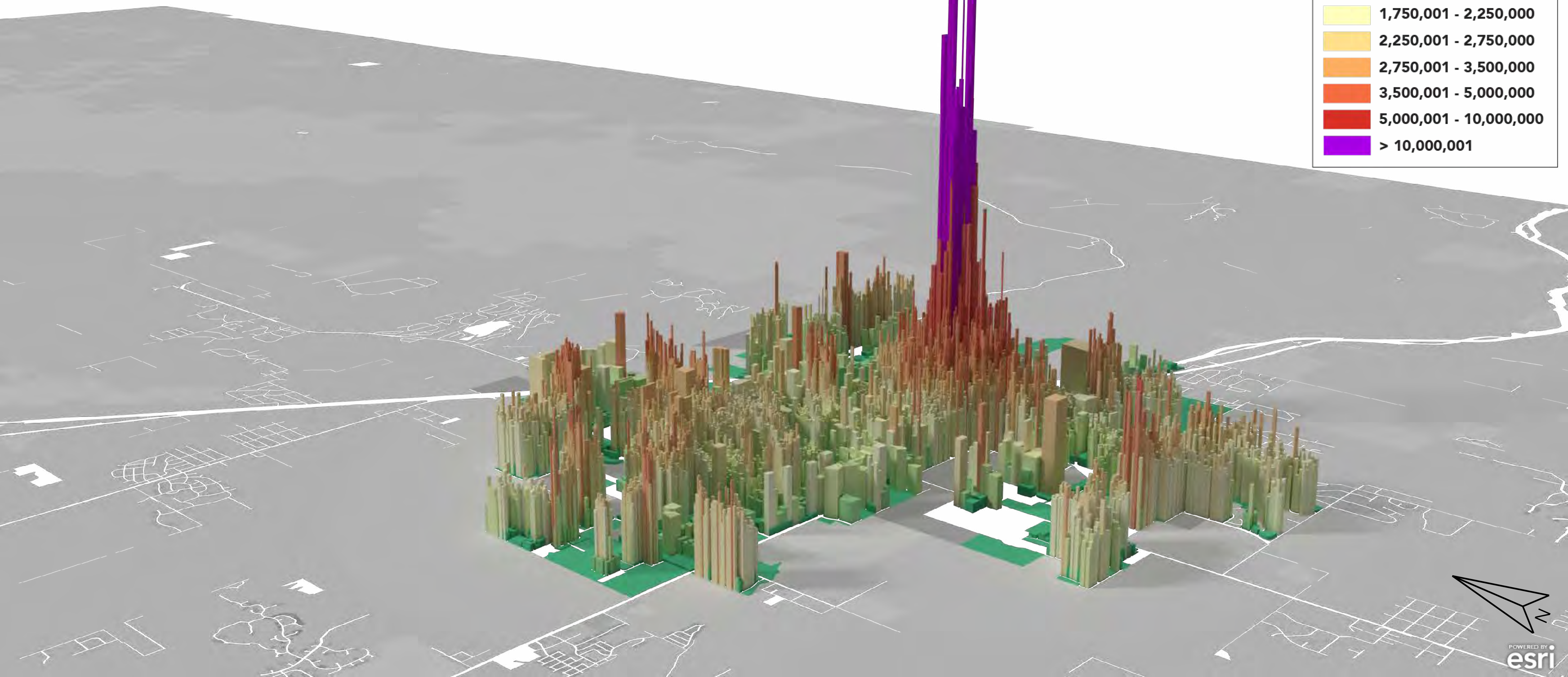
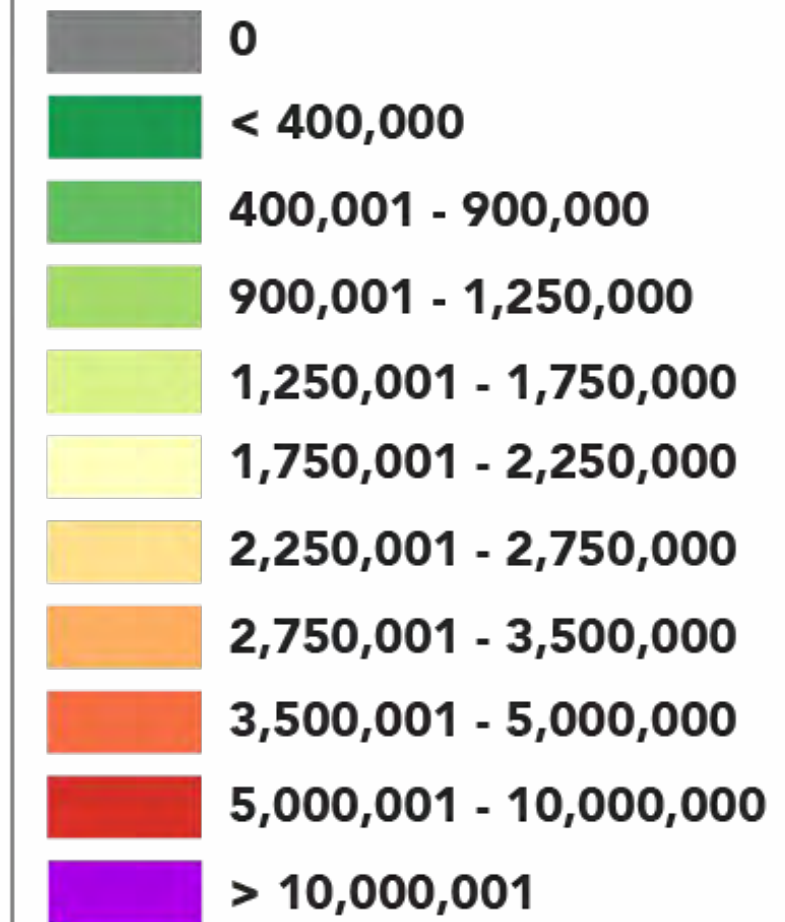


Value Per Acre

Bozeman, MT

2018

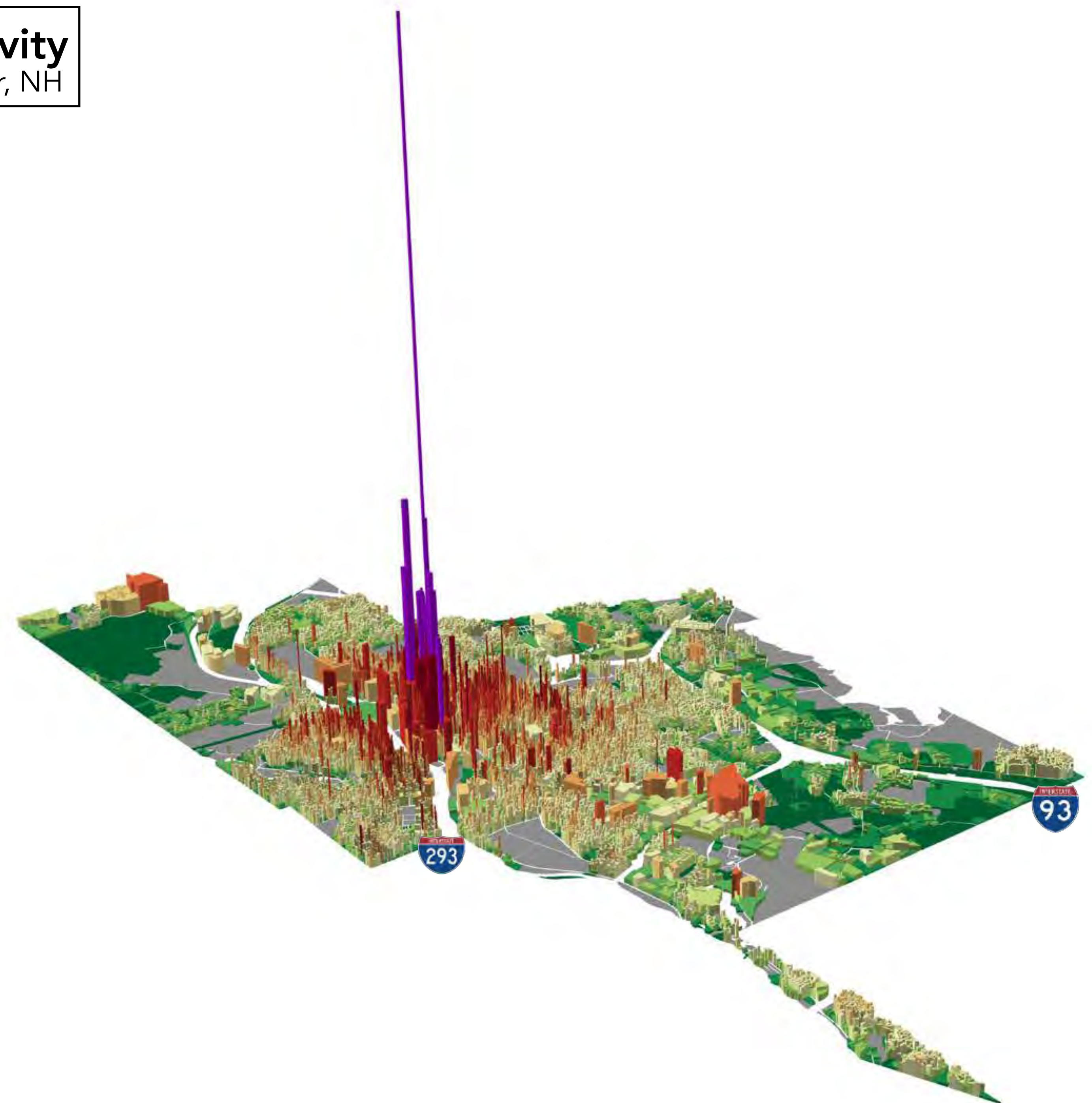
Tax Value Per Acre (\$)



Value Productivity

Downtown Manchester, NH

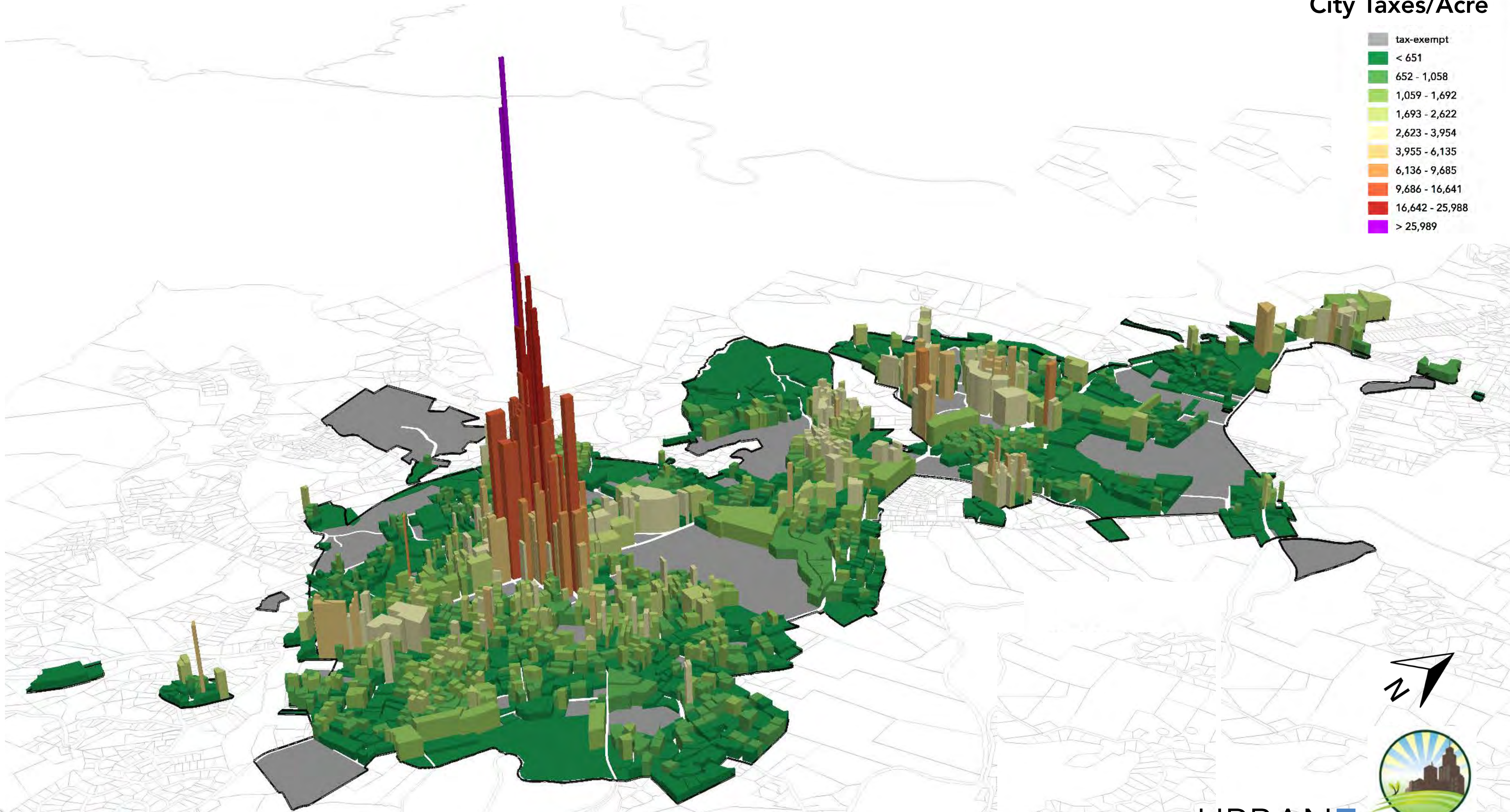
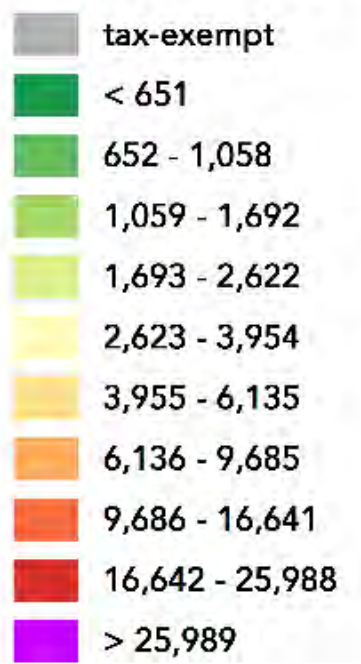
2019



Taxable Value per Acre (\$)

0
< 50,000
50,001 - 250,000
250,001 - 500,000
500,001 - 750,000
750,001 - 1,000,000
1,000,001 - 1,500,000
1,500,001 - 2,000,000
2,000,001 - 2,500,000
2,500,001 - 3,000,000
3,000,001 - 6,000,000
6,000,001 - 10,000,000
> 10,000,001

City Taxes/Acre



URBAN3

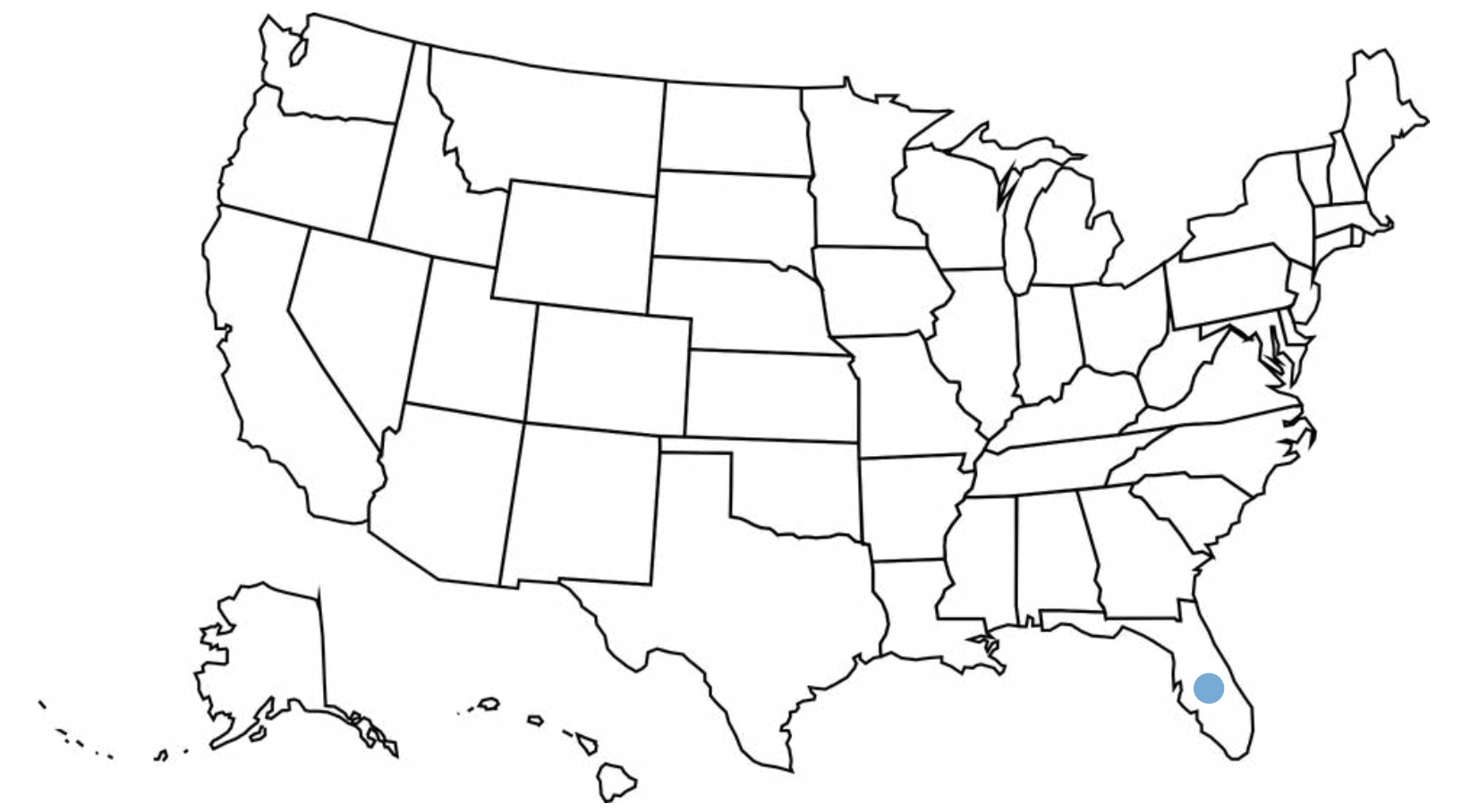
METROCOLOGY



WELL

ISN'T THAT SPATIAL

2019



What about you?

Winter Haven, Florida

Polk County, FL

Valuation comparison

2019

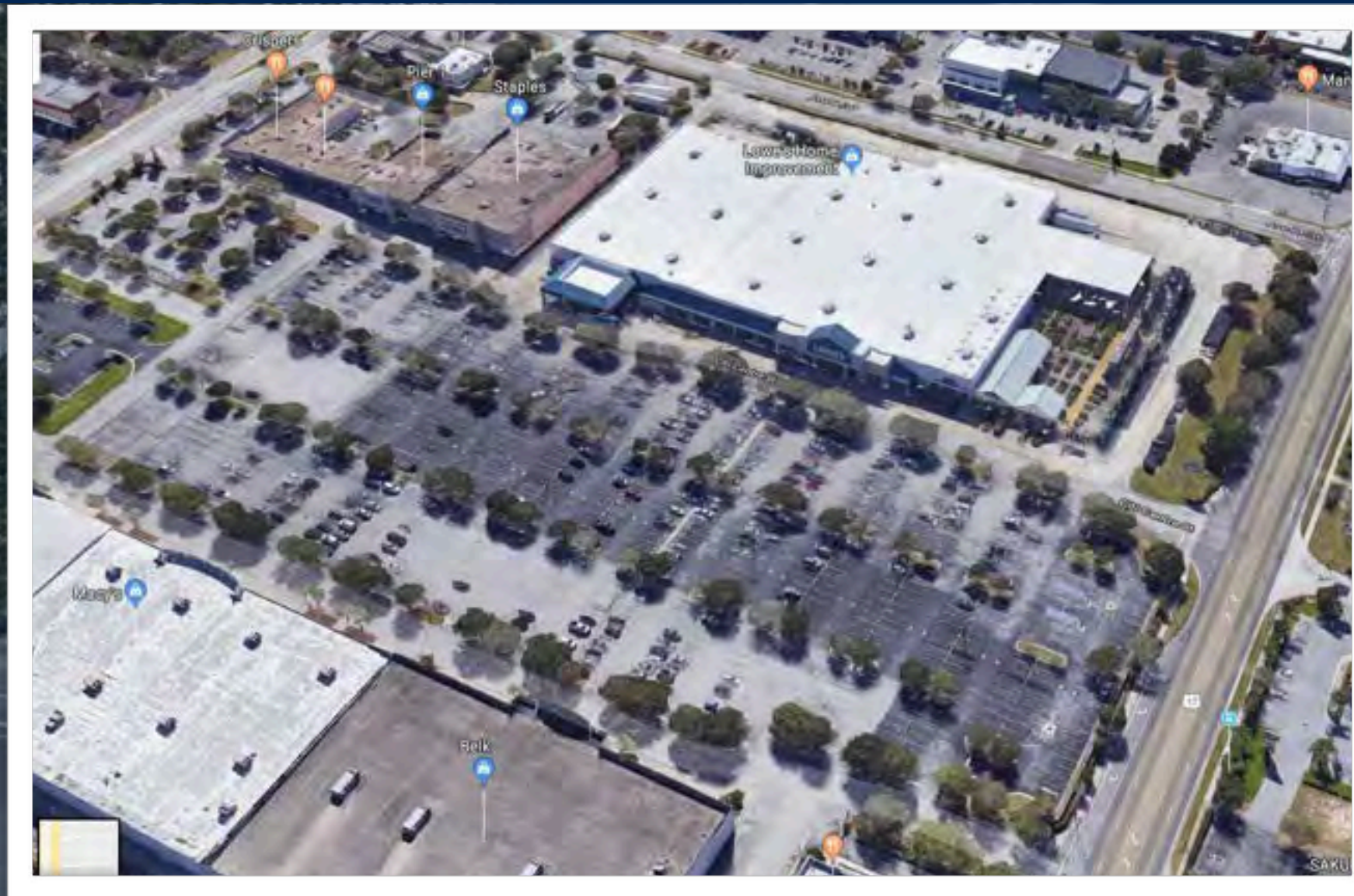
URBAN3



Lowe's



Super Walmart



Polk County, FL

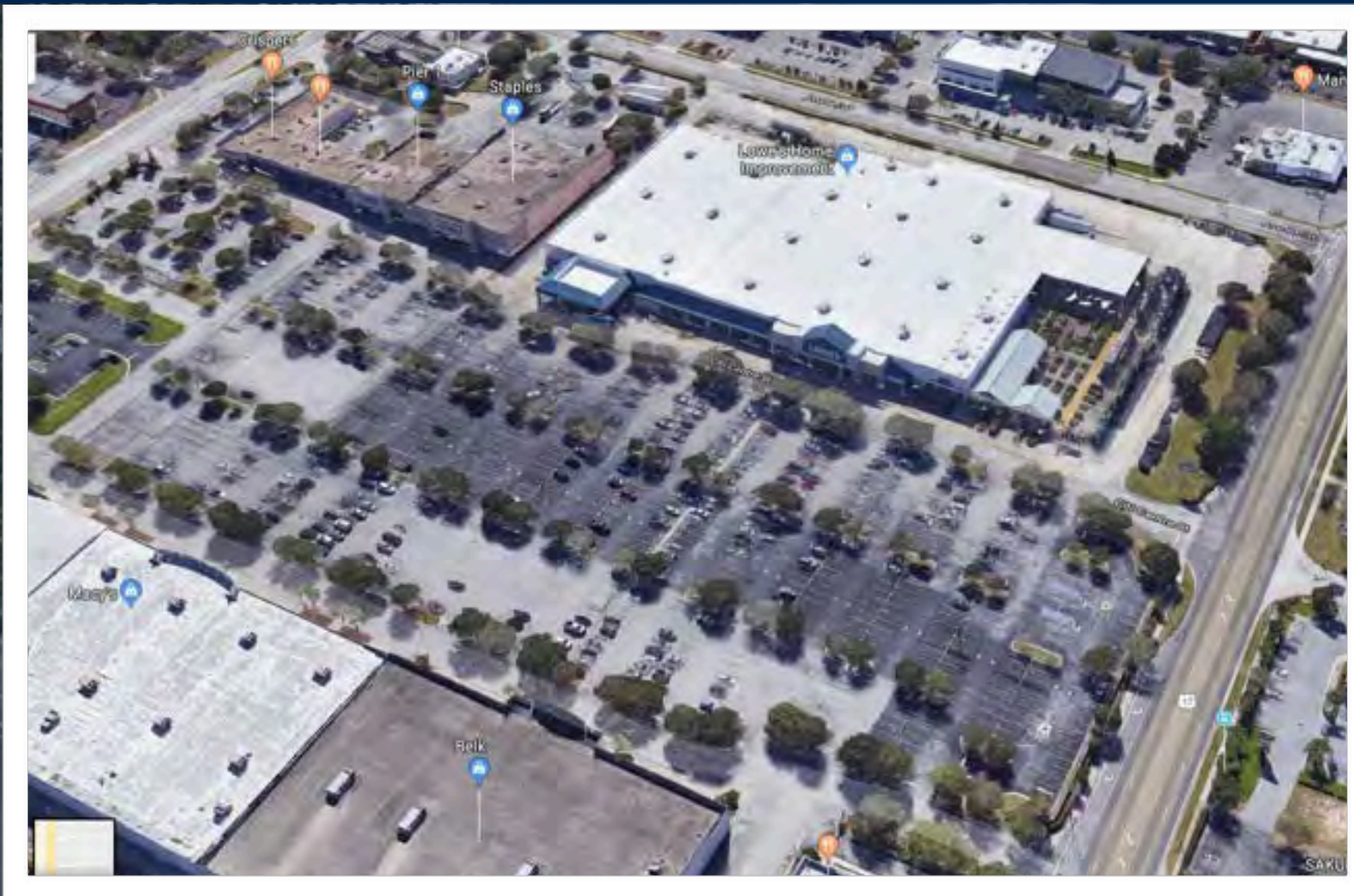
Valuation comparison

URBAN3

Lowe's



Super Walmart



Polk County, FL

Valuation comparison

2019

URBAN3

Lowe's
\$8,407 taxes per acre



Super Walmart
\$8,647 taxes per acre

Polk County, FL

Valuation comparison

2019

URBAN3



220 4th NE
\$8,084 taxes per acre



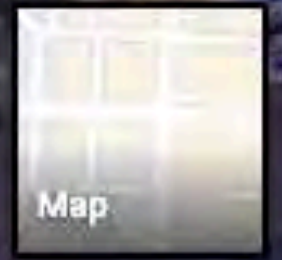
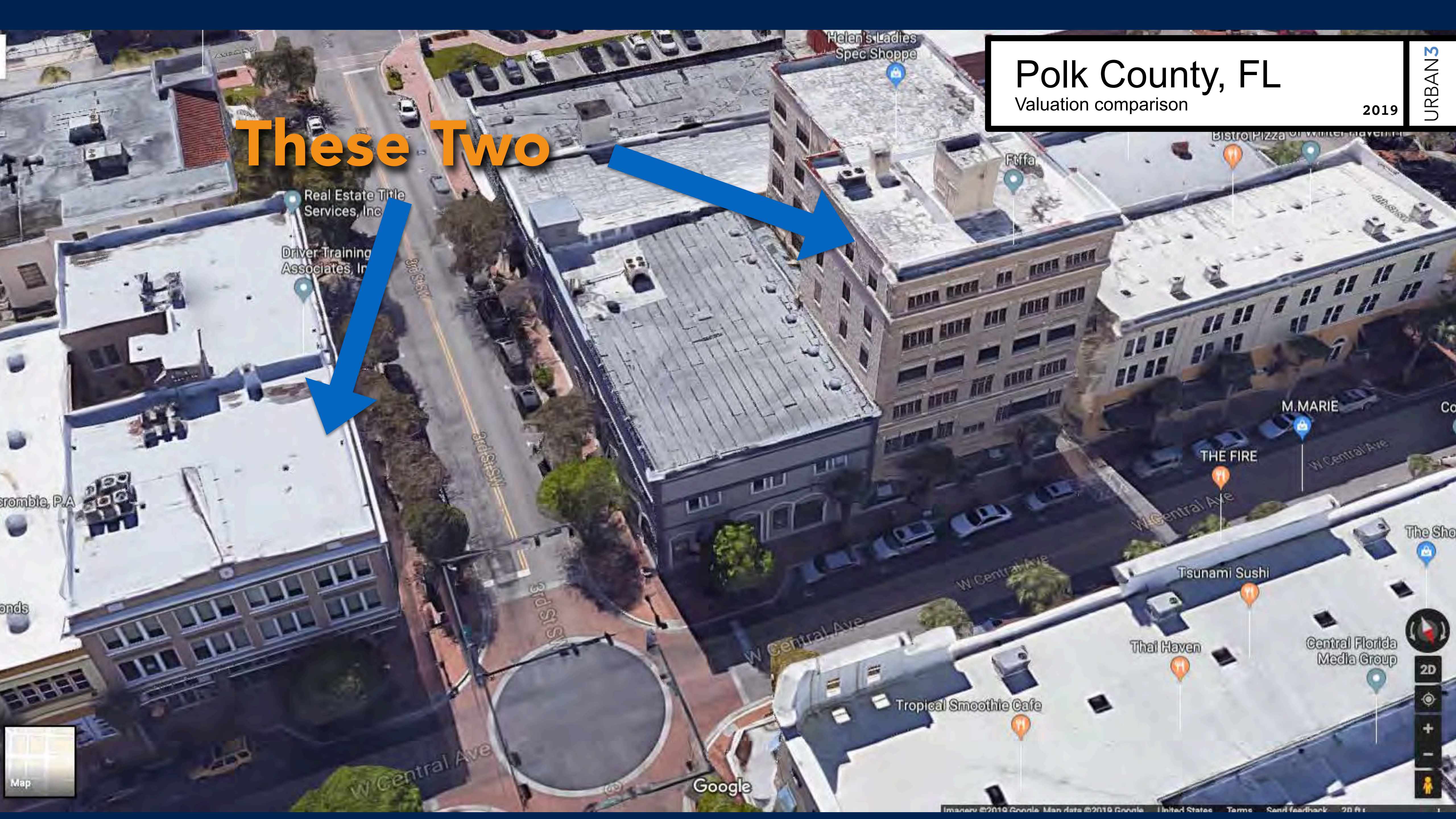
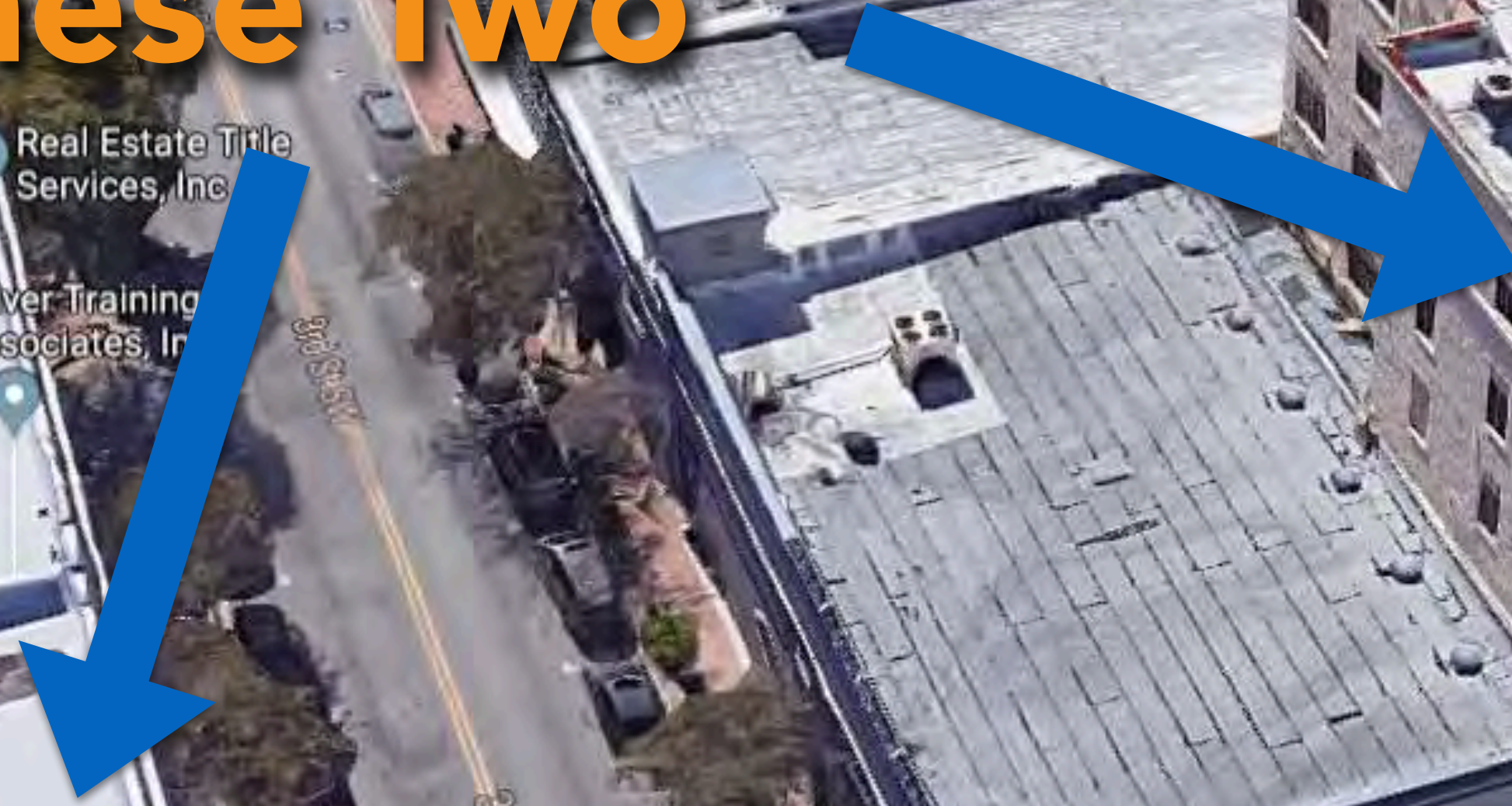
Super Walmart
\$8,647 taxes per acre

Central Avenue, Winter Haven, Fla.



A LASTING VALUE

These Two





DeWitt Taylor Building
\$87,105 taxes per acre

Polk County, FL

Valuation comparison

2019

URBAN3



Super Walmart
\$8,647 taxes per acre



DeWitt Taylor Building
\$87,105 taxes per acre



Beymer Building
\$227,583 taxes per acre

Polk County, FL

Valuation comparison

2019

URBAN3



Super Walmart
\$8,647 taxes per acre



DeWitt Taylor Building
\$31,035 county taxes per acre



Polk County, FL
Valuation comparison

2023

URBAN3

Beymer Building
\$85,353 county taxes per acre



Super Walmart
\$3,148 county taxes per acre



DeWitt Taylor Building
\$31,035 county taxes per acre



Polk County, FL
Valuation comparison

2023

URBAN3

Beymer Building
\$85,353 county taxes per acre



Super Walmart
\$3,148 county taxes per acre



Emil Jahna Building
\$8,125 county taxes per acre

Question:

**But you just want big
buildings.**



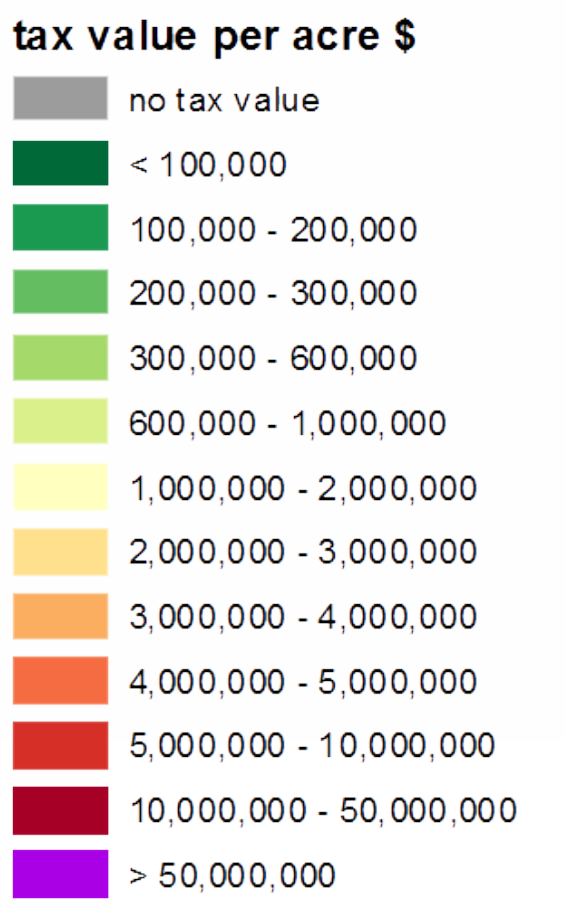
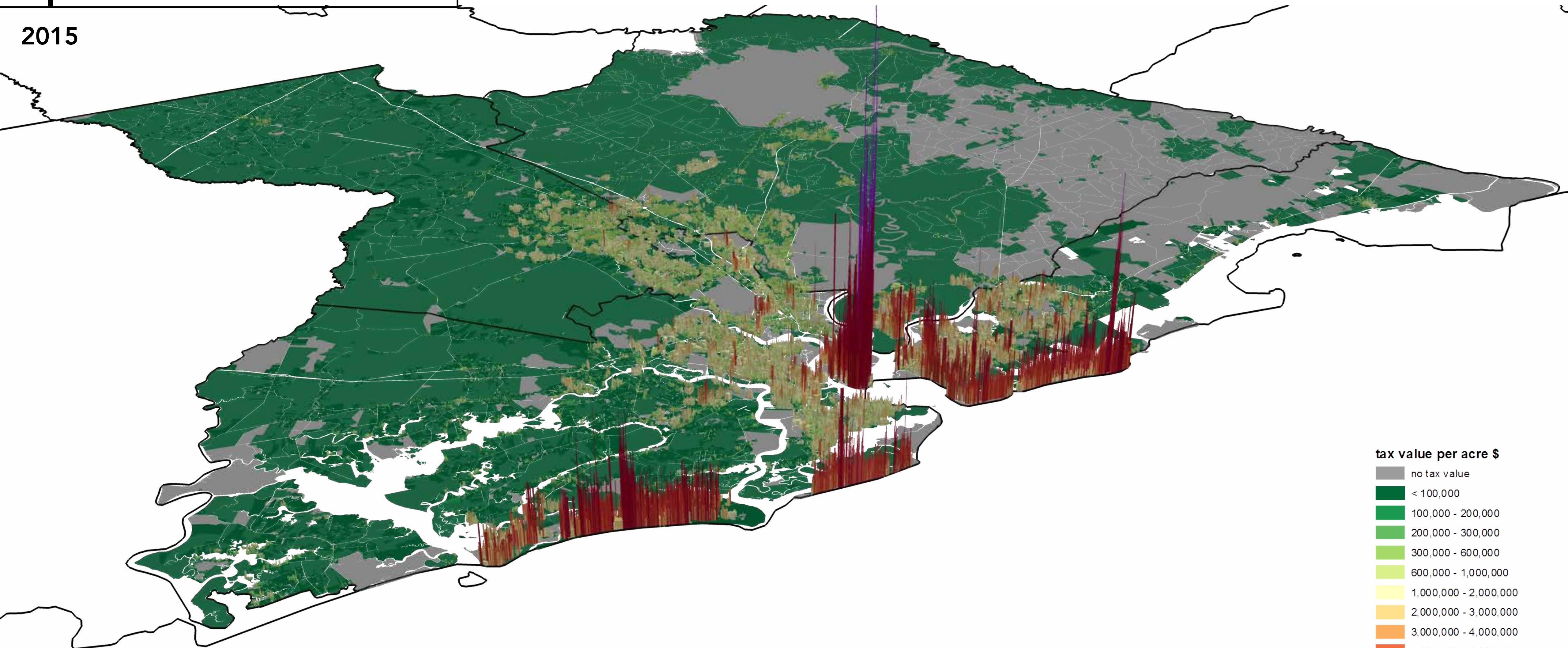
Case Study: Economic MRI™, Value Capture Analysis
2015

Charleston, South Carolina

Taxable Value Per Acre

Charleston, SC MSA

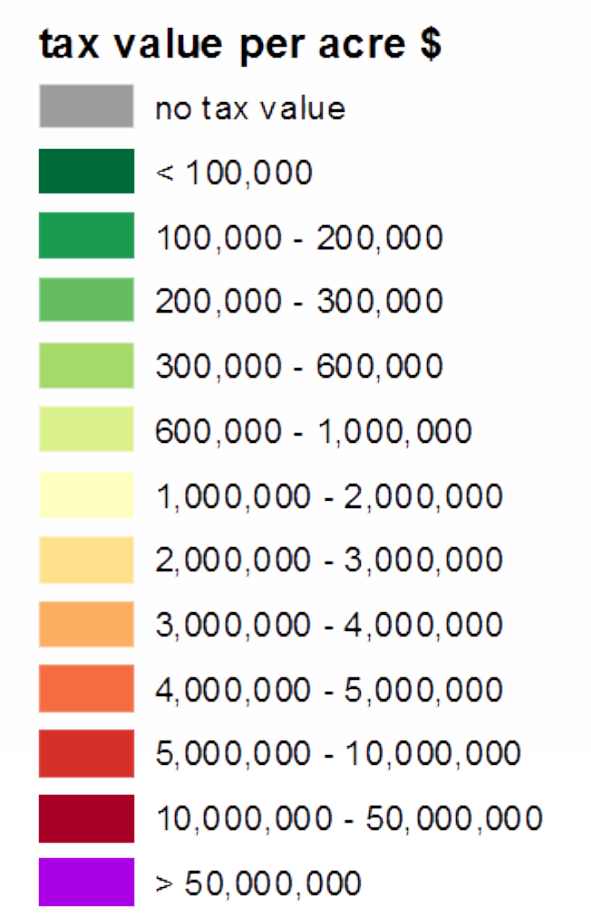
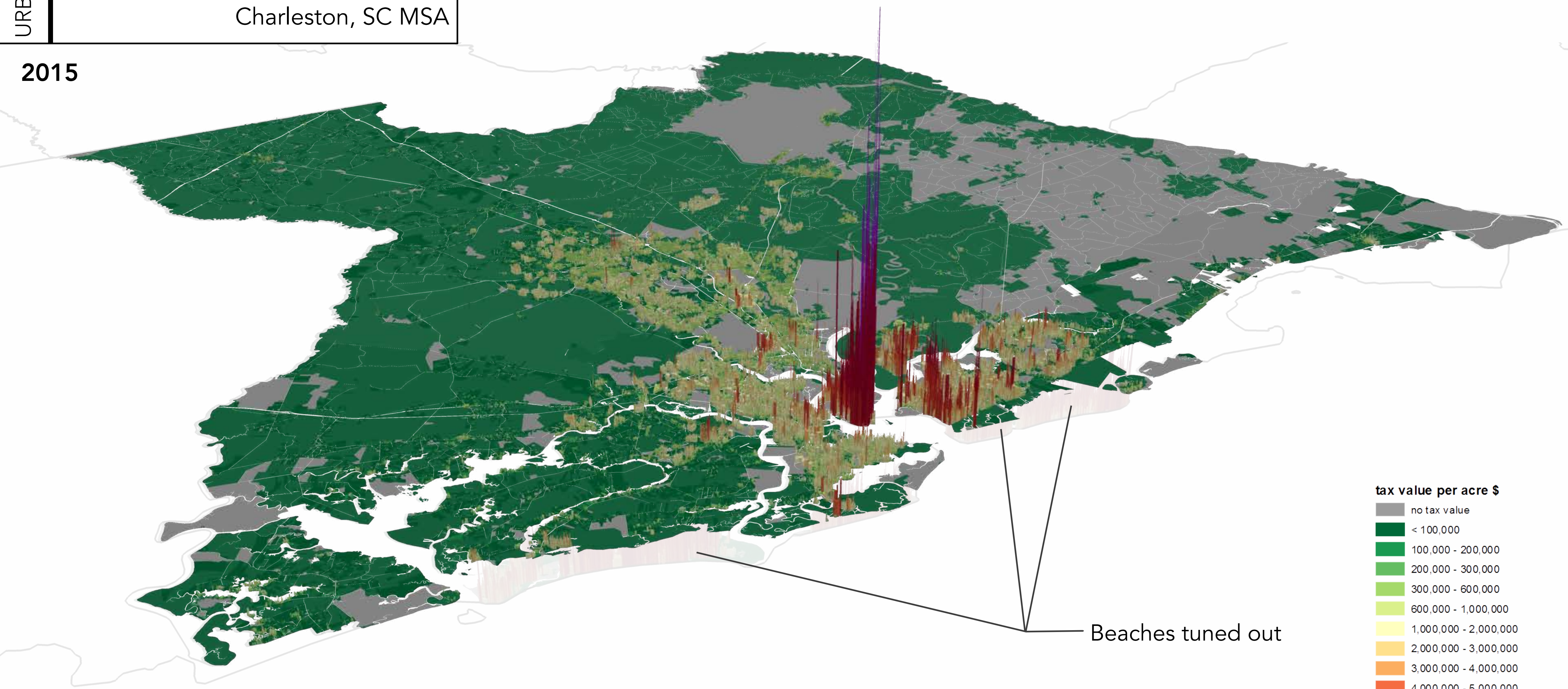
2015



Taxable Value Per Acre

Charleston, SC MSA

2015



Beaches tuned out

Declaration of Independence

July 4, 1776

240 years ago





Built ca: 1686

Revolutionary



Walmart
\$866,760 value per acre



Tavern Wine and Spirits
\$13,394,415 Value per Acre

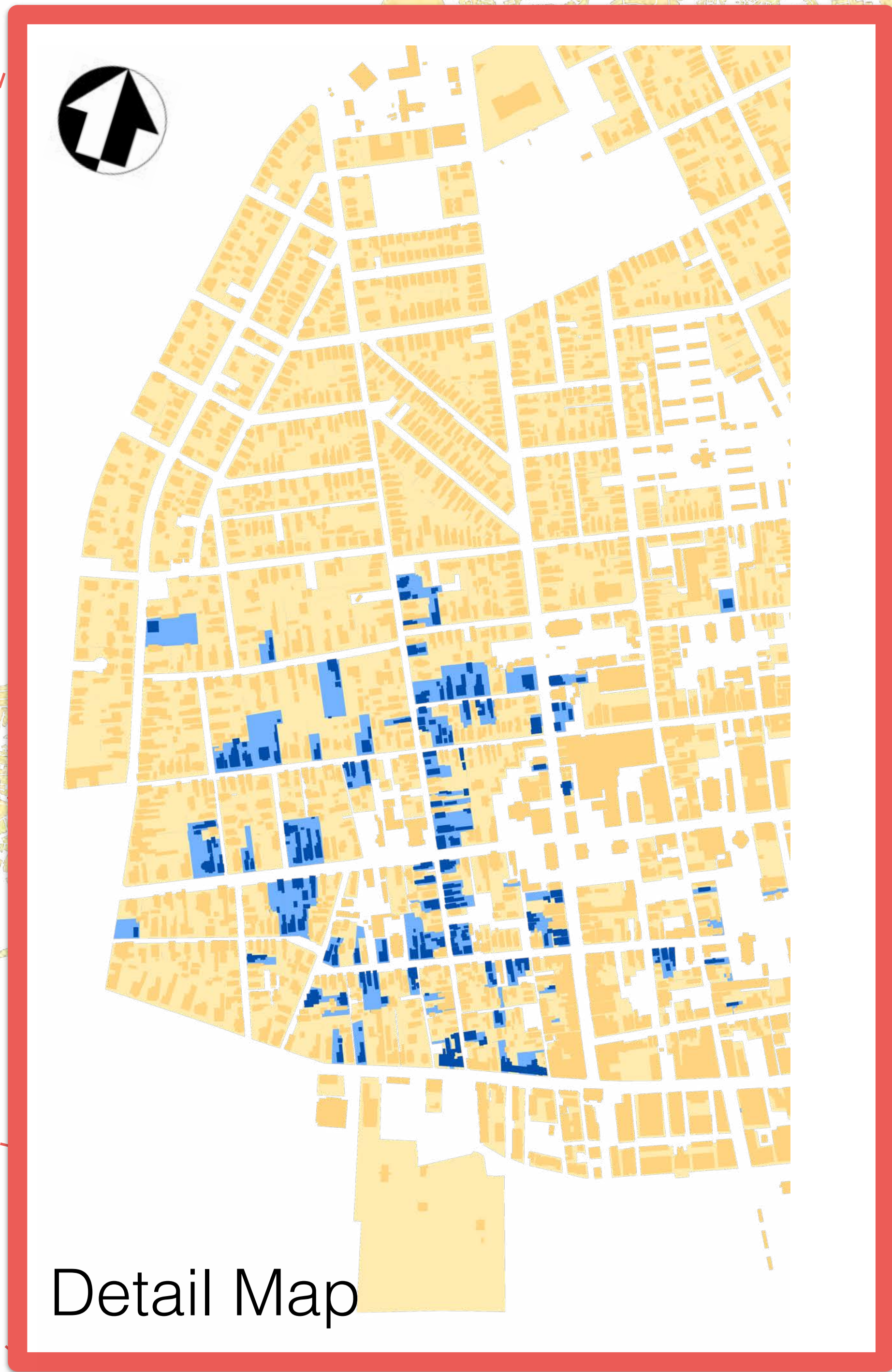
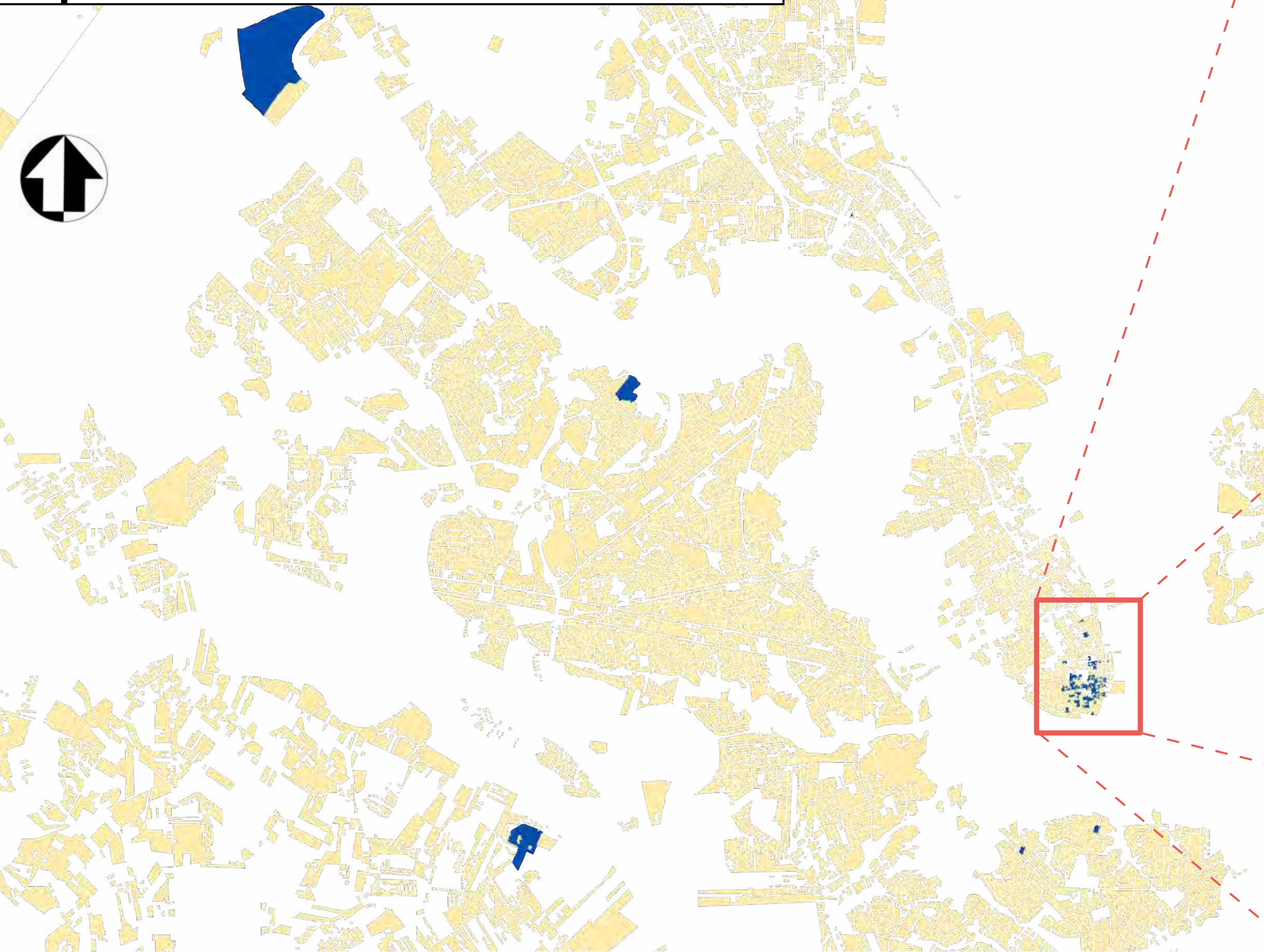
Pre-1776 Taxable Value Per Acre

Charleston, SC MSA



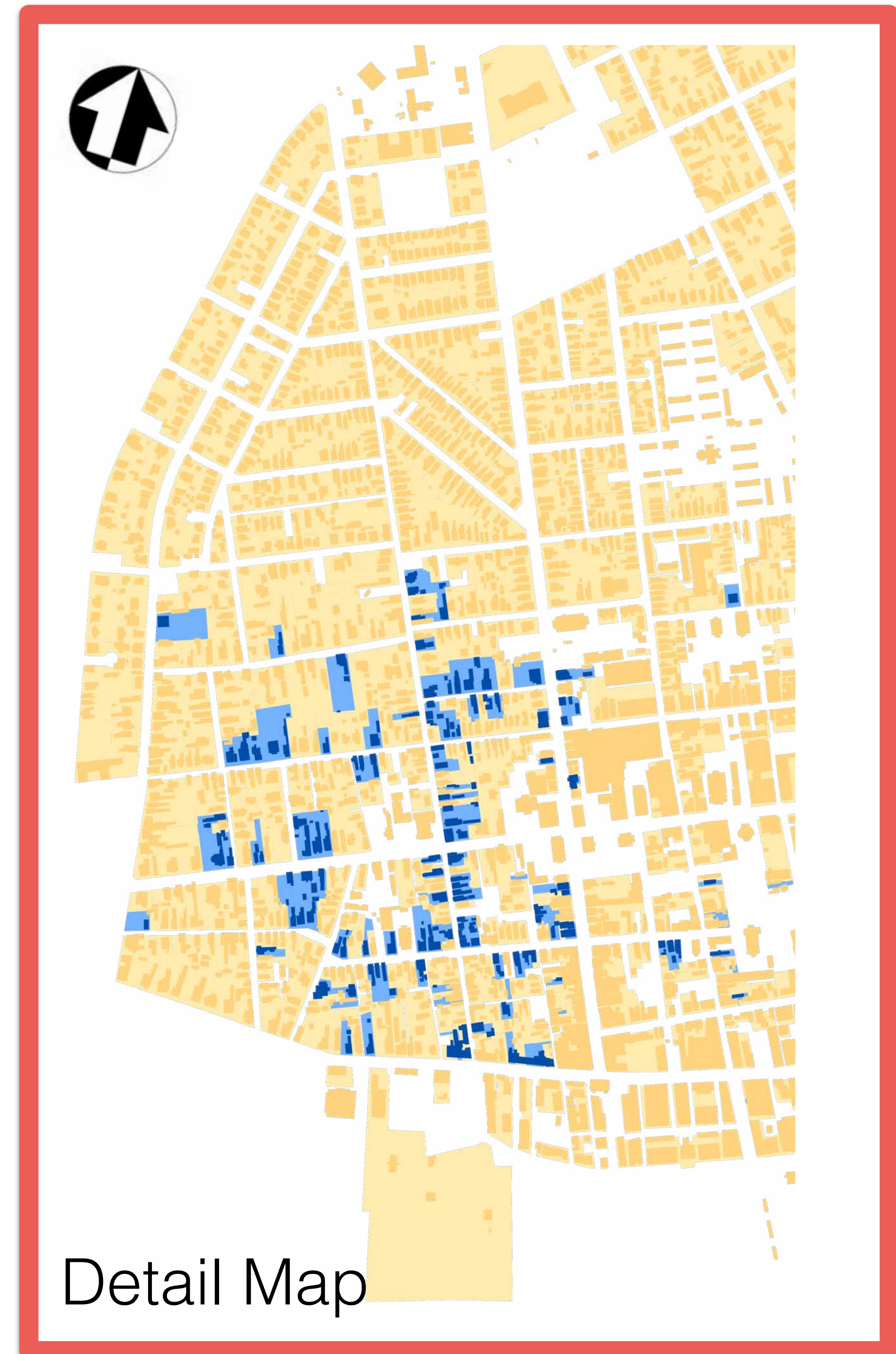
Pre-1776 Taxable Value Per Acre

Charleston, SC MSA



Pre-1776 Tax Productivity

Charleston, SC MSA



Detail Map

	> 1776
Acres	20.95
Value	\$344M
Value/Acre	\$16,440,700
County Taxes 2015	\$631,000

Pre-1776 Tax Productivity

Charleston, SC MSA

> 1776

Acres

20.95

Value

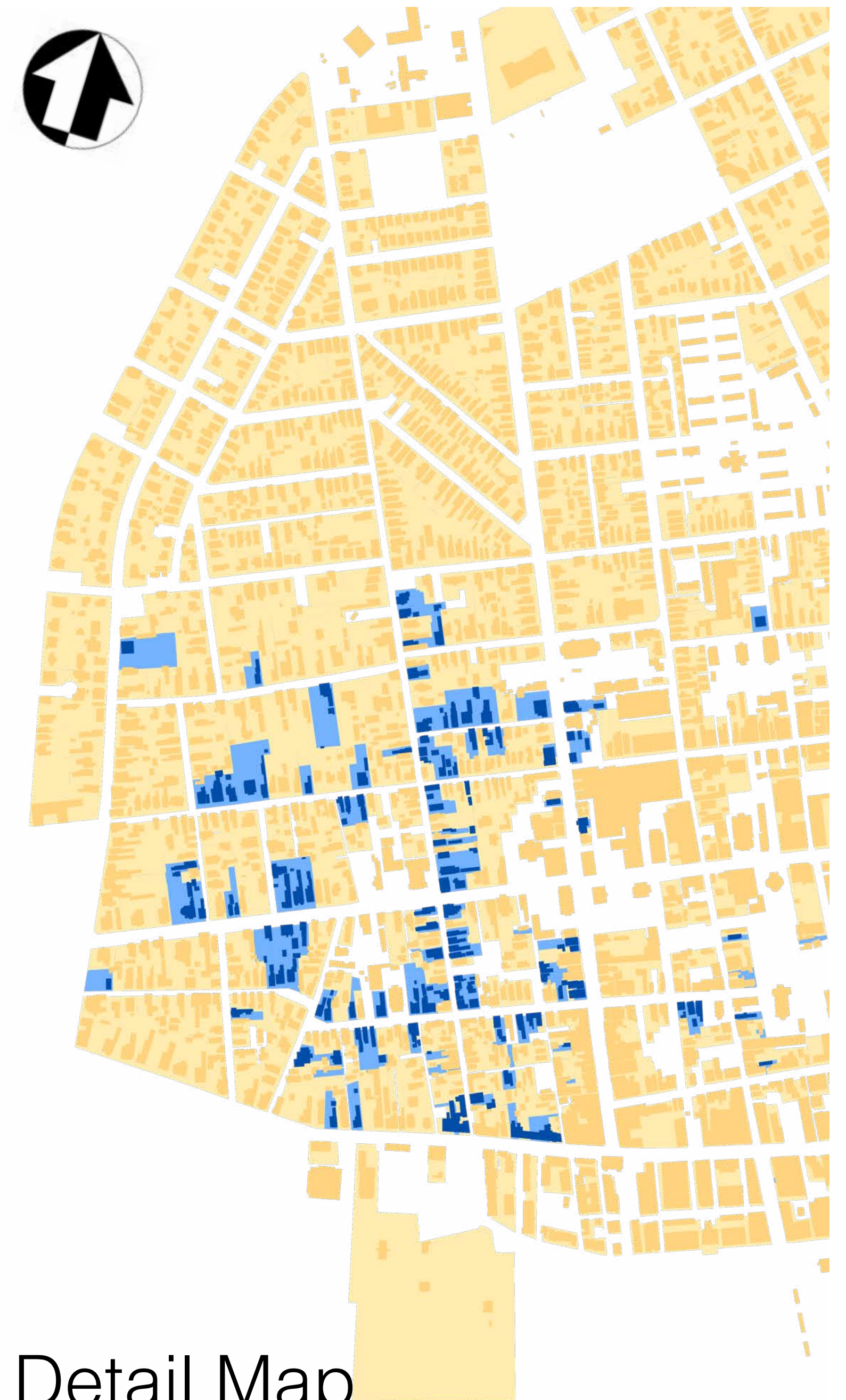
\$344M

Value/Acre

\$16,440,700

County Taxes 2015

\$631,000



Detail Map

Pre-1776 Tax Productivity

Charleston, SC MSA

> 1776

Acres

20.95

Value

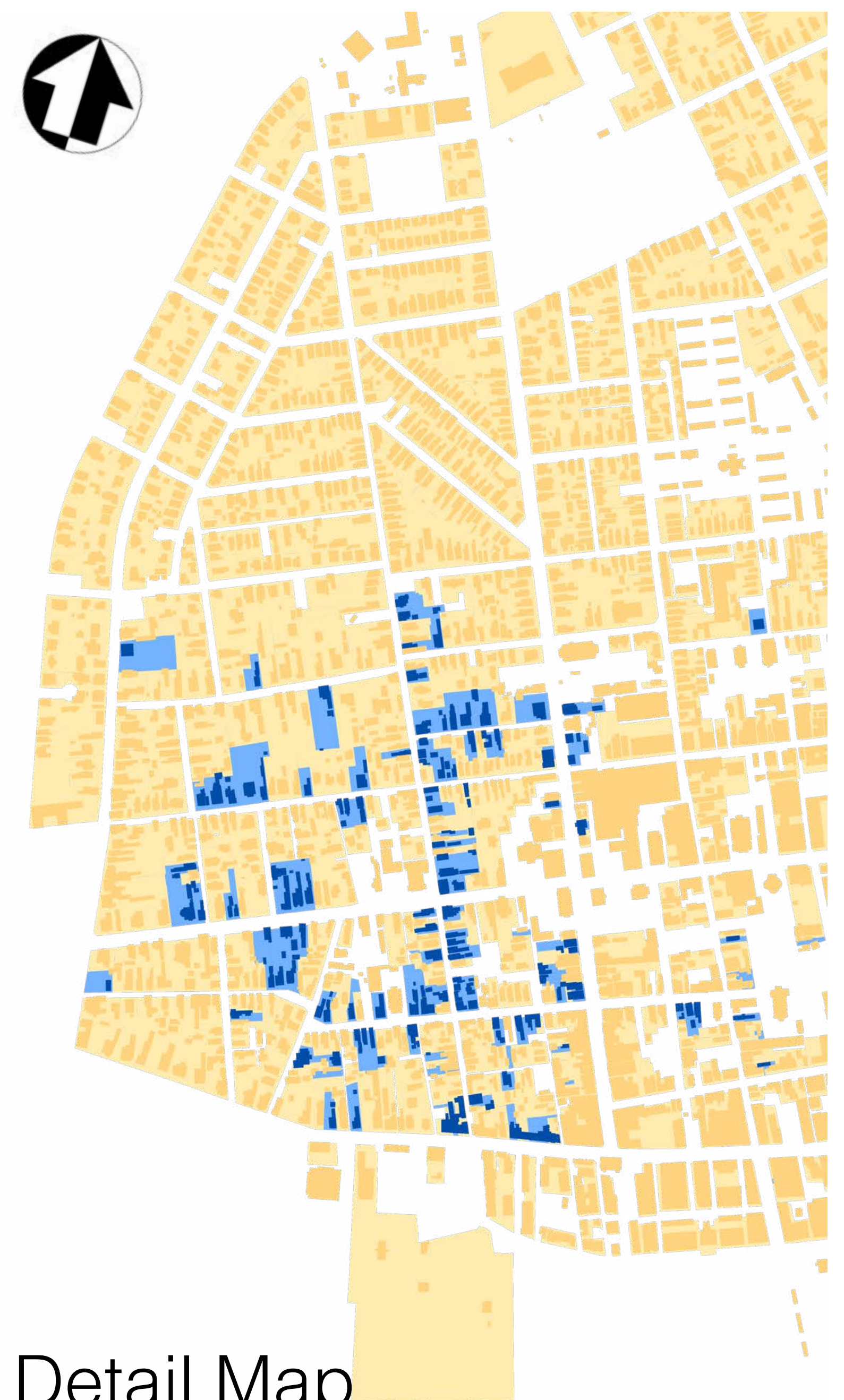
\$344M

Value/Acre

\$16,440,700

County Taxes 2015

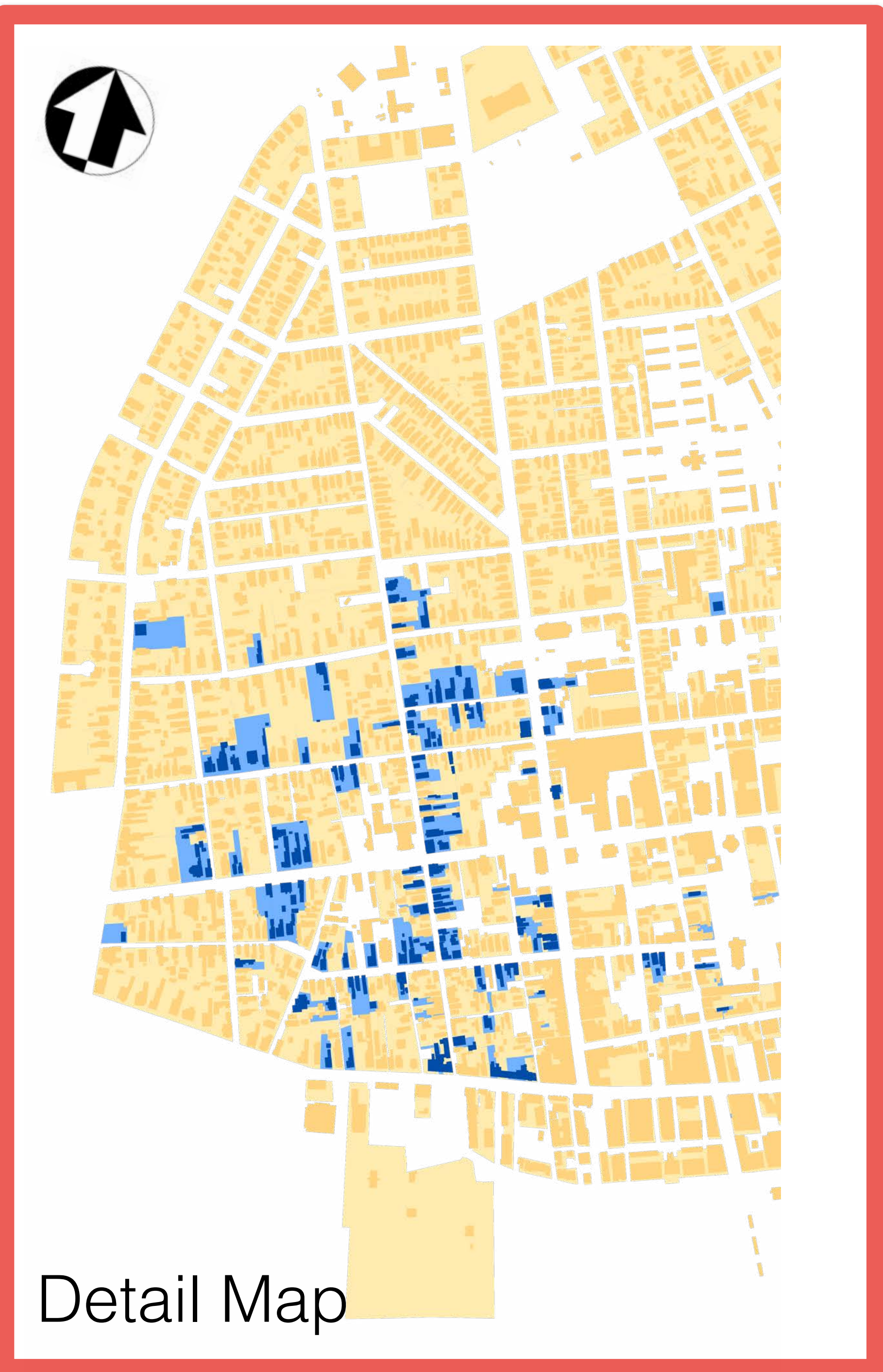
\$631,000



Detail Map

Pre-1776 Tax Productivity

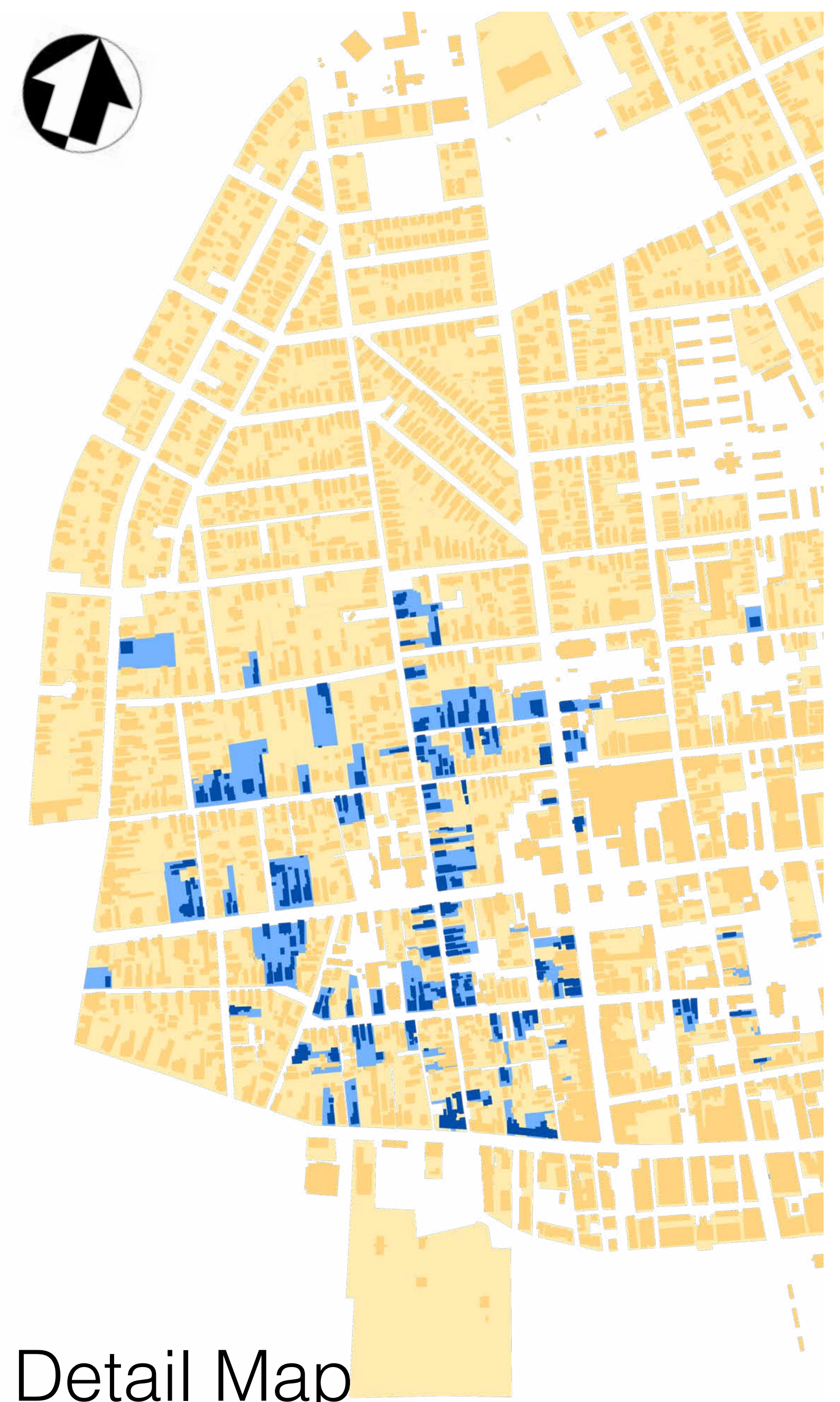
Charleston, SC MSA



	> 1776
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Value/Acre	\$16,440,700
County Taxes 2015	\$631,000

Pre-1776 Tax Productivity

Charleston, SC MSA

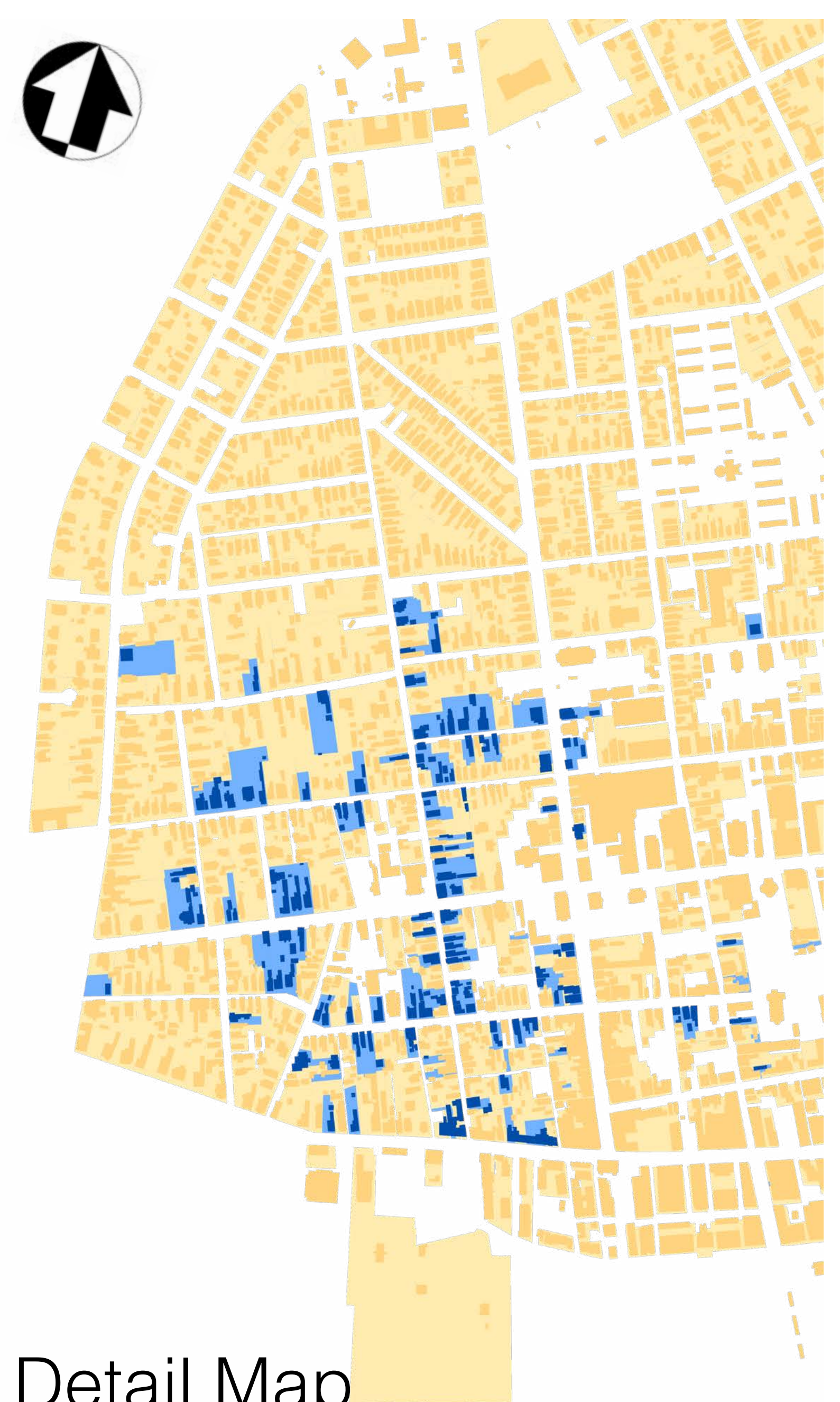


Detail Map

	Walmart	> 1776
Acres	20.58	20.95
Value	\$18M	\$344M
Value/Acre	\$866,760	\$16,440,700
County Taxes 2015	\$47,000	\$631,000

Pre-1776 Tax Productivity

Charleston, SC MSA

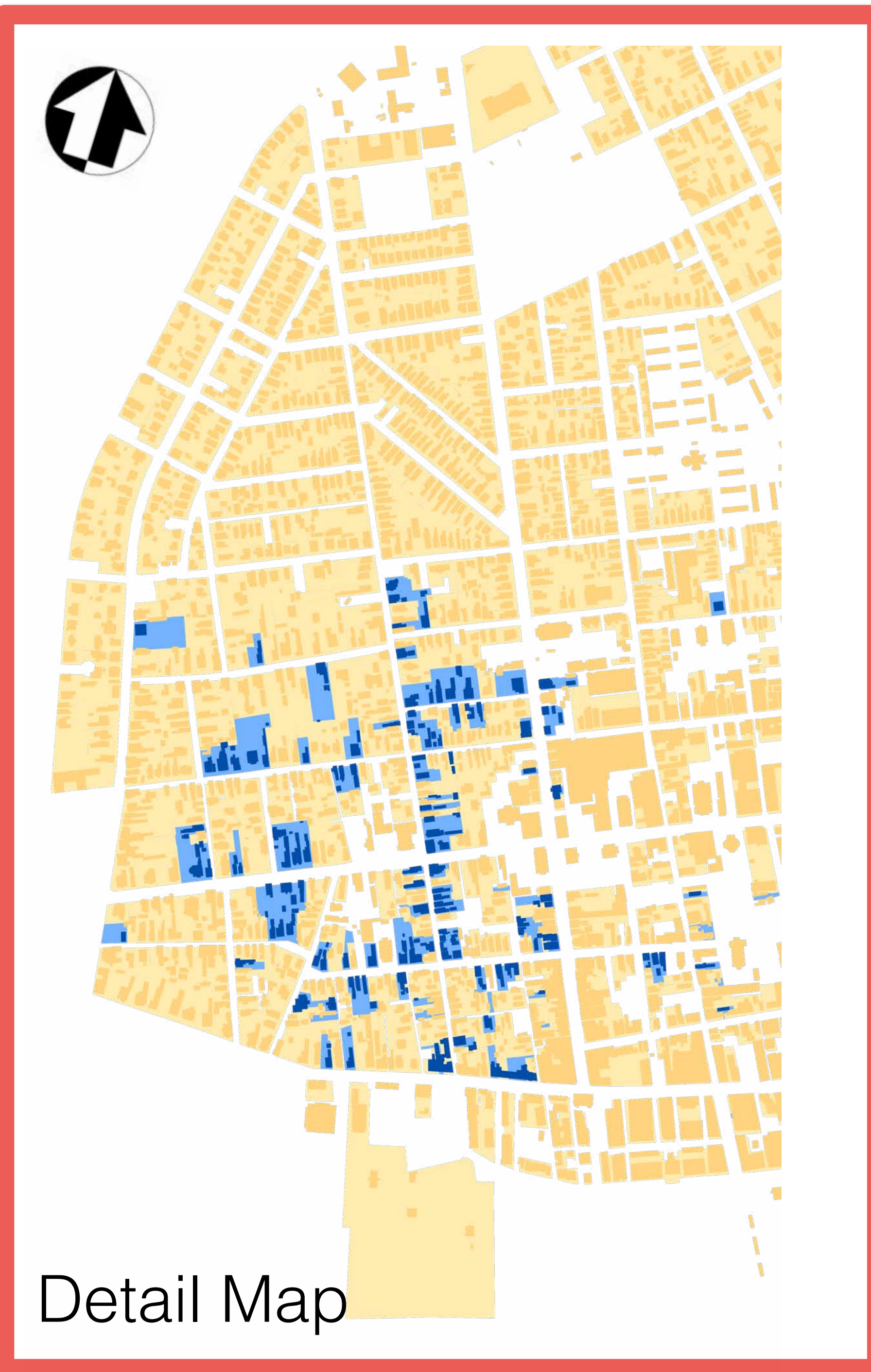


Detail Map

	Walmart	> 1776
Acres	20.58	20.95
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County Taxes 2015	\$47,000	\$631,000

Pre-1776 Tax Productivity

Charleston, SC MSA

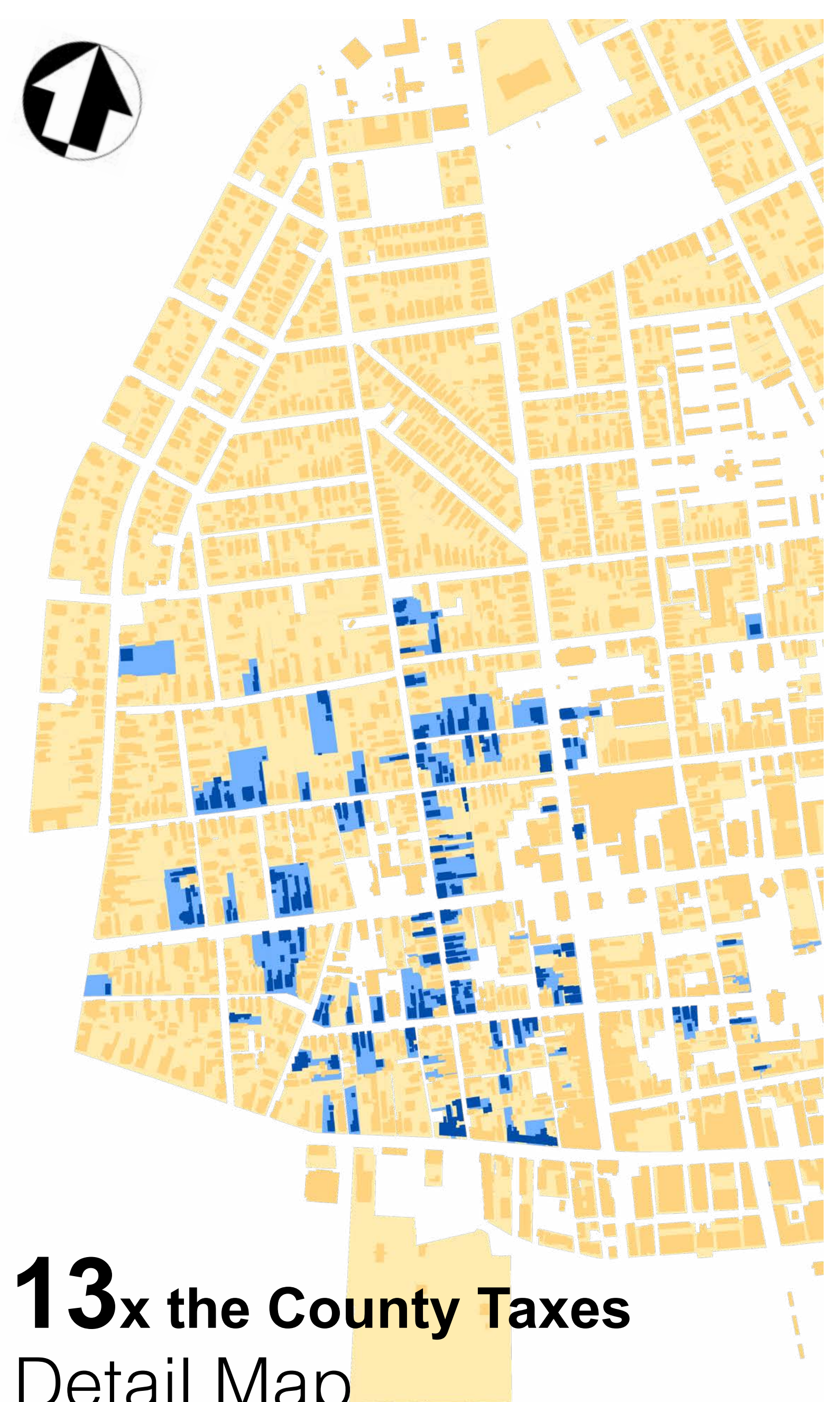


	Walmart	> 1776
Acres	20.58	20.95
Value	\$18M	\$344M
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Detail Map

Pre-1776 Tax Productivity

Charleston, SC MSA



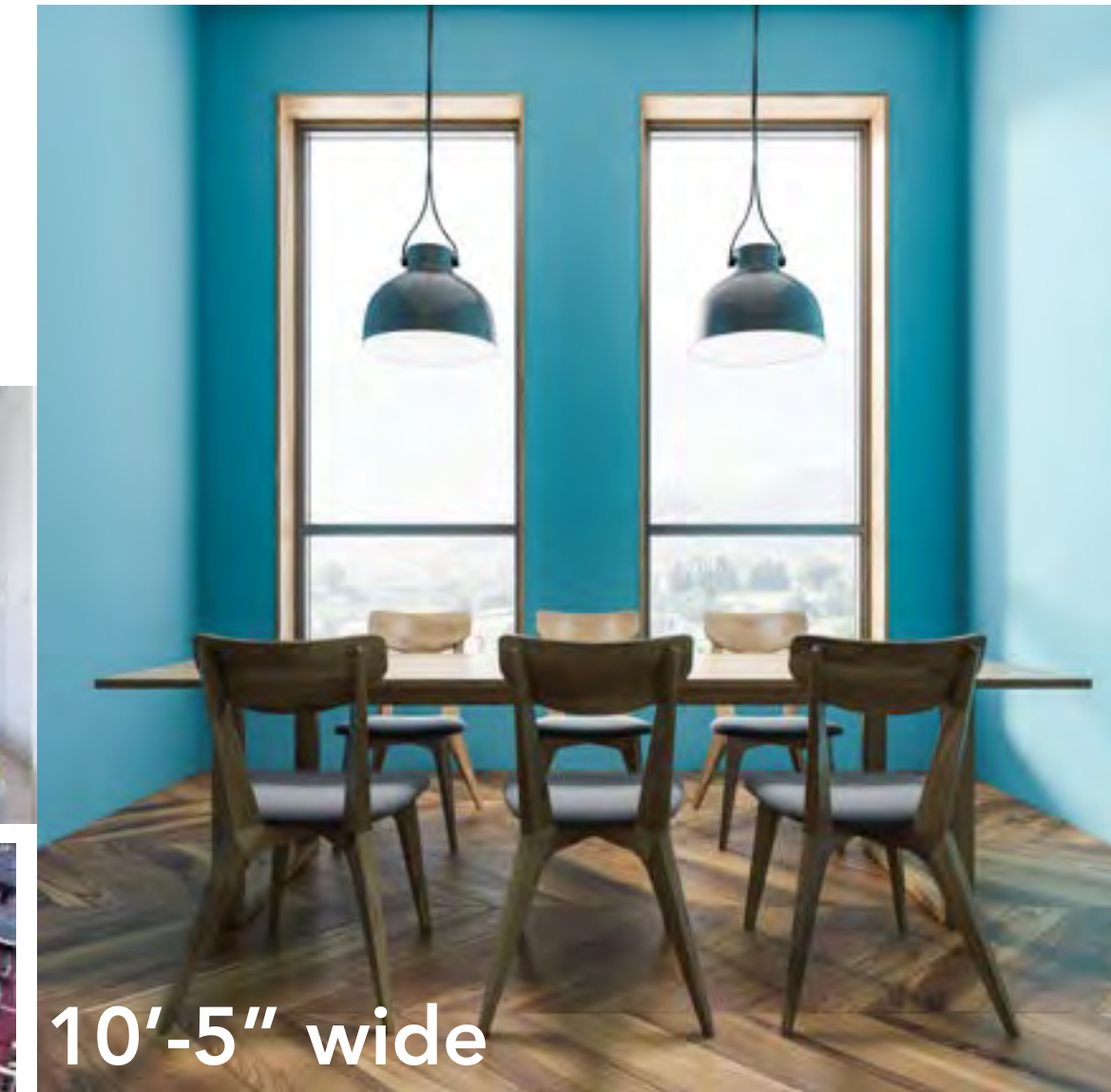
13x the County Taxes
Detail Map

	Walmart	> 1776
Acres	20.58	20.95
Value	\$18M	\$344M
Value/Acre	\$866,760	\$16,440,700
County Taxes 2015	\$47,000	\$631,000



"Skinny House" Boston, Massachusetts

44 Hull Street

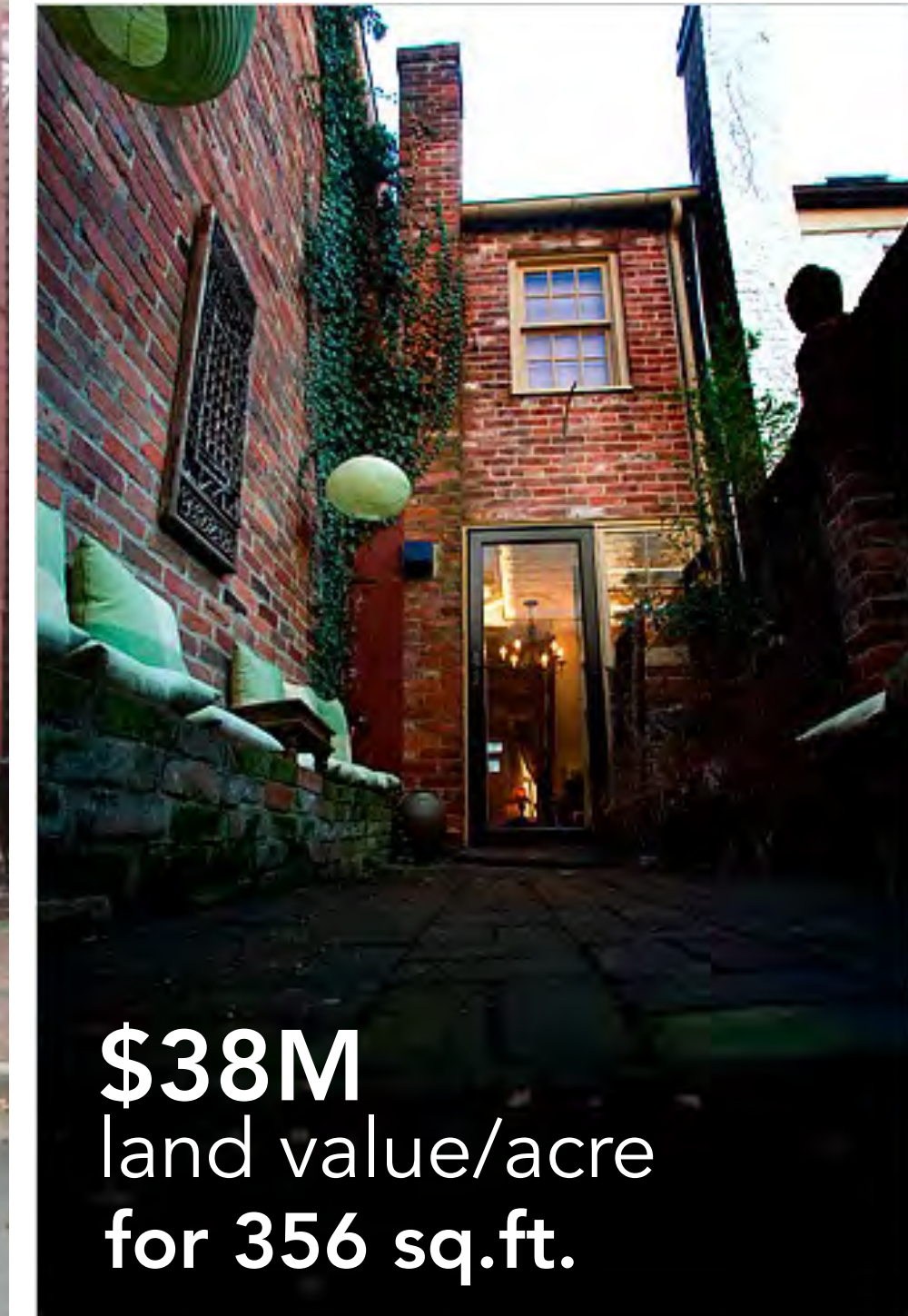


\$62,109,381
taxable value/acre

Ca.: 1874

Alexandria, Virginia

523 Queen Street



\$38M
land value/acre
for 356 sq.ft.

\$64,417,794
taxable value/acre

Washington, D.C.

8'-11" wide



2726 P St. NW

700 sq.ft.

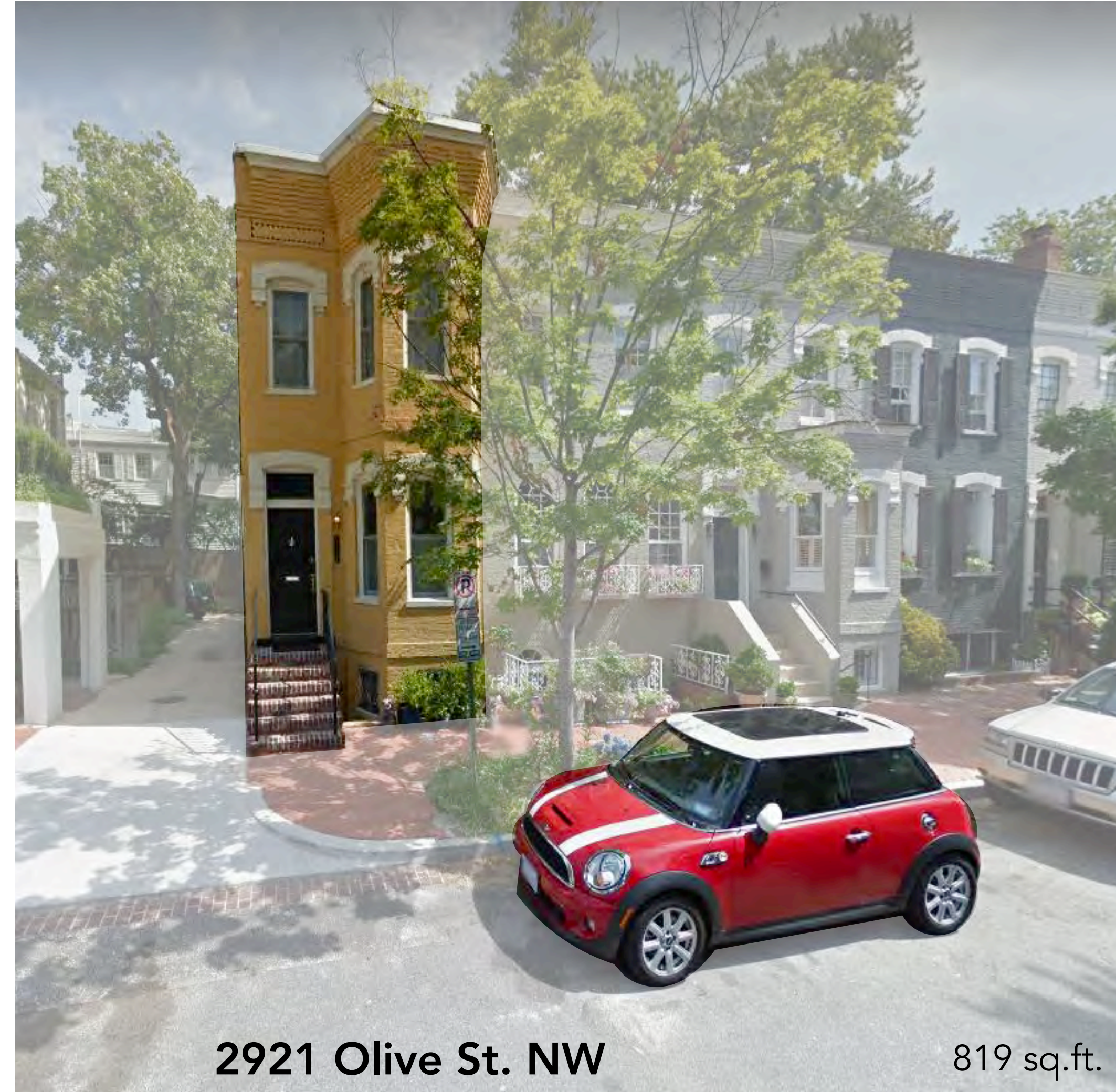
\$44,644,022
taxable value/acre



2803 Olive St. NW

539 sq.ft.

\$64,149,576
taxable value/acre



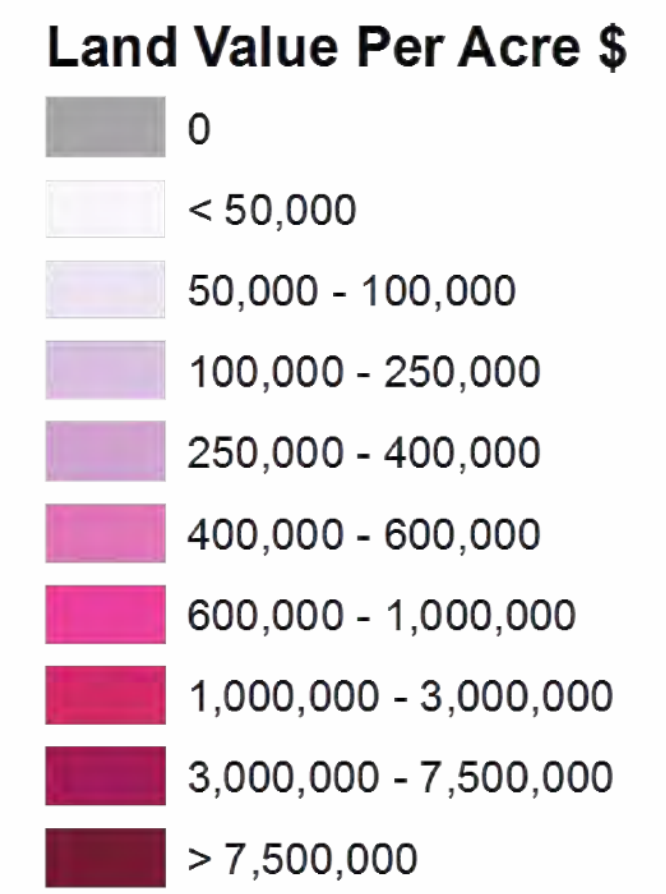
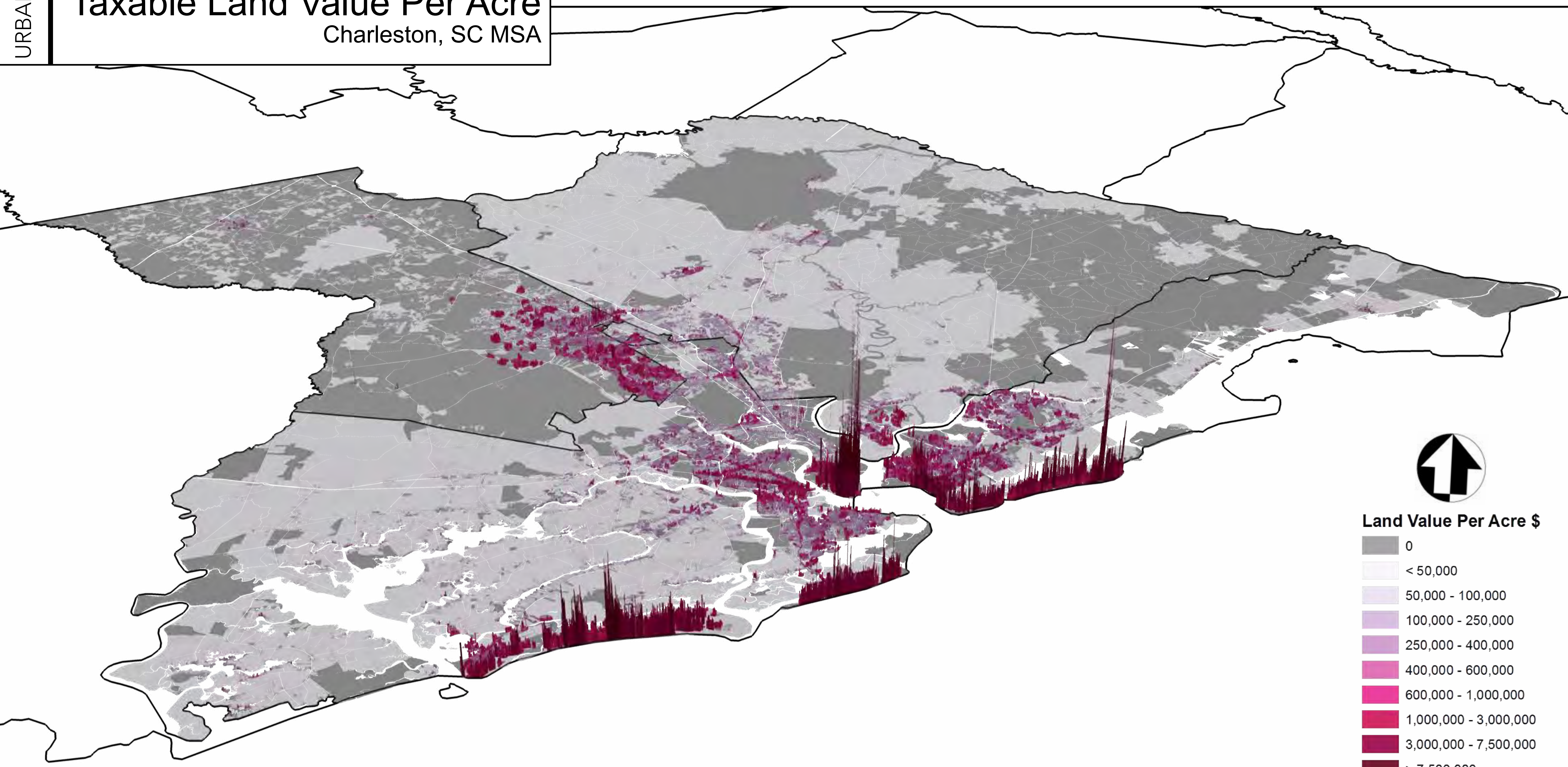
2921 Olive St. NW

819 sq.ft.

\$67,92,444
taxable value/acre


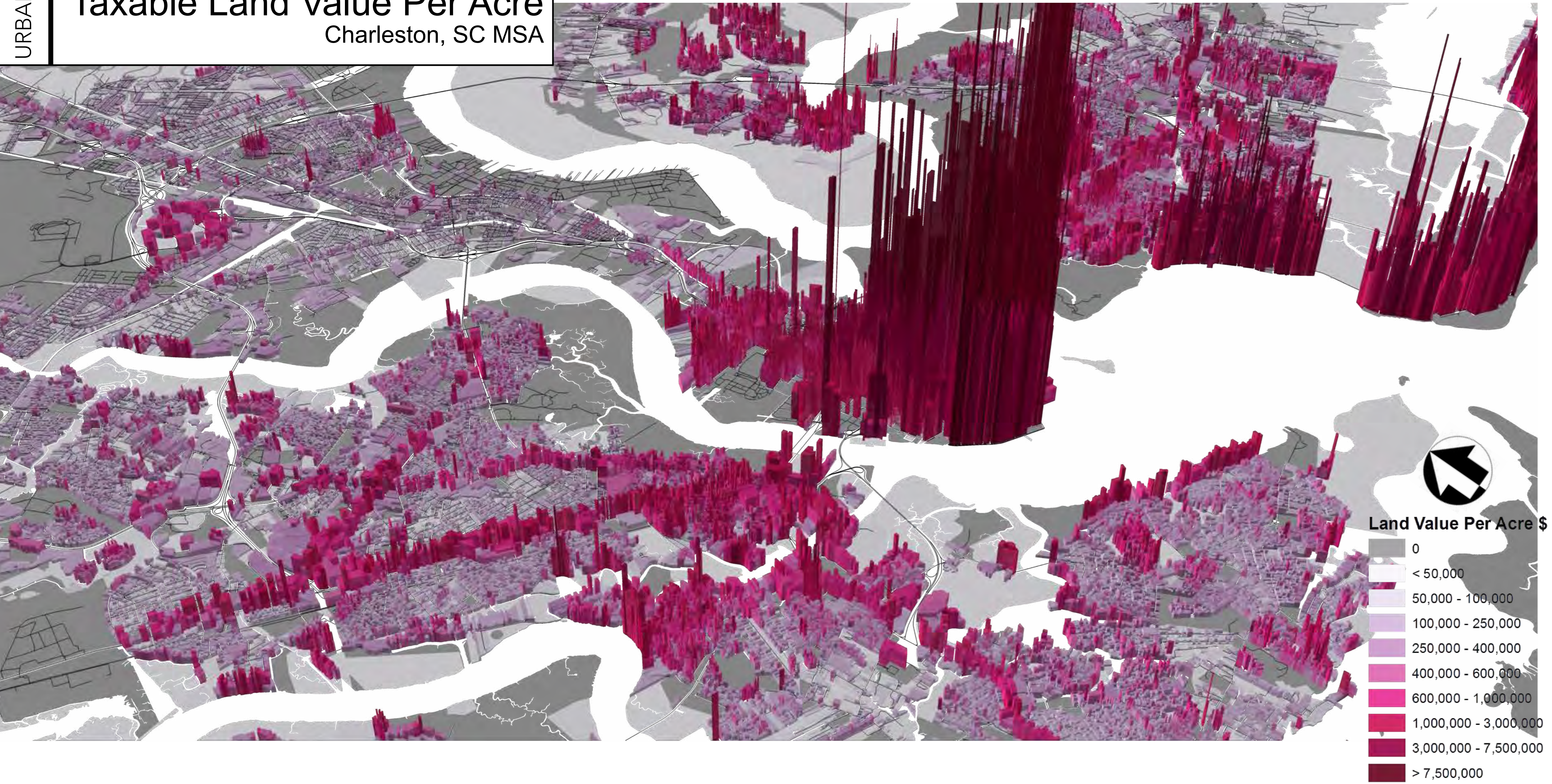
Taxable Land Value Per Acre

Charleston, SC MSA



Taxable Land Value Per Acre

Charleston, SC MSA

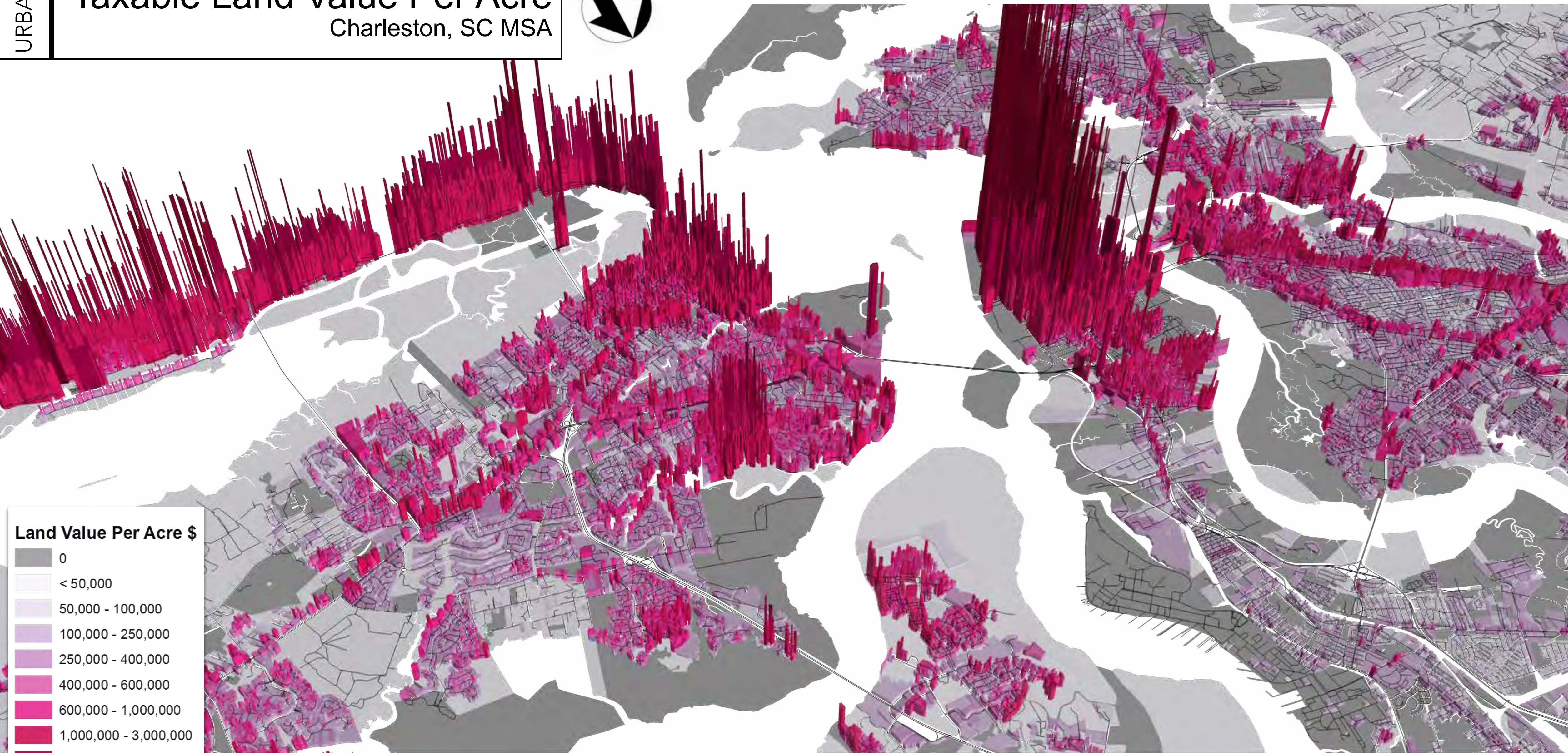


Land Value Per Acre \$

- 0
- < 50,000
- 50,000 - 100,000
- 100,000 - 250,000
- 250,000 - 400,000
- 400,000 - 600,000
- 600,000 - 1,000,000
- 1,000,000 - 3,000,000
- 3,000,000 - 7,500,000
- > 7,500,000

Taxable Land Value Per Acre

Charleston, SC MSA

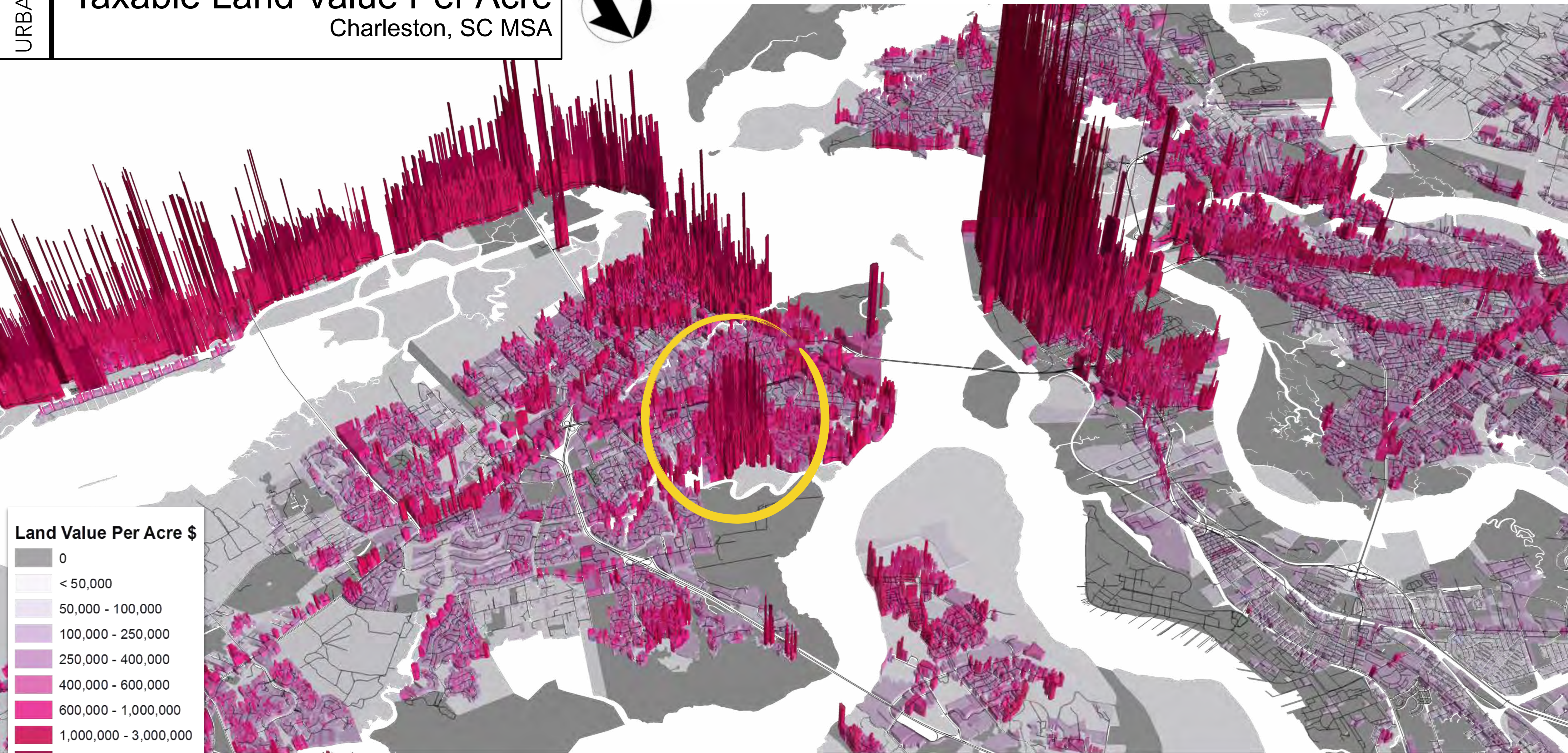


Land Value Per Acre \$

- 0
- < 50,000
- 50,000 - 100,000
- 100,000 - 250,000
- 250,000 - 400,000
- 400,000 - 600,000
- 600,000 - 1,000,000
- 1,000,000 - 3,000,000
- 3,000,000 - 7,500,000
- > 7,500,000

Taxable Land Value Per Acre

Charleston, SC MSA



Land Value Per Acre \$

- 0
- < 50,000
- 50,000 - 100,000
- 100,000 - 250,000
- 250,000 - 400,000
- 400,000 - 600,000
- 600,000 - 1,000,000
- 1,000,000 - 3,000,000
- 3,000,000 - 7,500,000
- > 7,500,000

Market Value Per Acre

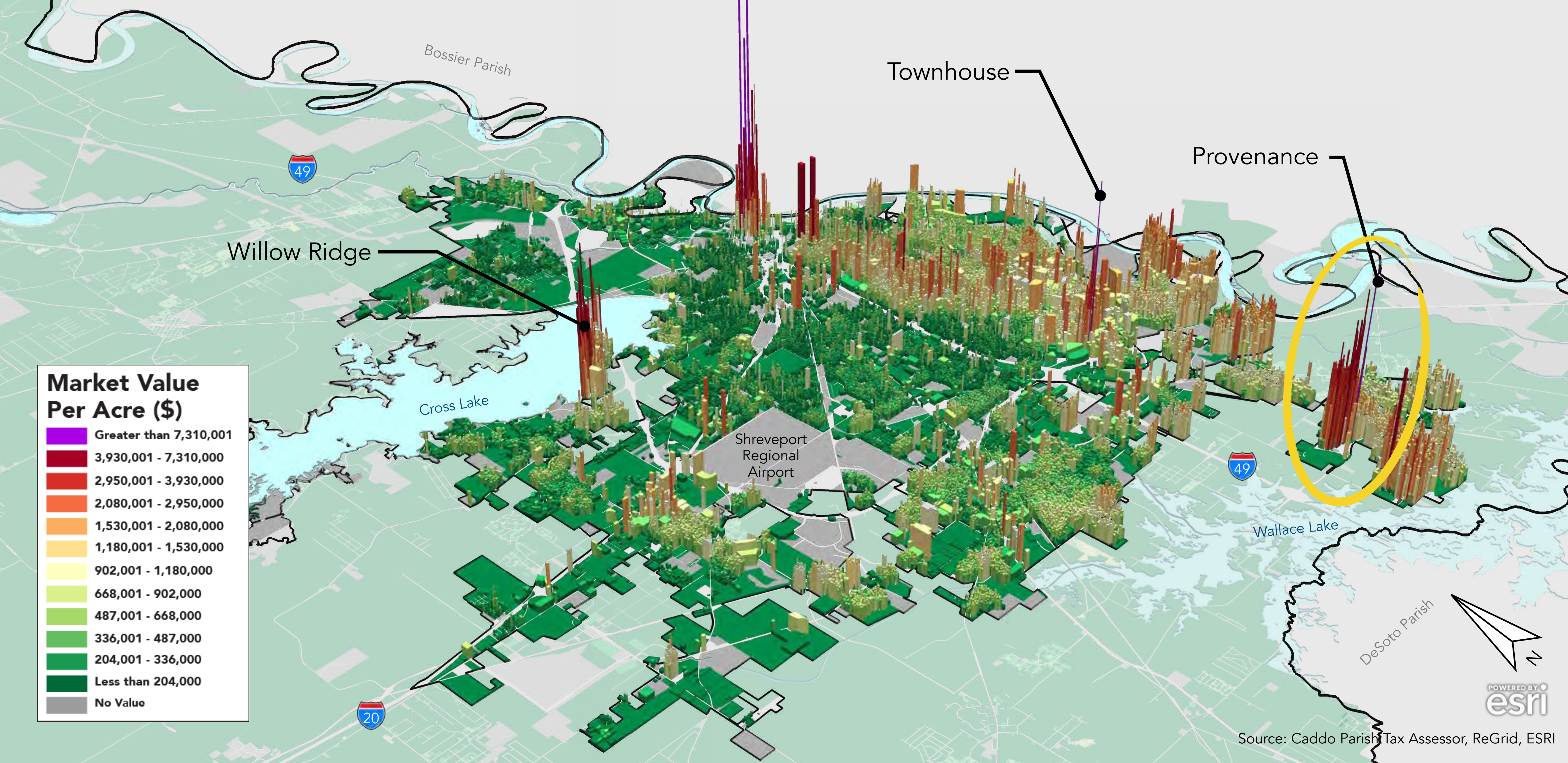
Shreveport, LA



Market Value Per Acre (\$)	
Greater than 7,310,001	
3,930,001 - 7,310,000	
2,950,001 - 3,930,000	
2,080,001 - 2,950,000	
1,530,001 - 2,080,000	
1,180,001 - 1,530,000	
902,001 - 1,180,000	
668,001 - 902,000	
487,001 - 668,000	
336,001 - 487,000	
204,001 - 336,000	
Less than 204,000	
No Value	

Market Value Per Acre

Shreveport, LA



Market Value Per Acre (\$)	
Greater than 7,310,001	Greater than 7,310,001
3,930,001 - 7,310,000	3,930,001 - 7,310,000
2,950,001 - 3,930,000	2,950,001 - 3,930,000
2,080,001 - 2,950,000	2,080,001 - 2,950,000
1,530,001 - 2,080,000	1,530,001 - 2,080,000
1,180,001 - 1,530,000	1,180,001 - 1,530,000
902,001 - 1,180,000	902,001 - 1,180,000
668,001 - 902,000	668,001 - 902,000
487,001 - 668,000	487,001 - 668,000
336,001 - 487,000	336,001 - 487,000
204,001 - 336,000	204,001 - 336,000
Less than 204,000	Less than 204,000
No Value	No Value

Value Per Acre

Fayetteville, GA

Taxable Value per Acre (\$)	
0	Grey
< 40,000	Dark Green
40,001 - 80,000	Green
80,001 - 150,000	Light Green
150,001 - 300,000	Yellow-Green
300,001 - 450,000	Yellow
450,001 - 650,000	Light Orange
650,001 - 1,000,000	Orange
1,000,001 - 2,000,000	Dark Orange
2,000,001 - 3,000,000	Red-Orange
3,000,001 - 4,000,000	Red
4,000,001 - 5,000,000	Dark Red
> 5,000,001	Purple

Pinewood Forest

Hospital

Downtown

54

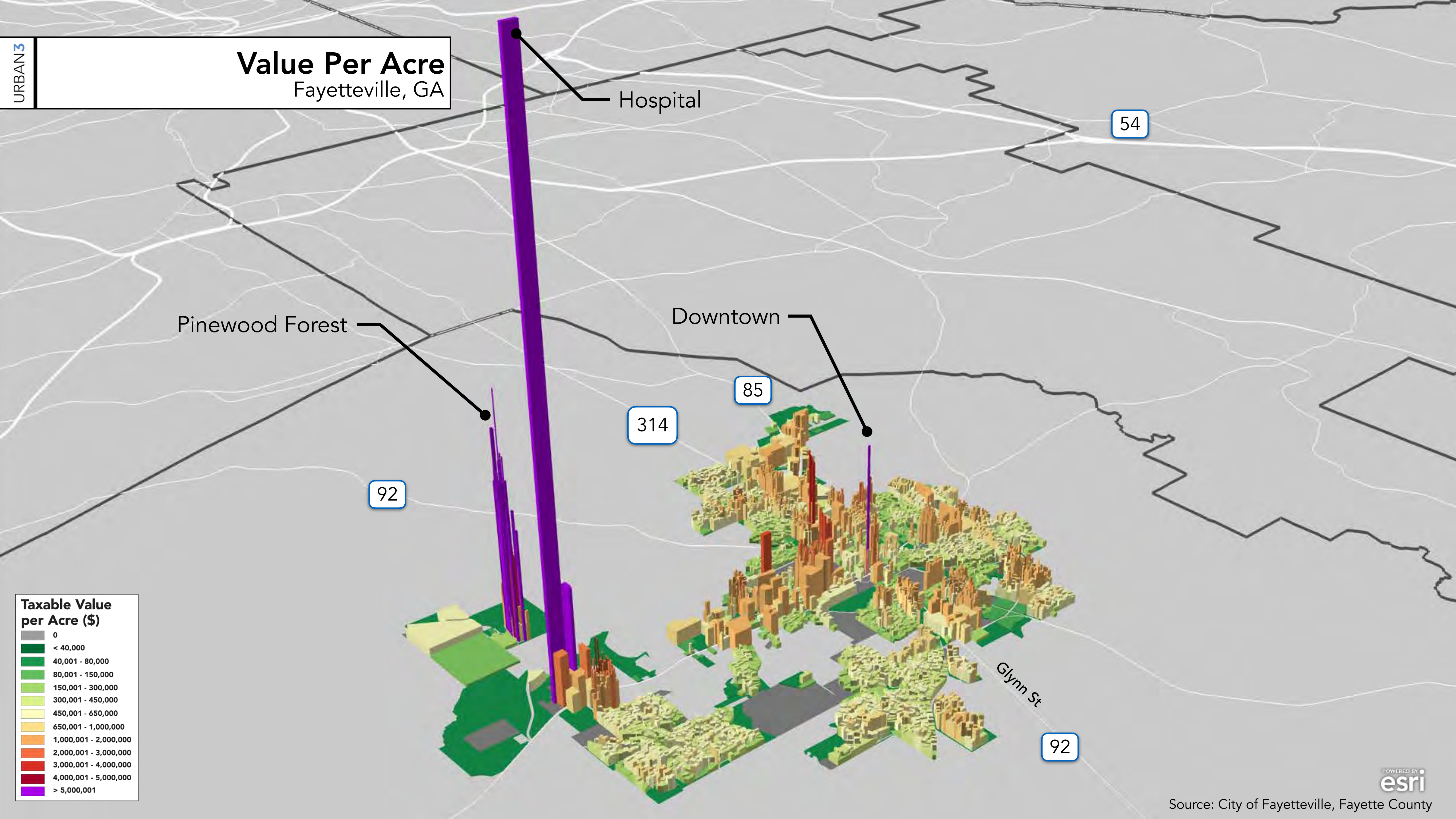
85

314

92

Glynn St

92



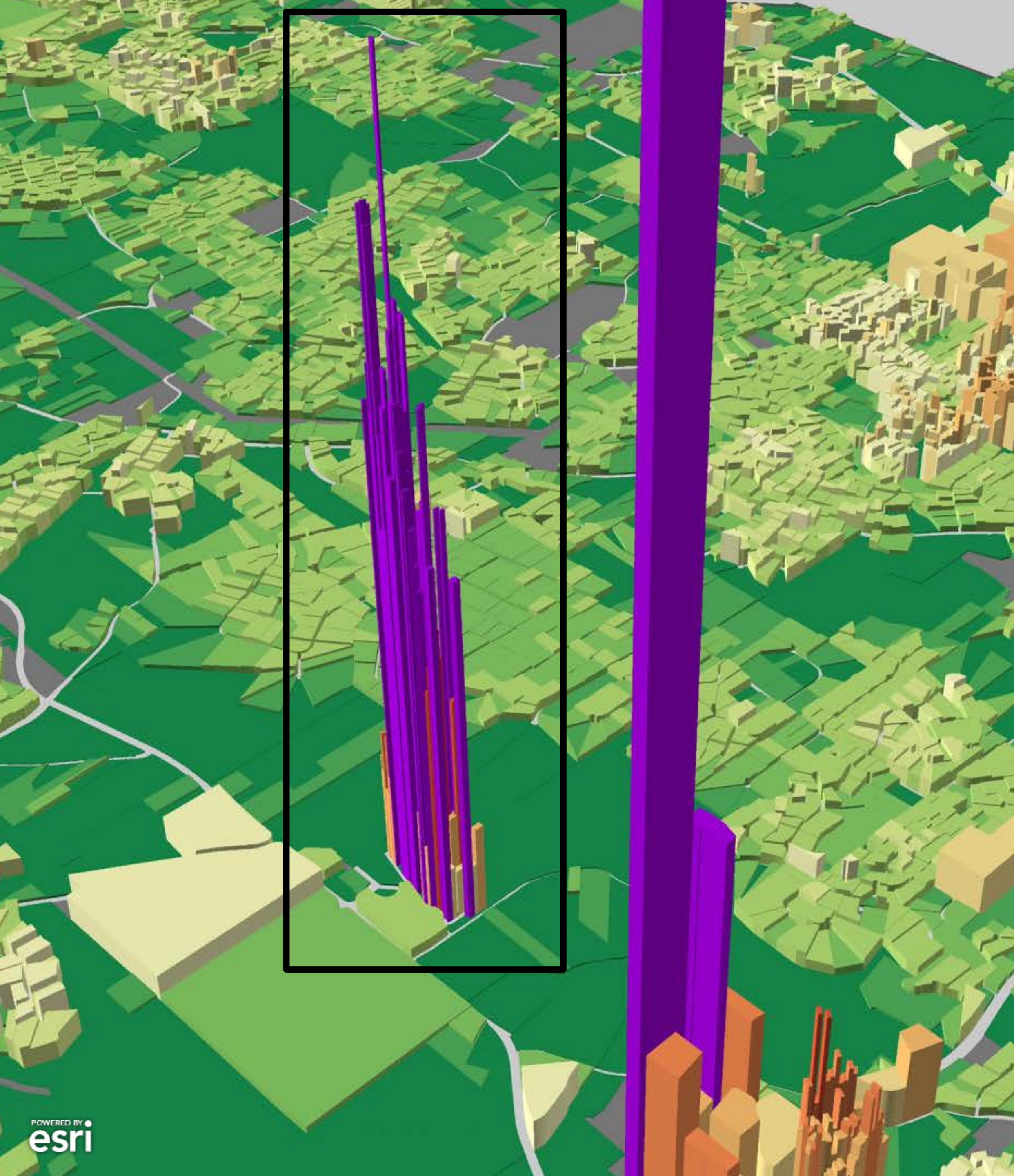
Value Per Acre

Fayetteville, GA

Taxable Value per Acre (\$)

0
< 40,000
40,001 - 80,000
80,001 - 150,000
150,001 - 300,000
300,001 - 450,000
450,001 - 650,000
650,001 - 1,000,000
1,000,001 - 2,000,000
2,000,001 - 3,000,000
3,000,001 - 4,000,000
4,000,001 - 5,000,000
> 5,000,001

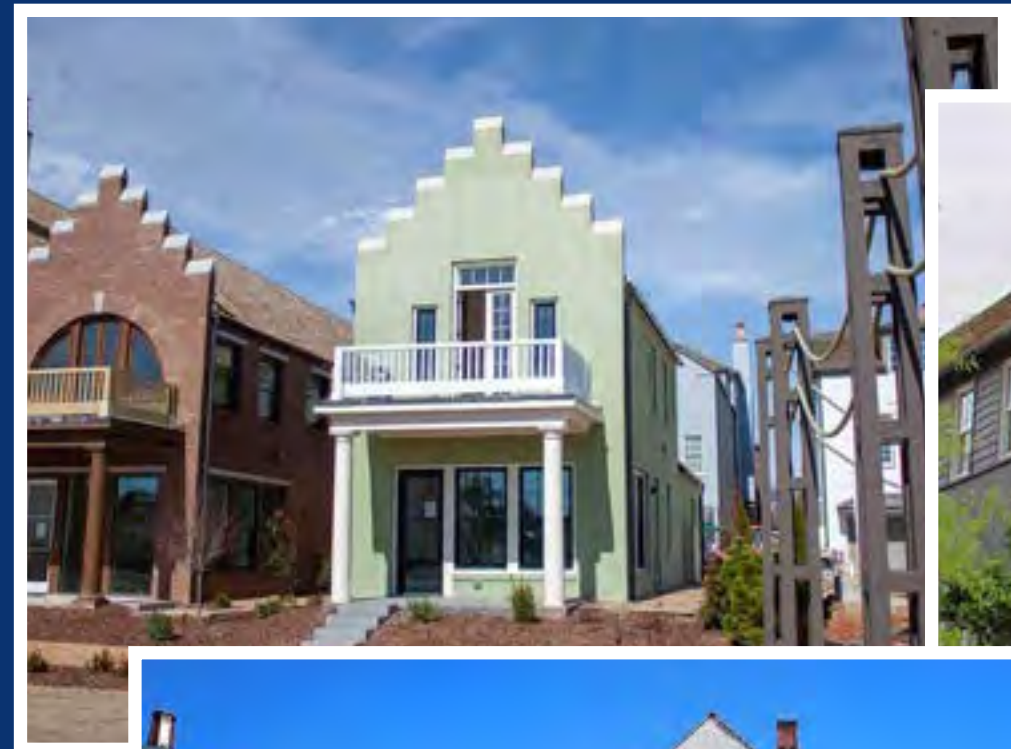




Taxable Value Per Acre

Fayetteville, GA

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Pinewood Forest
 Peak Value Per Acre: \$12.5m
 Avg Value Per Acre: \$6.4m

Fayette Avg. Walmart
 \$377,266 per acre

Value per Acre

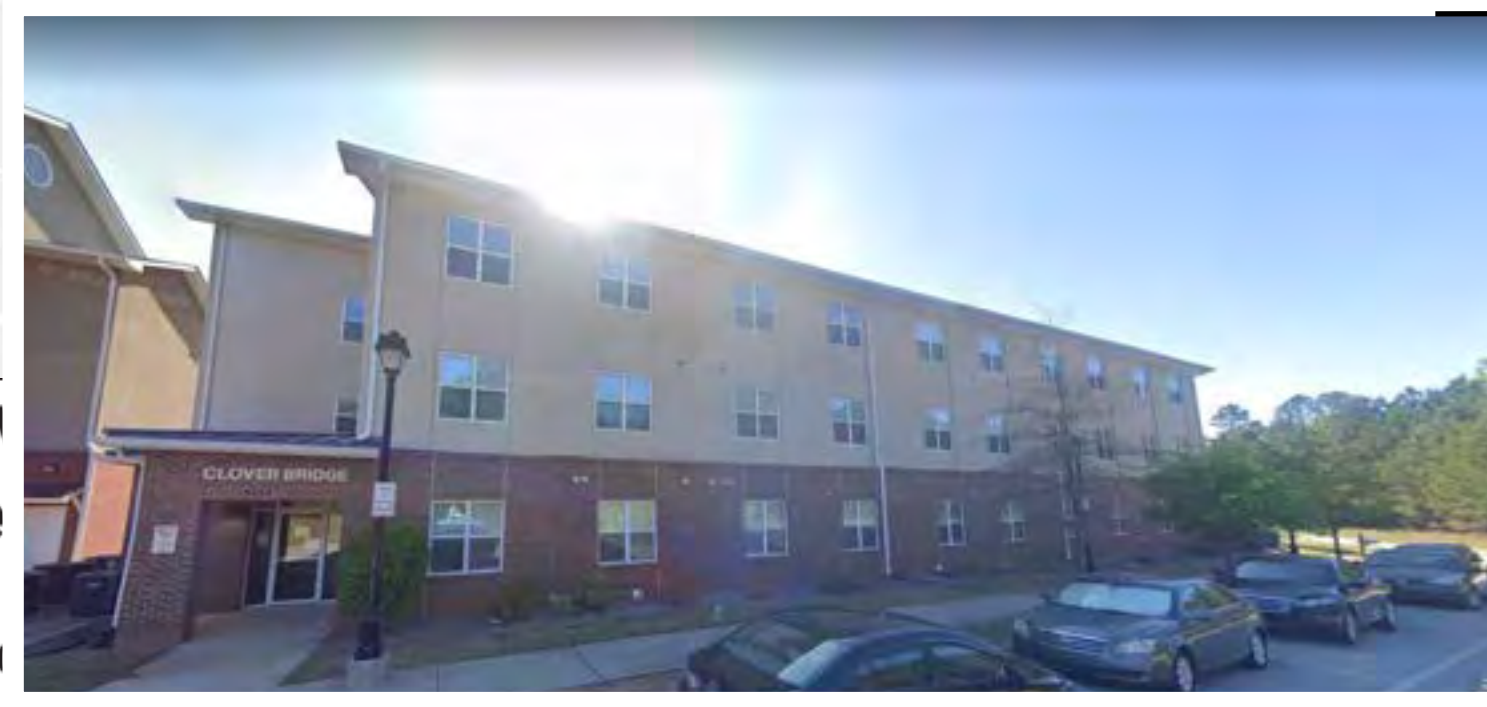
Covington, GA



Clark's Grove Mixed Use
\$11M per acre



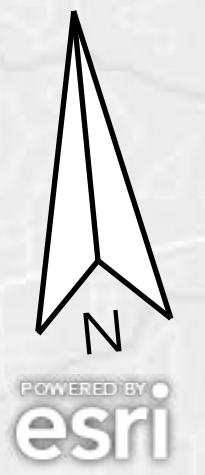
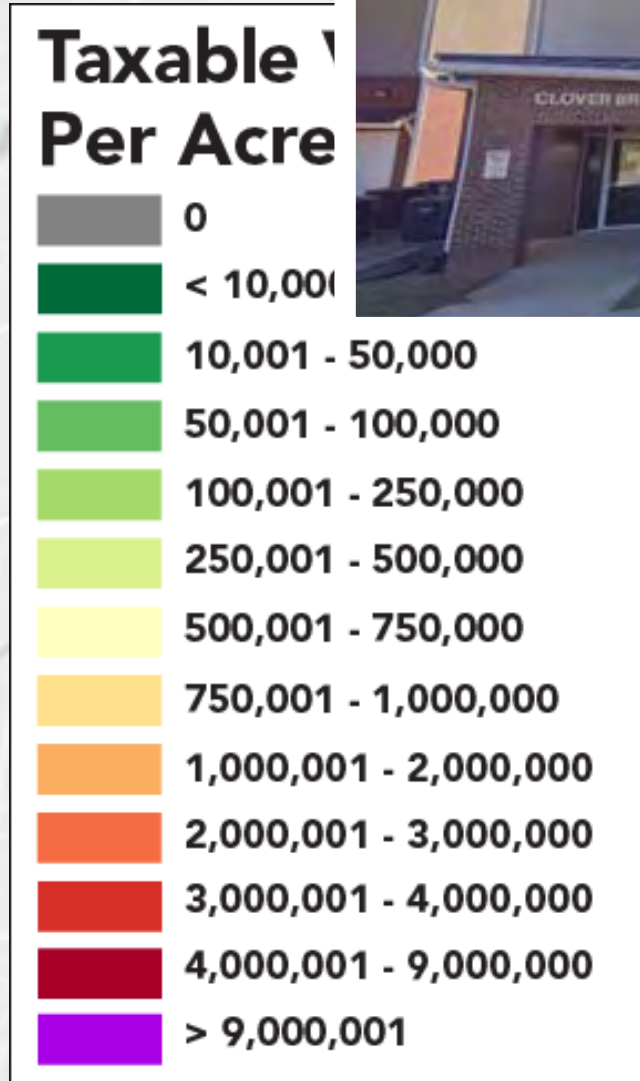
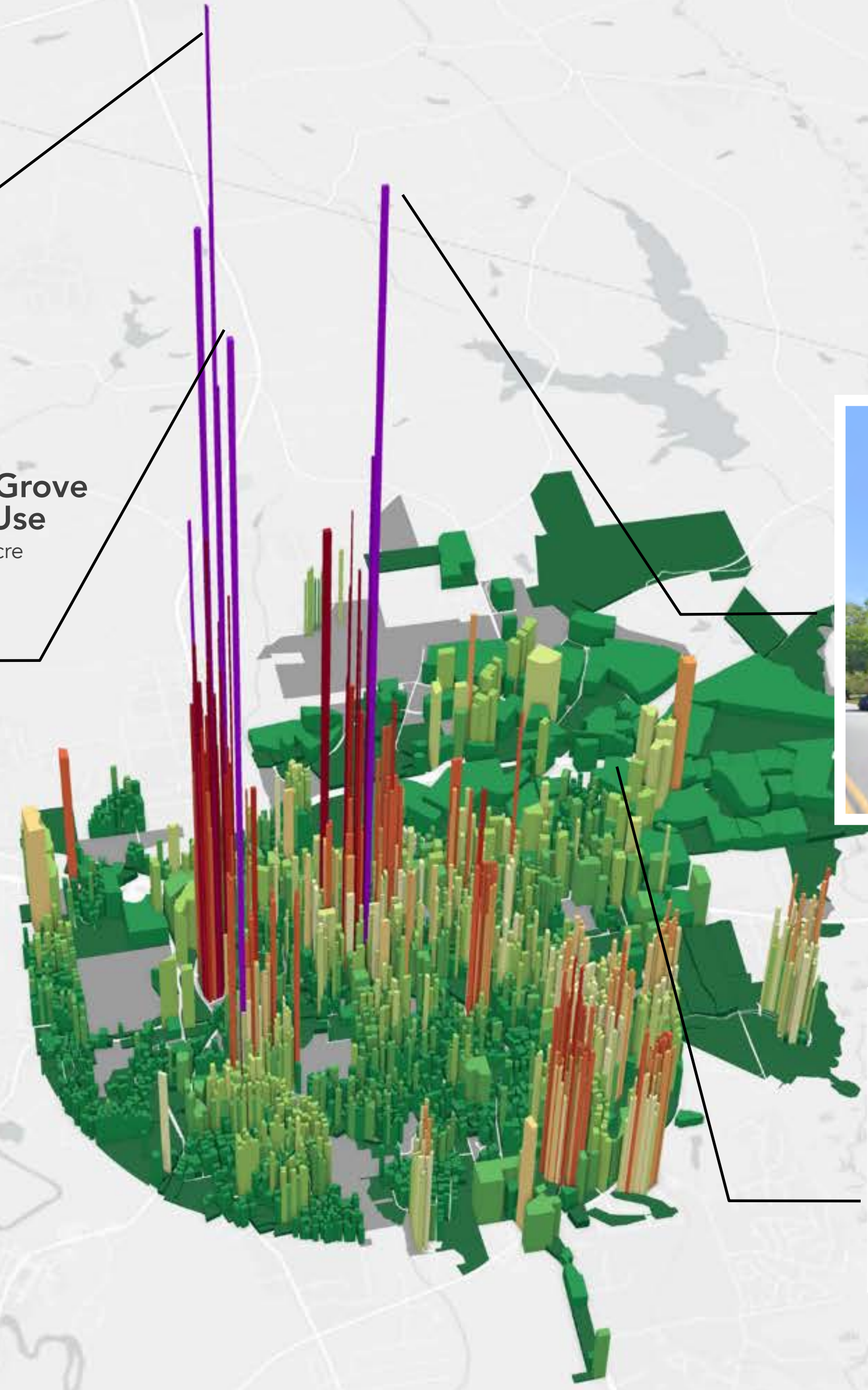
SE Corner College & Church
\$5.2M per acre



Clover Bridge
\$8.9M per acre



Walmart
\$0.2M per acre



Value per Acre

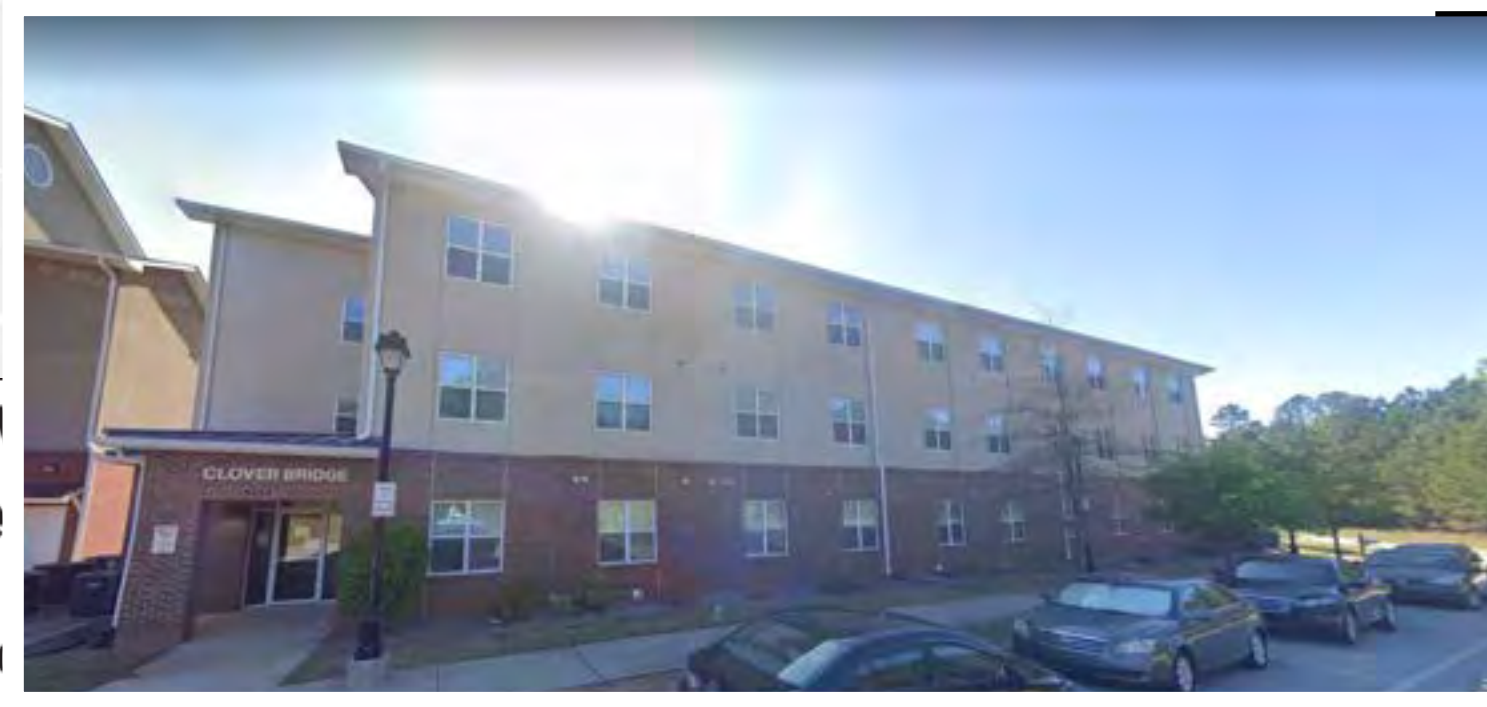
Covington, GA



Clark's Grove Mixed Use
\$11M per acre



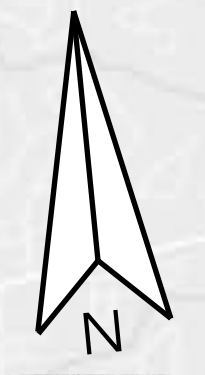
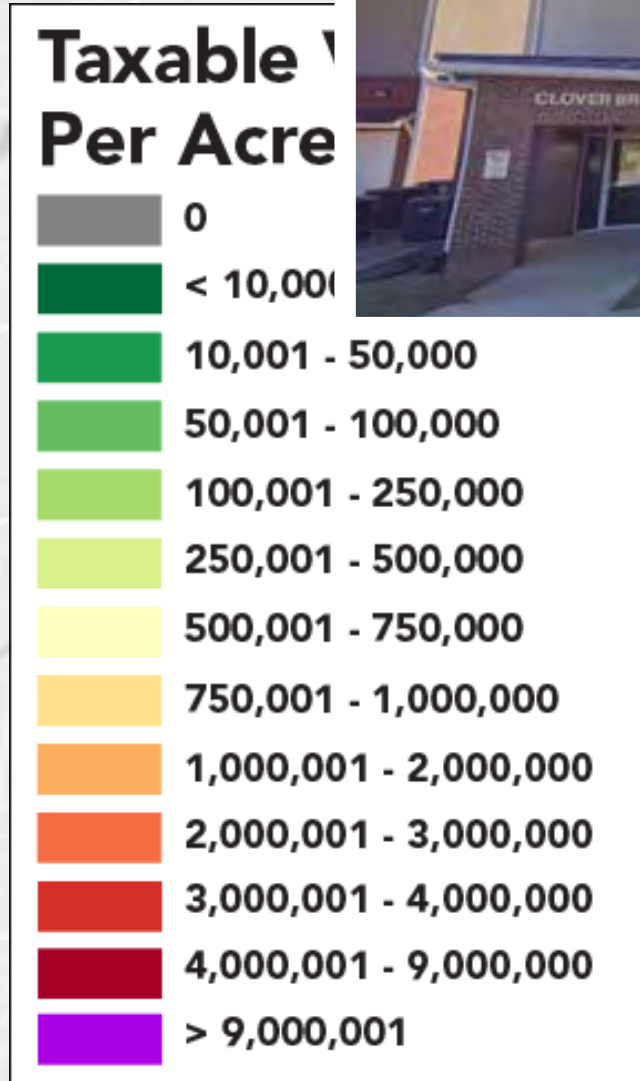
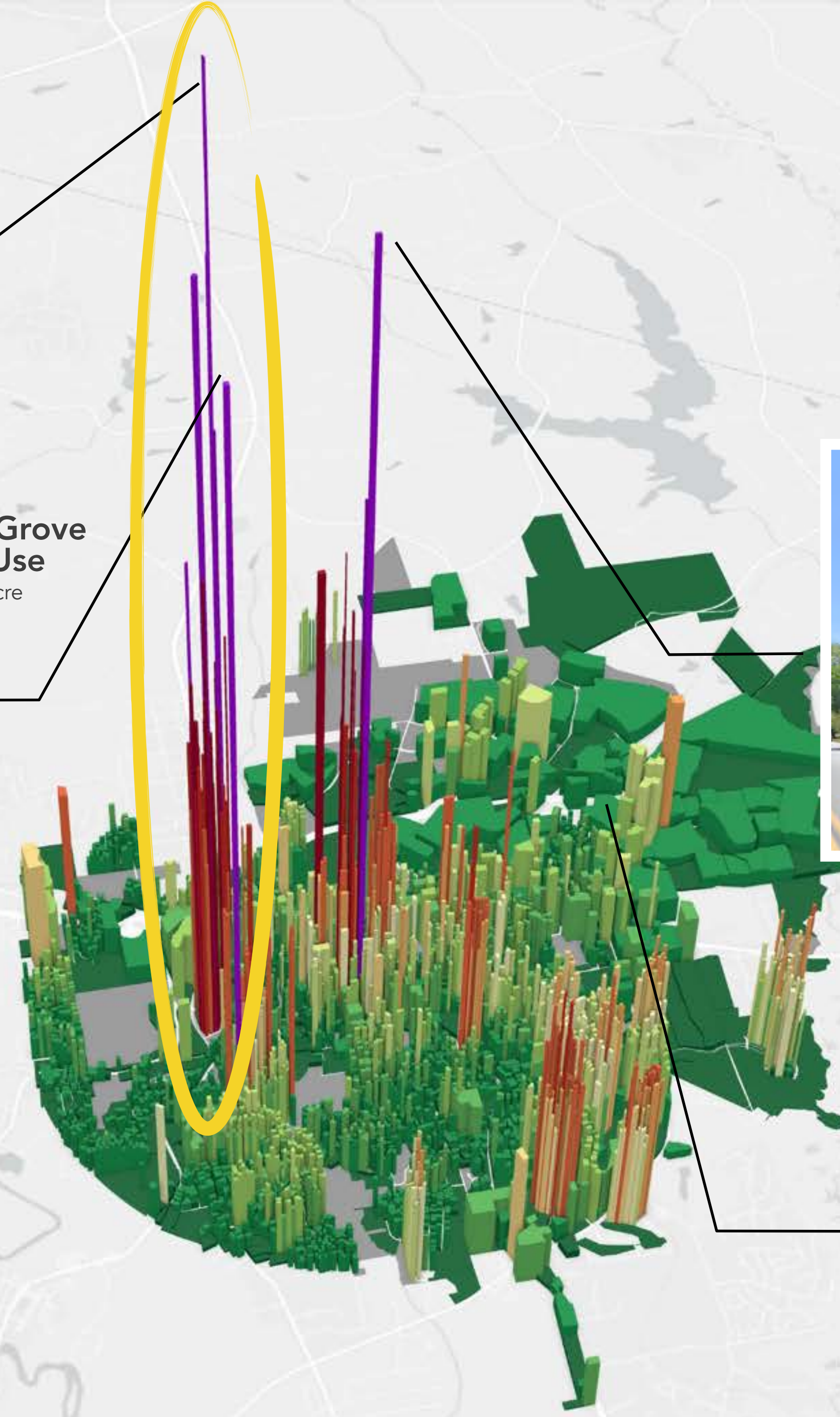
SE Corner College & Church
\$5.2M per acre



Clover Bridge
\$8.9M per acre



Walmart
\$0.2M per acre

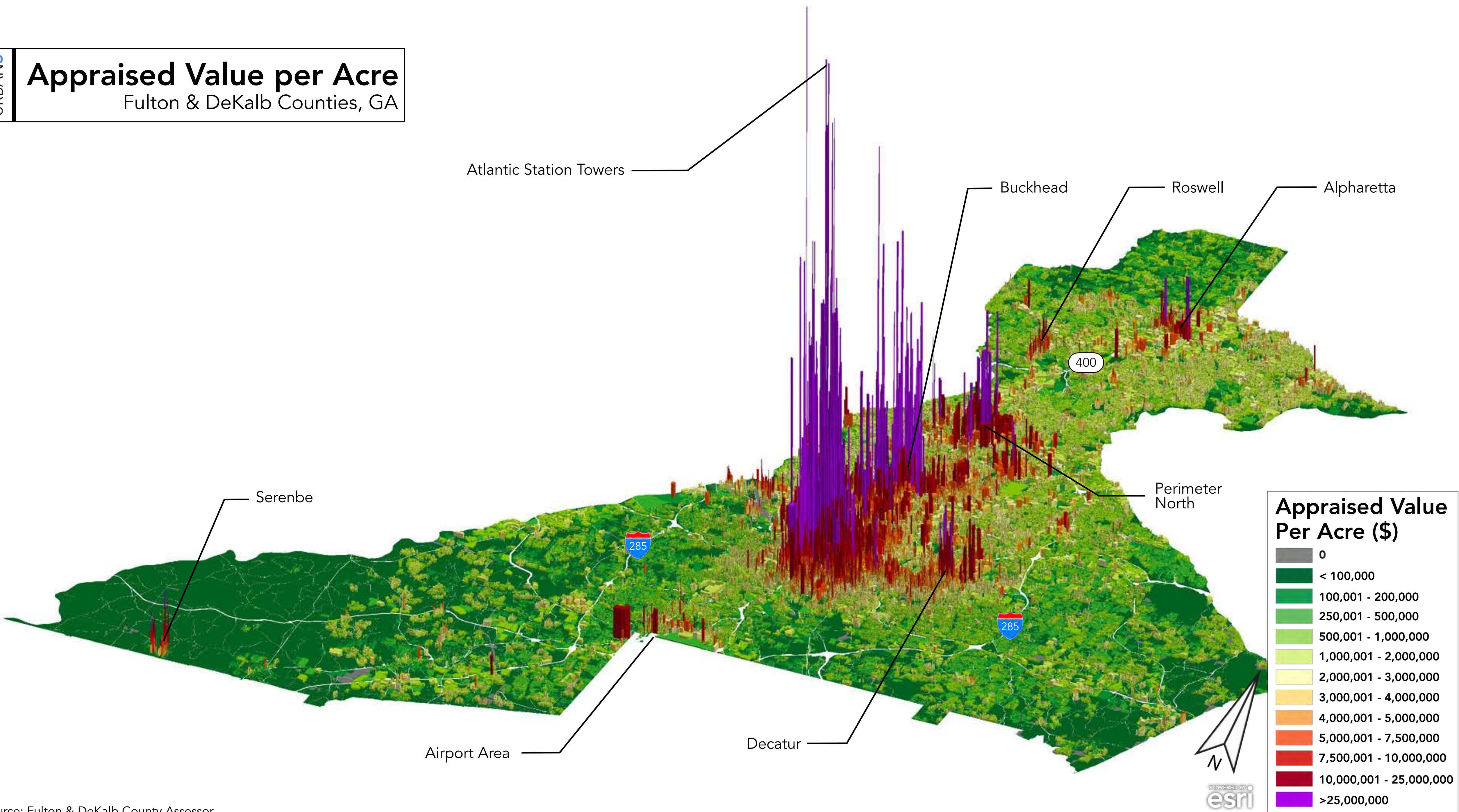


POWERED BY
esri

URBAN3

Appraised Value per Acre

Fulton & DeKalb Counties, GA



Appraised Value Per Acre (\$)

Grey	0
Dark Green	< 100,000
Green	100,001 - 200,000
Light Green	250,001 - 500,000
Yellow-Green	500,001 - 1,000,000
Yellow	1,000,001 - 2,000,000
Light Orange	2,000,001 - 3,000,000
Orange	3,000,001 - 4,000,000
Dark Orange	4,000,001 - 5,000,000
Red	5,000,001 - 7,500,000
Dark Red	7,500,001 - 10,000,000
Maroon	10,000,001 - 25,000,000
Purple	>25,000,000

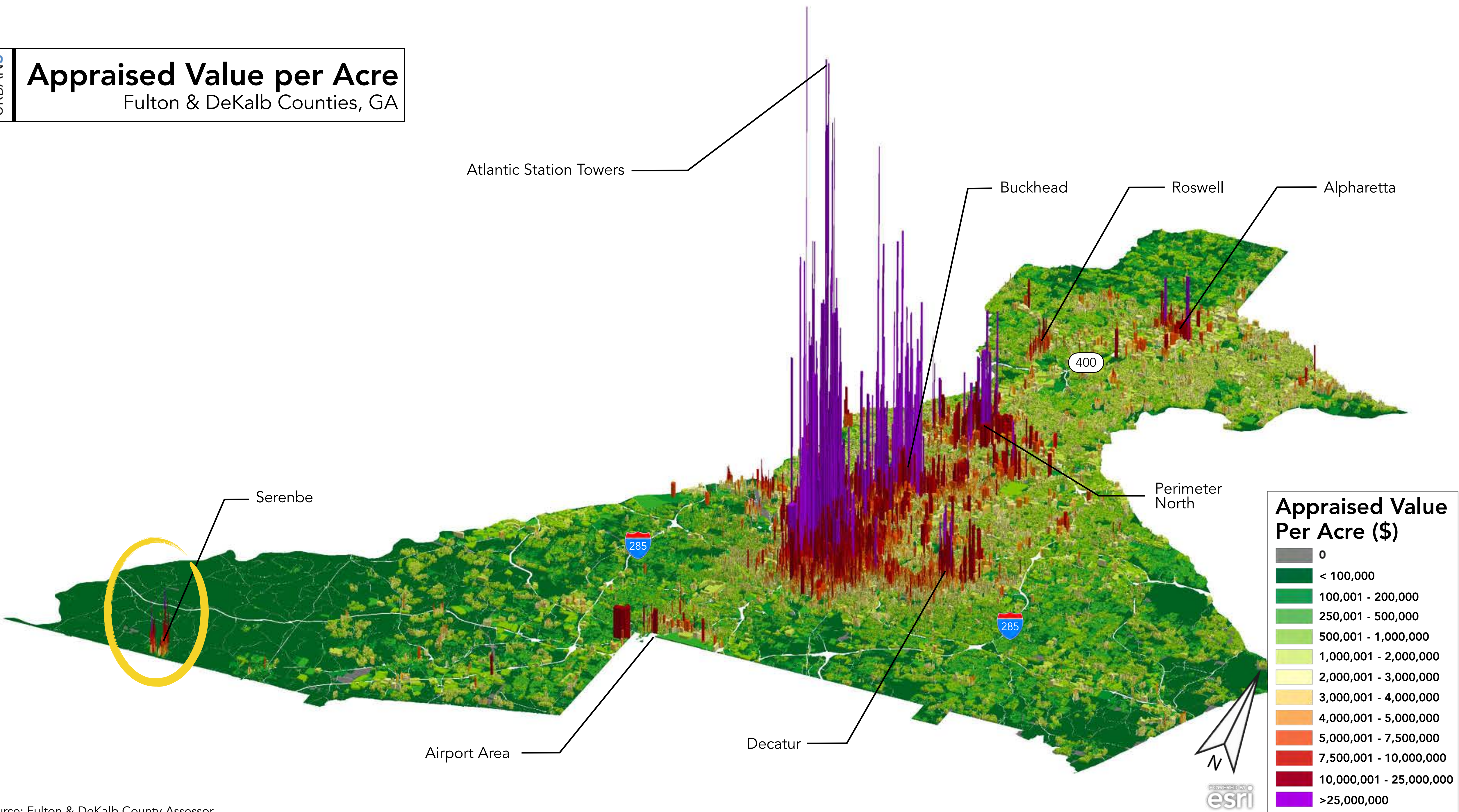
Source: Fulton & DeKalb County Assessor



URBAN3

Appraised Value per Acre

Fulton & DeKalb Counties, GA



Appraised Value Per Acre (\$)

0
< 100,000
100,001 - 200,000
250,001 - 500,000
500,001 - 1,000,000
1,000,001 - 2,000,000
2,000,001 - 3,000,000
3,000,001 - 4,000,000
4,000,001 - 5,000,000
5,000,001 - 7,500,000
7,500,001 - 10,000,000
10,000,001 - 25,000,000
>25,000,000

Source: Fulton & DeKalb County Assessor



Courtesy of The American Architect

An American Example at Flint, Michigan



An English Example at Welwyn

PLATE I. TYPICAL SMALL HOMES

NEIGHBORHOODS OF SMALL HOMES

ECONOMIC DENSITY OF LOW-COST
HOUSING IN AMERICA AND
ENGLAND

BY
ROBERT WHITTEN
AND
THOMAS ADAMS



CAMBRIDGE
HARVARD UNIVERSITY PRESS
1931

TABLE X
ACREAGE VALUES IN TRACTS RIPE FOR SUBDIVISION AND BUILDING

CITY	SUITABLE FOR HOUSES, TO SELL FOR \$12,000 UP				Are Utility Mains within a Reasonable Distance?
	Value per Acre A	Distance from Built-up Areas	Distance from Center of City (Miles)	Distance from Means of Transportation (Feet)	
<i>Groups I and II</i>					
Cities of 300,000 and Over					
BALTIMORE, MD.	\$5000	Adjacent	3.5	0	Yes
BALTIMORE, MD.	3500	1/4 mile	8.0	1220	Yes
BOSTON, MASS.	2250	Adjacent	10.0	3000	Yes
BUFFALO, N. Y.	3750	Adjacent	7.0	2640	Yes
CHICAGO, ILL.	5000	Adjacent	6.5	2640	Yes
CHICAGO, ILL.	6000	Adjacent	7.0	0	Yes
CINCINNATI, OHIO	4000	Adjacent	8.0	1000	Yes
CINCINNATI, OHIO	4000	Adjacent	5.0	1320	Yes
CINCINNATI, OHIO	3000	Adjacent	5.0	0	Yes
CLEVELAND, OHIO					
DETROIT, MICH.	4500	Adjacent	5.0	0	Yes
DETROIT, MICH.	4000	Adjacent	5.0	0	Yes
KANSAS CITY, MO.	3500	Adjacent	7.0	3960	Yes
KANSAS CITY, MO.	2000	1/4 mile	5.0	3960	Yes
PHILADELPHIA, PA.	9000	Adjacent	9.0	1700	Yes
ROCHESTER, N. Y.	3000	Adjacent	4.0	0	Yes
ROCHESTER, N. Y.	3500	Adjacent	3.0	600	Yes
Average Value	3800				
Median Value	3750				
<i>Groups III, IV, and V</i>					
Cities of 30,000 to 300,000					
AKRON, OHIO	1500	Adjacent	3.0	500	Yes
AKRON, OHIO					
ALLENTOWN, PA.	3000	1/4 mile	2.5	900	Yes, except sewers
CANTON, OHIO	1500	Adjacent	2.5	2000	Yes
DES MOINES, IOWA	2000	Adjacent	3.0	600	Yes
DES MOINES, IOWA	2500	Adjacent	5.0	900	Yes
DES MOINES, IOWA	3000	Adjacent	2.5	600	Yes
FORT WAYNE, IND.	4250	Adjacent	3.0	0	Yes
GARY, IND.	1250	Adjacent	3.0	0	Yes
GARY, IND.	5000	Adjacent	1.5	600	Yes
GARY, IND.	2750	Adjacent	4.0	5280	Yes, except sewers
NEW HAVEN, CONN.	2500	1/4 mile	3.5	1000	Yes, except sewers
NEW HAVEN, CONN.	3000	Adjacent	3.0	900	Yes
NEW HAVEN, CONN.	4000	Adjacent	3.0	1320	Yes
OMAHA, NEB.	2500	Adjacent	3.0	2000	Yes
OMAHA, NEB.	2750	Adjacent	0.5	2640	Yes
ORANGES and MAPLEWOOD, N. J.	3000	Adjacent	1.5	0	Yes
SOUTH BEND, IND.	2000	1/4 mile	1.5	0	Yes
SOUTH BEND, IND.	2000	1/4 mile	2.5	1000	Yes
SPRINGFIELD, MASS.	3250	Adjacent	4.0	0	Yes
ST. PAUL, MINN.	2500	1/4 mile	3.0	0	Yes
SYRACUSE, N. Y.	2000	1/4 mile	3.5	1000	Yes
SYRACUSE, N. Y.					
Average Value	2679				
Median Value	2500				
Average for all Groups	3146				
Median for all Groups	3000				

NEIGHBORHOODS OF SMALL HOMES

ECONOMIC DENSITY OF LOW-COST HOUSING IN AMERICA AND ENGLAND

BY
ROBERT WHITTEN
AND
THOMAS ADAMS



CAMBRIDGE
HARVARD UNIVERSITY PRESS
1931

VALUES IN TRACTS RIPE FOR SUBDIVISION AND BUILDING

	SUITABLE FOR HOUSES, TO SELL FOR \$12,000 UP				
	Value per Acre A	Distance from Built-up Areas	Distance from Center of City (Miles)	Distance from Means of Transportation (Feet)	Are Utility Mains within a Reasonable Distance?
<i>and II</i>					
00 and Over					
.	-----	-----	-----	-----	-----
.	\$5000	Adjacent	3.5	0	Yes
.	3500	½ mile	8.0	1320	Yes
.	2250	Adjacent	10.0	3000	Yes
.	3750	Adjacent	7.0	2640	Yes
.	5000	Adjacent	6.5	2640	Yes
.	6000	Adjacent	7.0	0	Yes
.	4000	Adjacent	8.0	1000	Yes
.	4000	Adjacent	5.0	1320	Yes
.	3000	Adjacent	5.0	0	Yes
.	-----	-----	-----	-----	-----
.	4500	Adjacent	5.0	0	Yes
.	4000	Adjacent	5.0	0	Yes
.	3500	Adjacent	7.0	3960	Yes
.	2000	½ mile	5.0	3960	Yes
.	9000	Adjacent	9.0	1700	Yes
.	-----	-----	-----	-----	-----
.	3000	Adjacent	4.0	0	Yes
.	3500	Adjacent	3.0	600	Yes
.	3800				
.	3750				

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ES
COST

PRESS

VALUES IN TRACTS RIPE FOR SUBDIVISION AND BUILDING

SUITABLE FOR HOUSES, TO SELL FOR \$12,000 UP					
	Value per Acre A	Distance from Built-up Areas	Distance from Center of City (Miles)	Distance from Means of Trans- portation (Feet)	Are Utility Mains within a Reasonable Distance?
<i>and II</i>					
00 and Over					
.	\$5000	Adjacent	3.5	0	Yes
.	3500	½ mile	8.0	1320	Yes
.	2250	Adjacent	10.0	3000	Yes
.	3750	Adjacent	7.0	2640	Yes
.	5000	Adjacent	6.5	2640	Yes
.	6000	Adjacent	7.0	0	Yes
.	4000	Adjacent	8.0	1000	Yes
.	4000	Adjacent	5.0	1320	Yes
.	3000	Adjacent	5.0	0	Yes
.	4500	Adjacent	5.0	0	Yes
.	4000	Adjacent	5.0	0	Yes
.	3500	Adjacent	7.0	3960	Yes
.	2000	½ mile	5.0	3960	Yes
.	9000	Adjacent	9.0	1700	Yes
.	3000	Adjacent	4.0	0	Yes
.	3500	Adjacent	3.0	600	Yes
.	3800				
.	3750				

OS
ES
COST

RESS

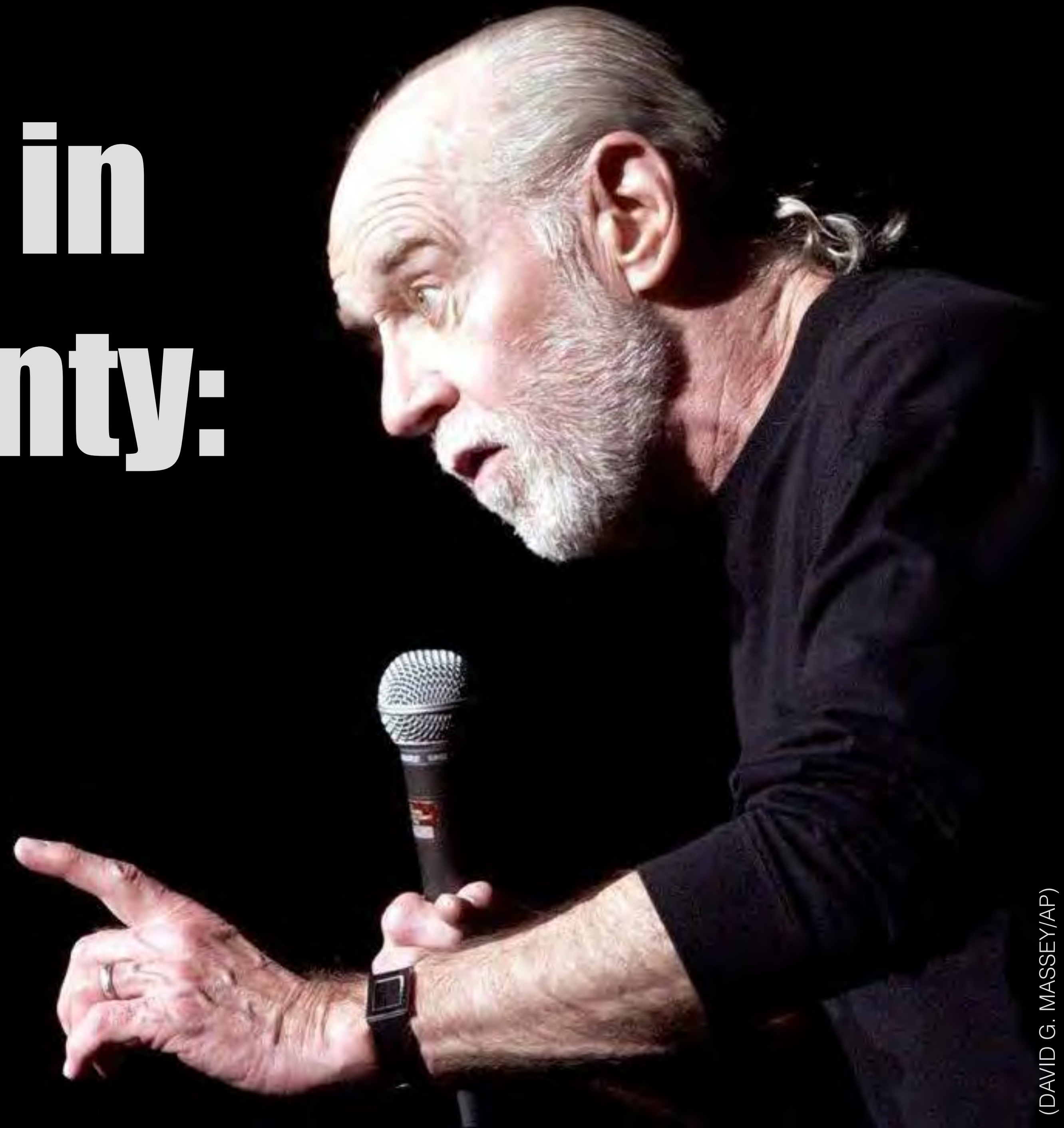
Observation:

**But people don't want
density!**

What are the numbers for Gwinnett County?

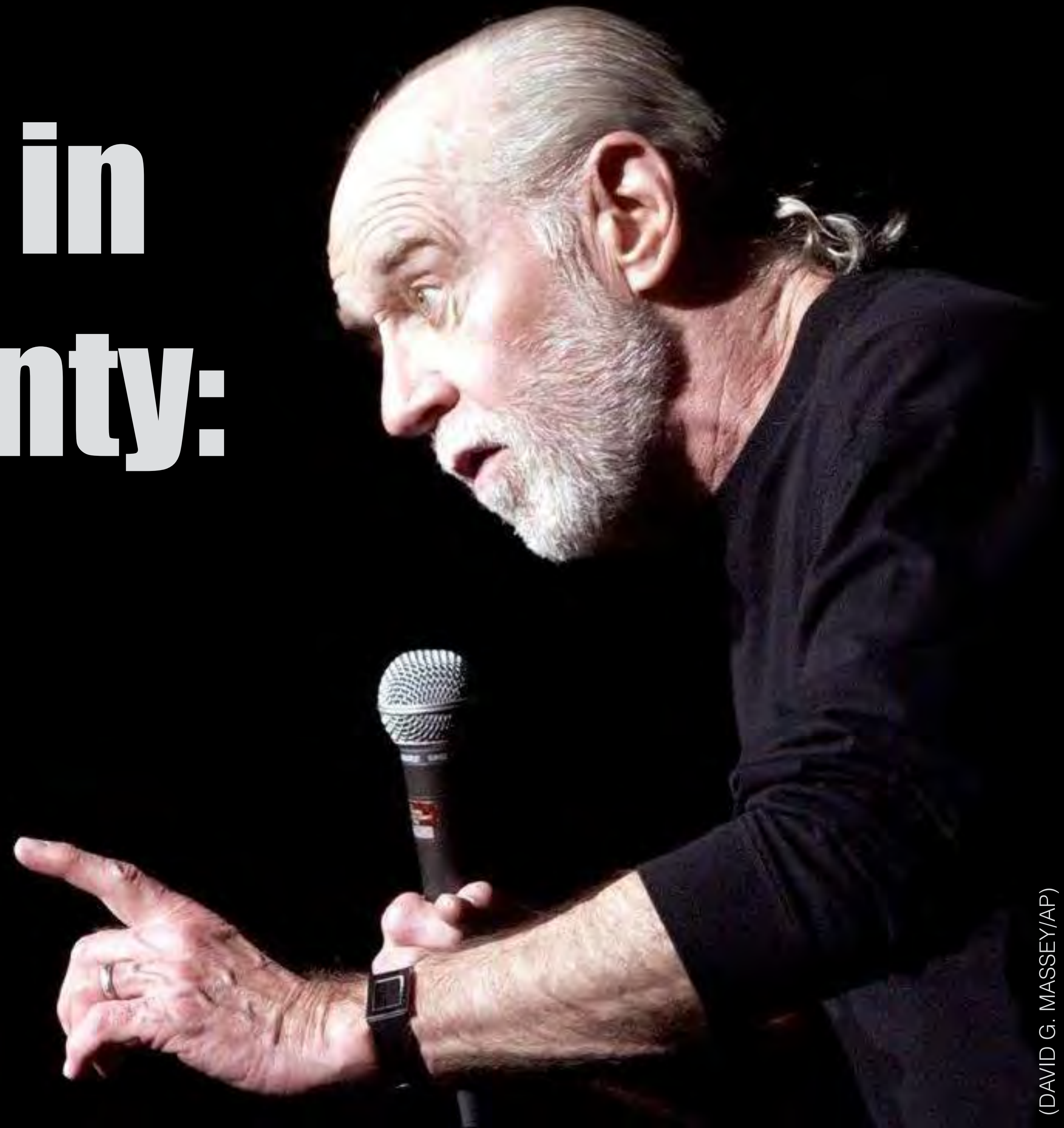


4 Dirty Words in Gwinnett County:



4 Dirty Words in Gwinnett County:

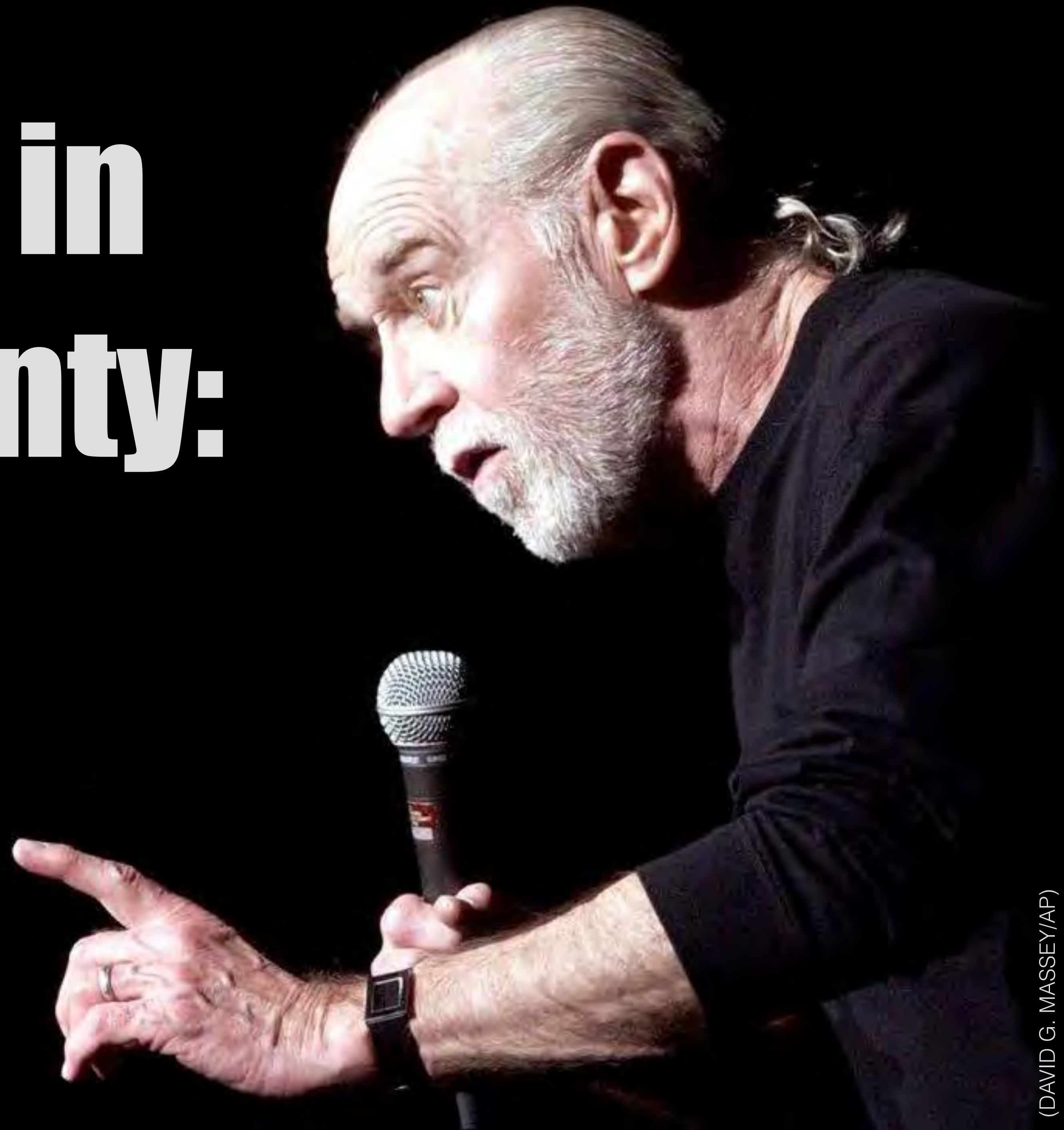
1. Urban



4 Dirty Words in Gwinnett County:

1. Urban

2. City

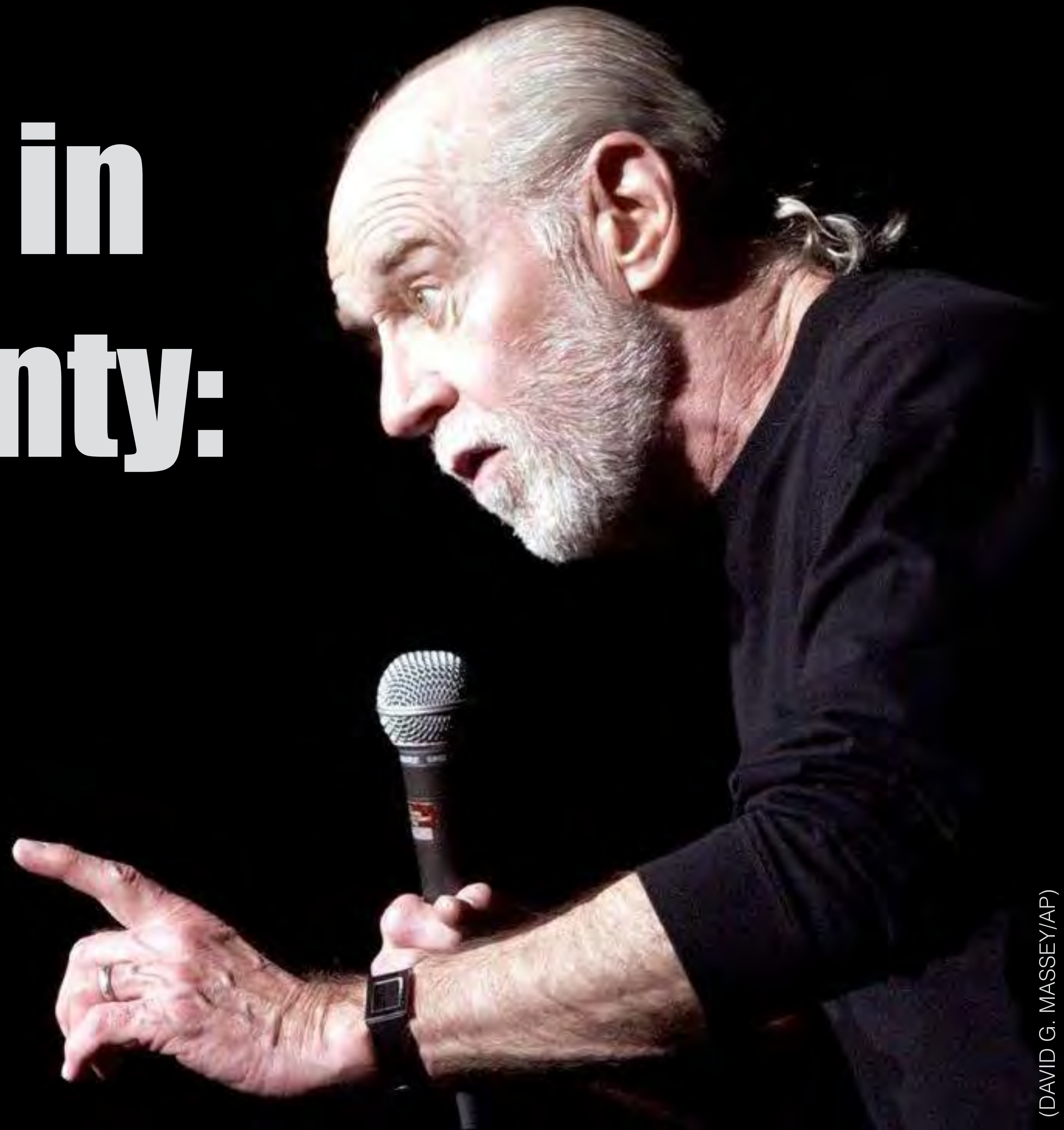


4 Dirty Words in Gwinnett County:

1. Urban

2. City

3. Town



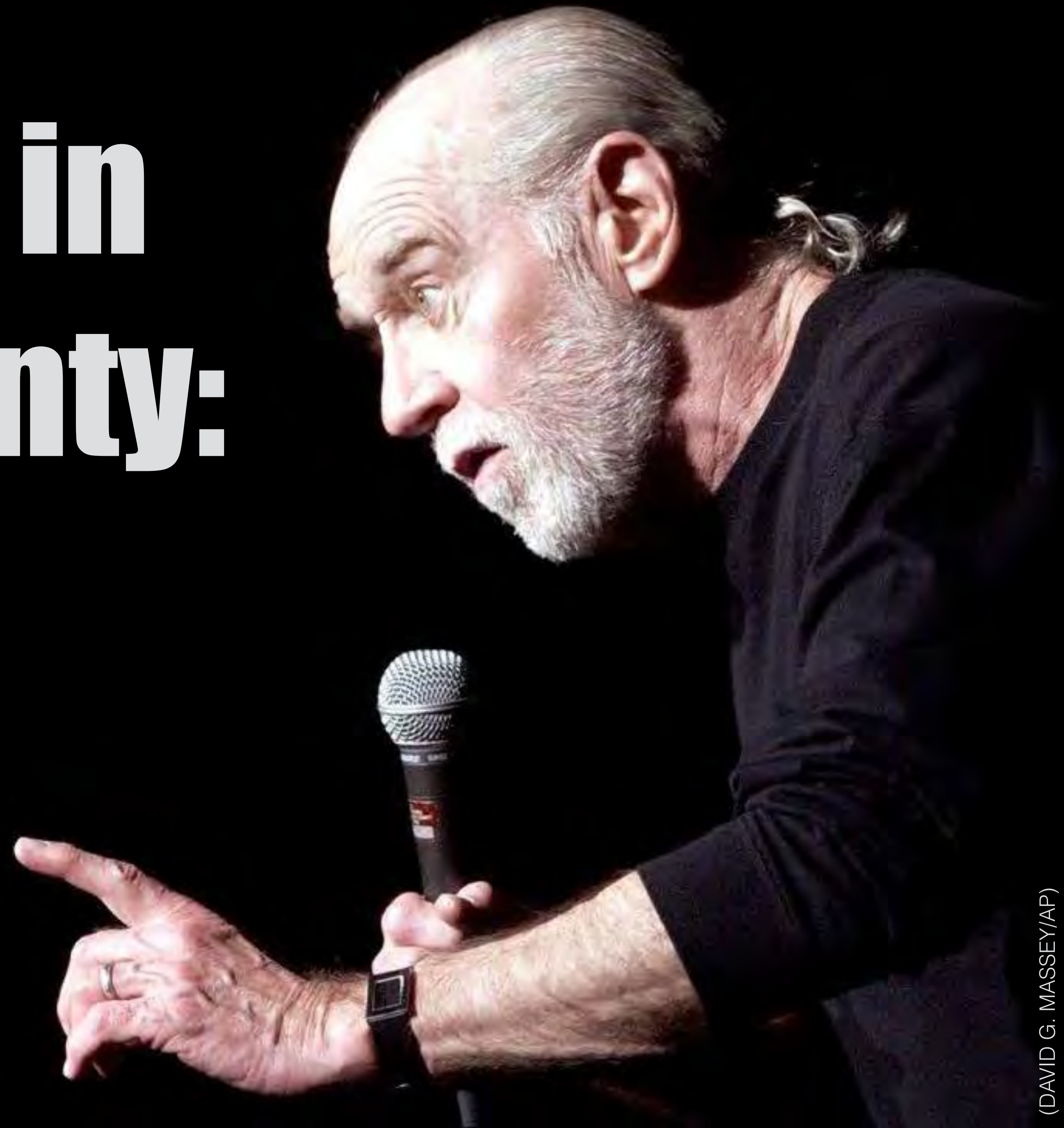
4 Dirty Words in Gwinnett County:

1. Urban

2. City

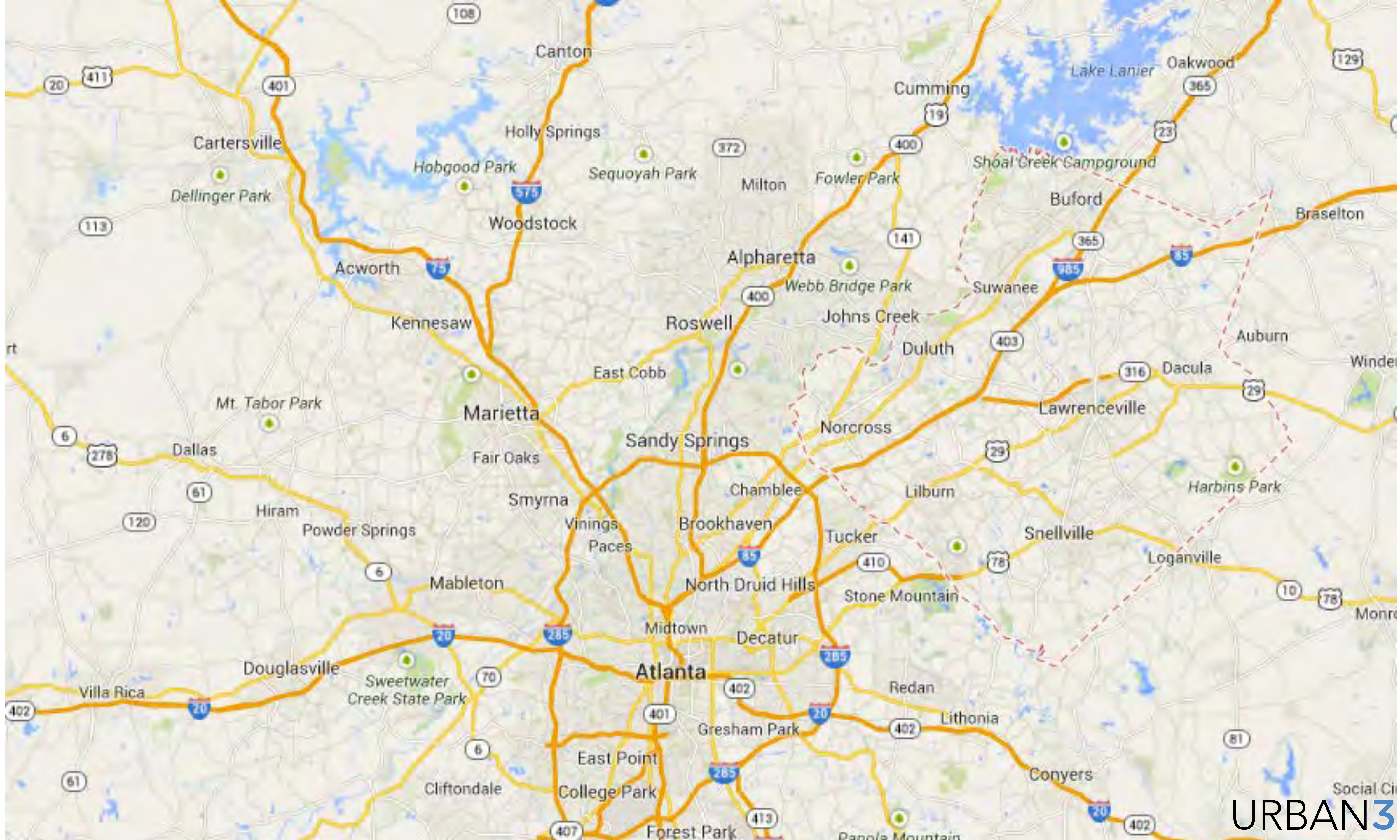
3. Town

4. Municipal



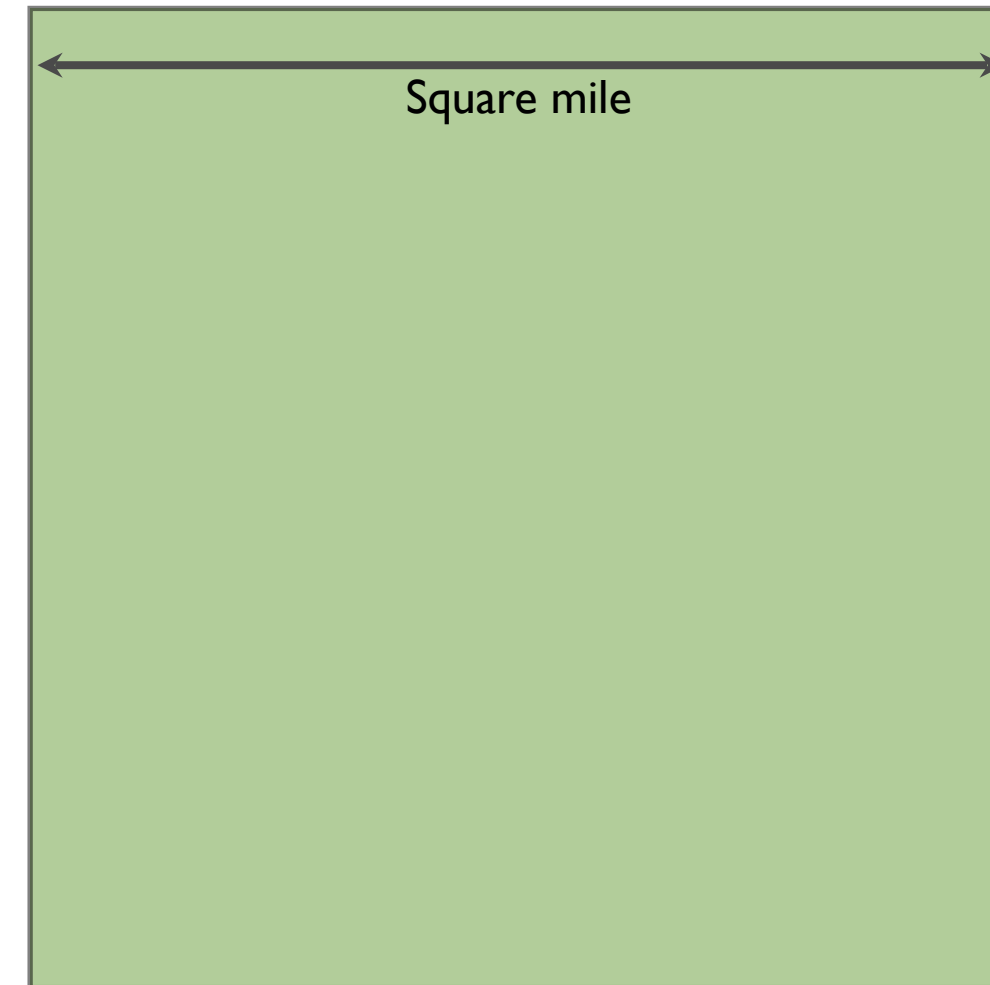
URBAN3

URBAN 3



Density - People per Square Mile

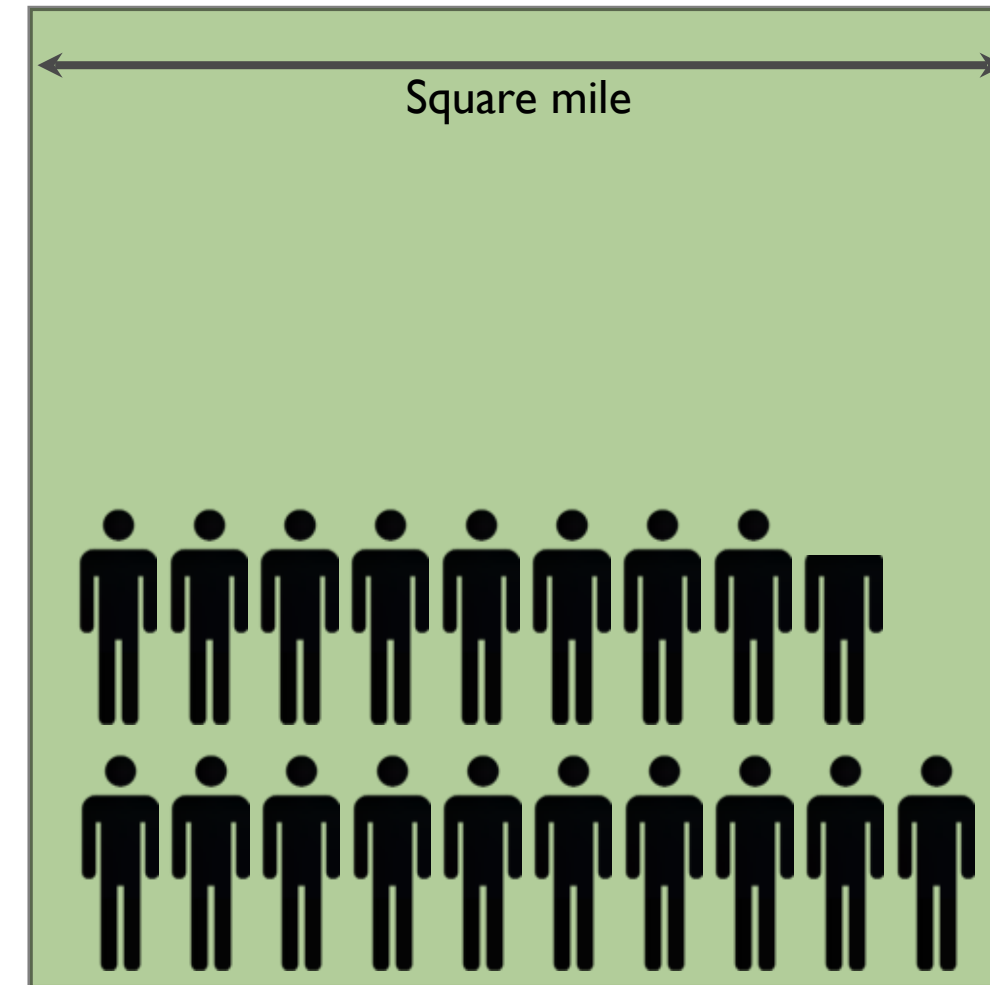
 = 100 people
Source: US Census



Gwinnett, GA
1,871 people/Sq. Mi.

Density - People per Square Mile

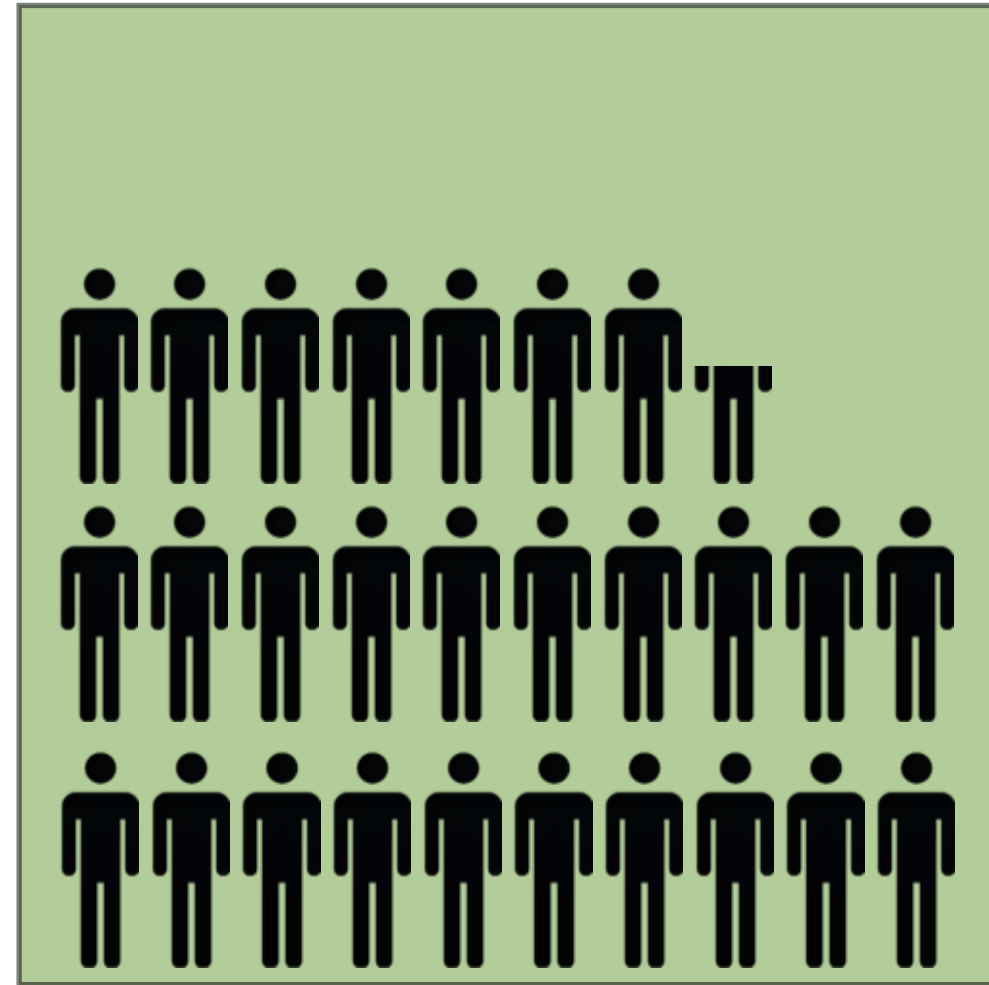
 = 100 people
Source: US Census



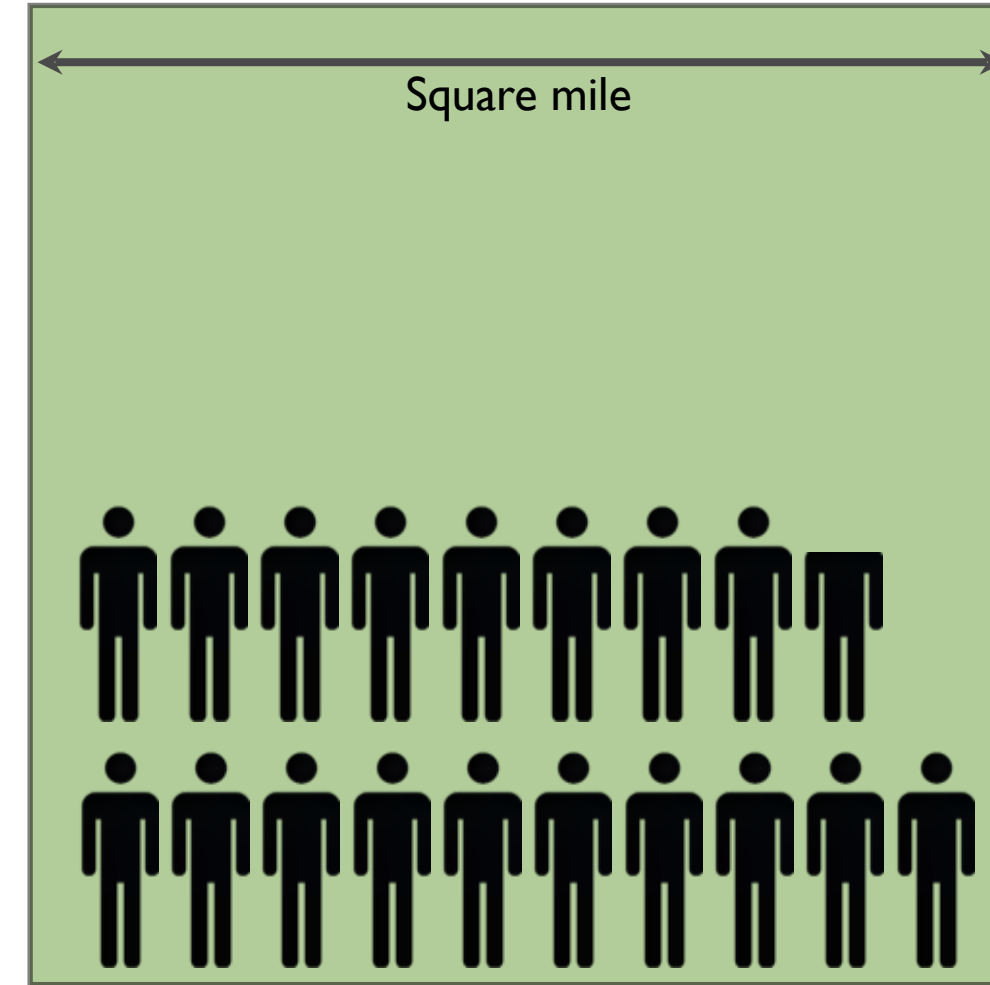
Gwinnett, GA
1,871 people/Sq. Mi.

Density - People per Square Mile

 = 100 people
Source: US Census



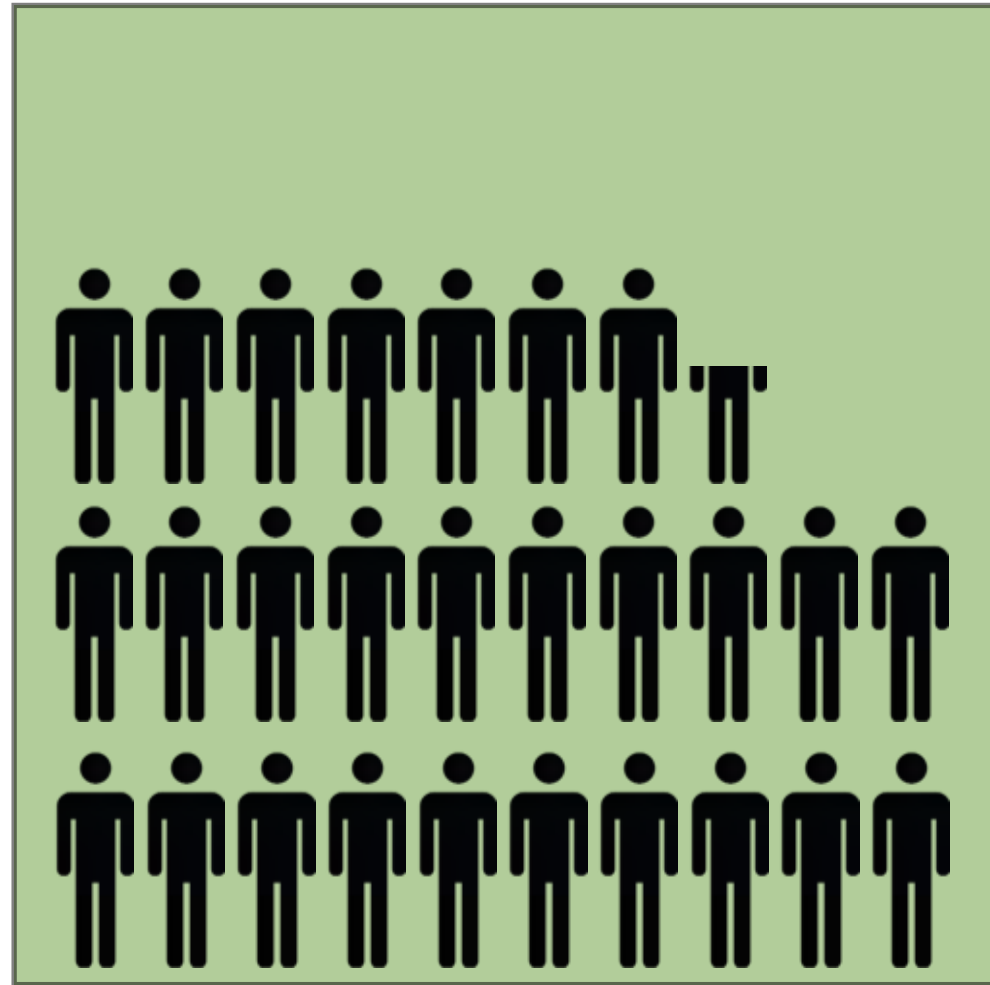
DeKalb, GA
2,740 people/Sq. Mi.



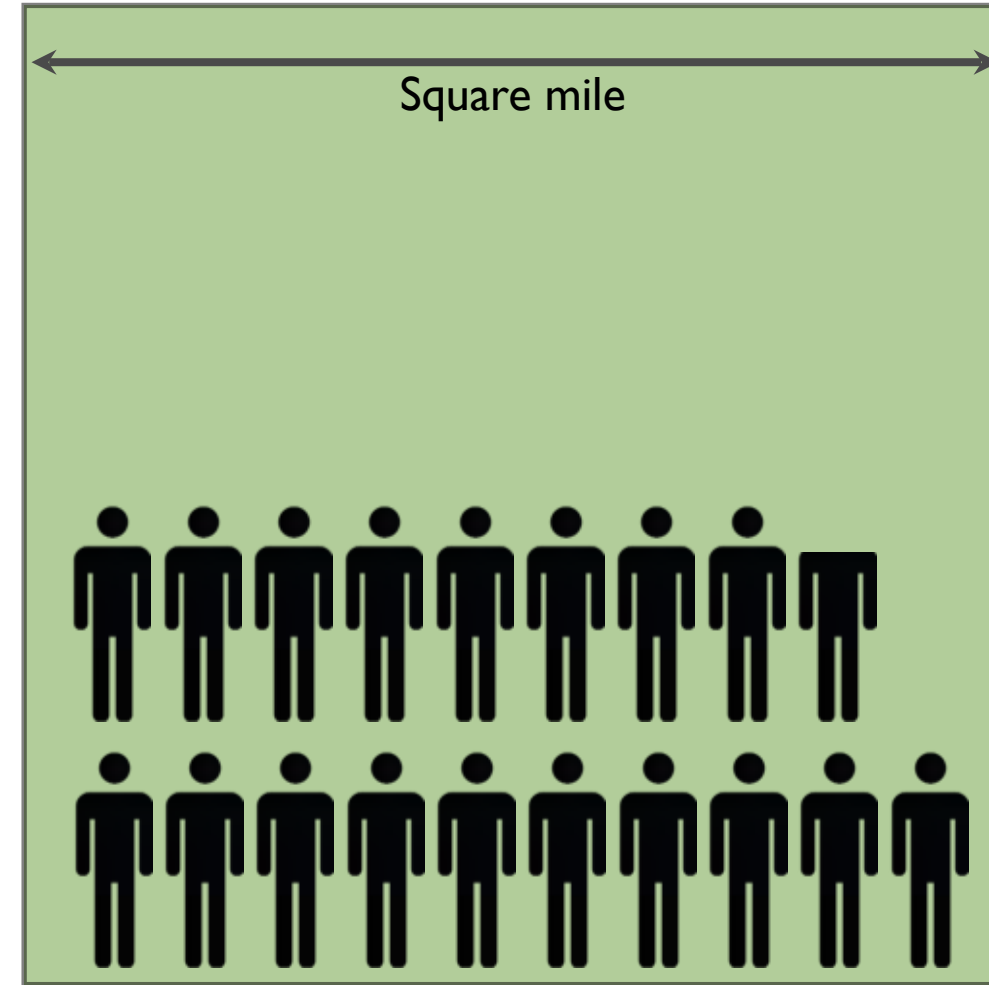
Gwinnett, GA
1,871 people/Sq. Mi.

Density - People per Square Mile

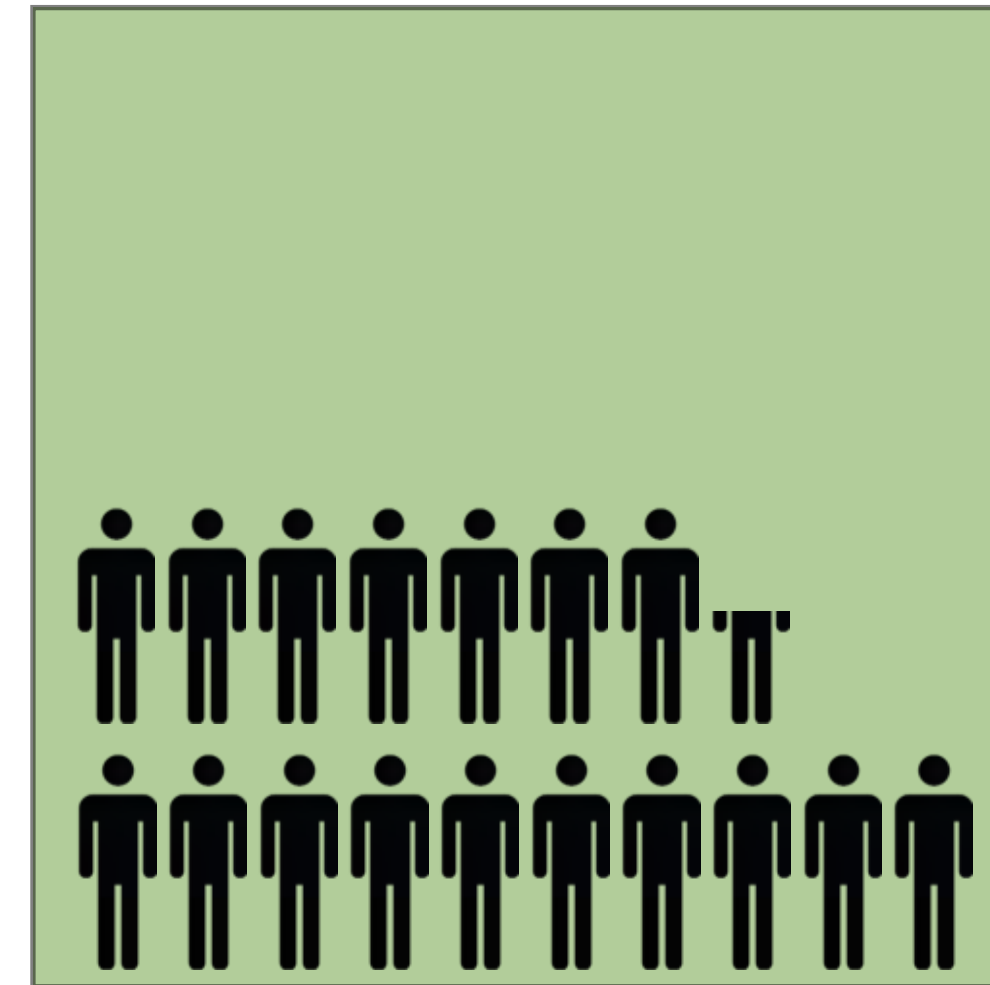
 = 100 people
Source: US Census



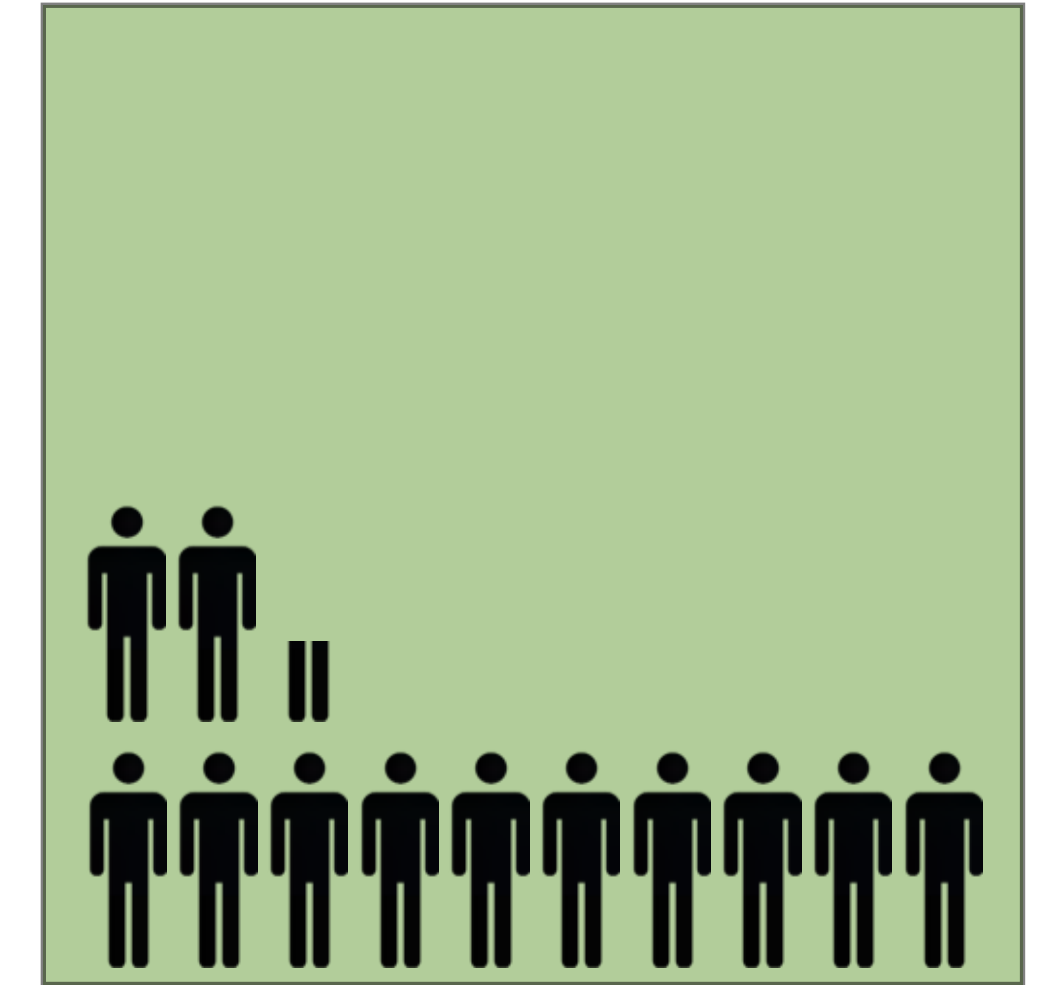
DeKalb, GA
2,740 people/Sq. Mi.



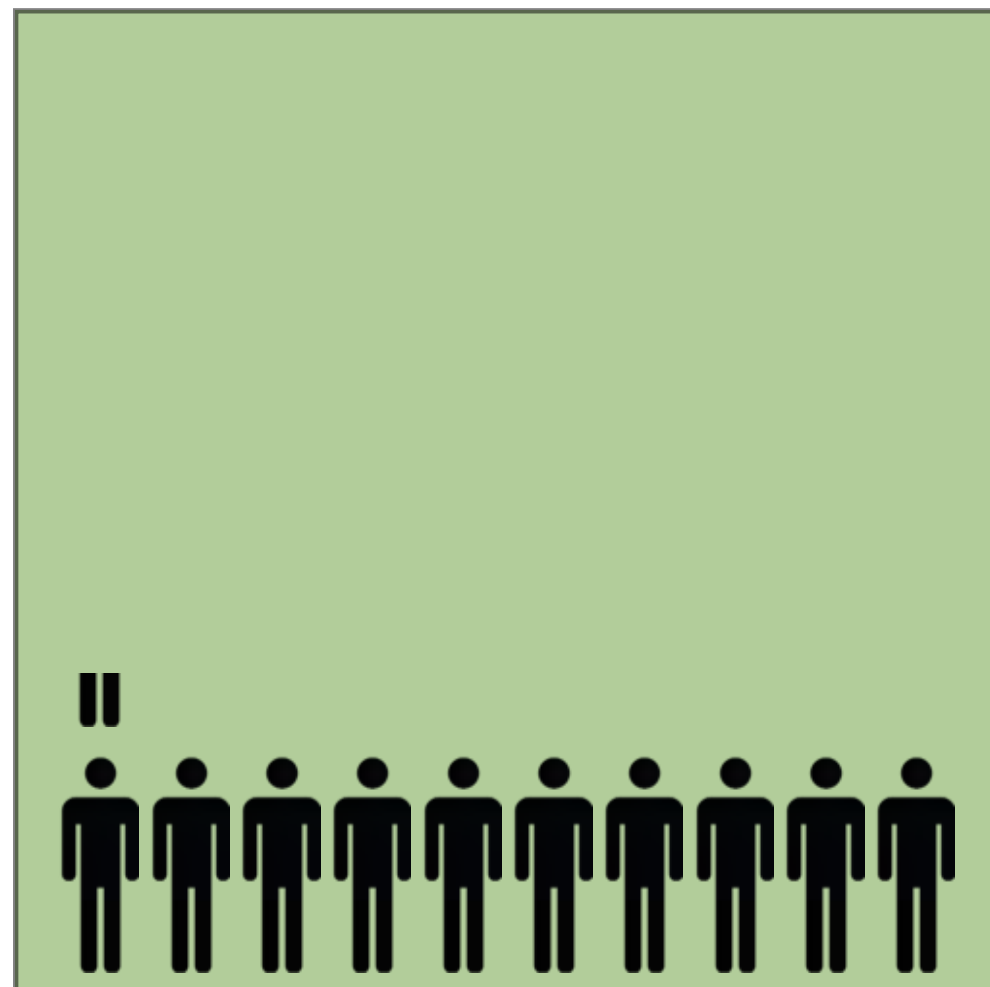
Gwinnett, GA
1,871 people/Sq. Mi.



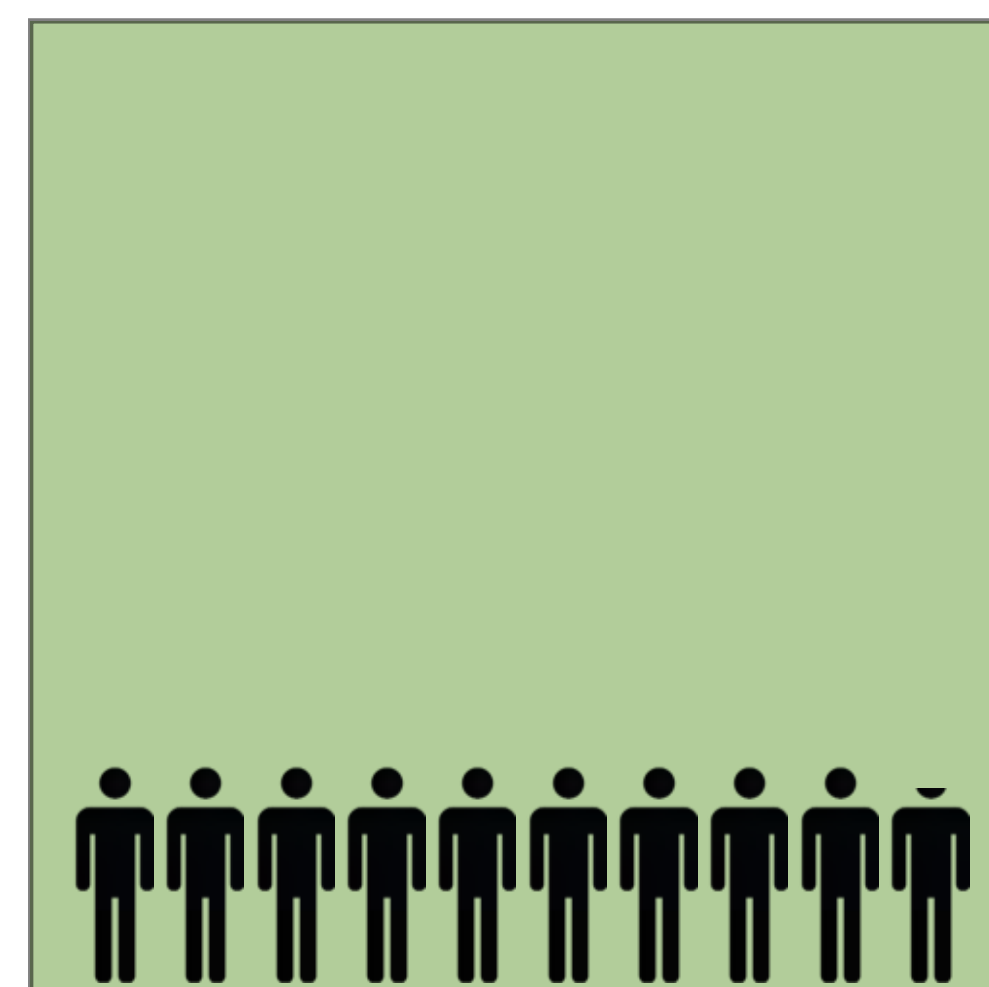
Mecklenburg, NC
1,756 people/Sq. Mi.



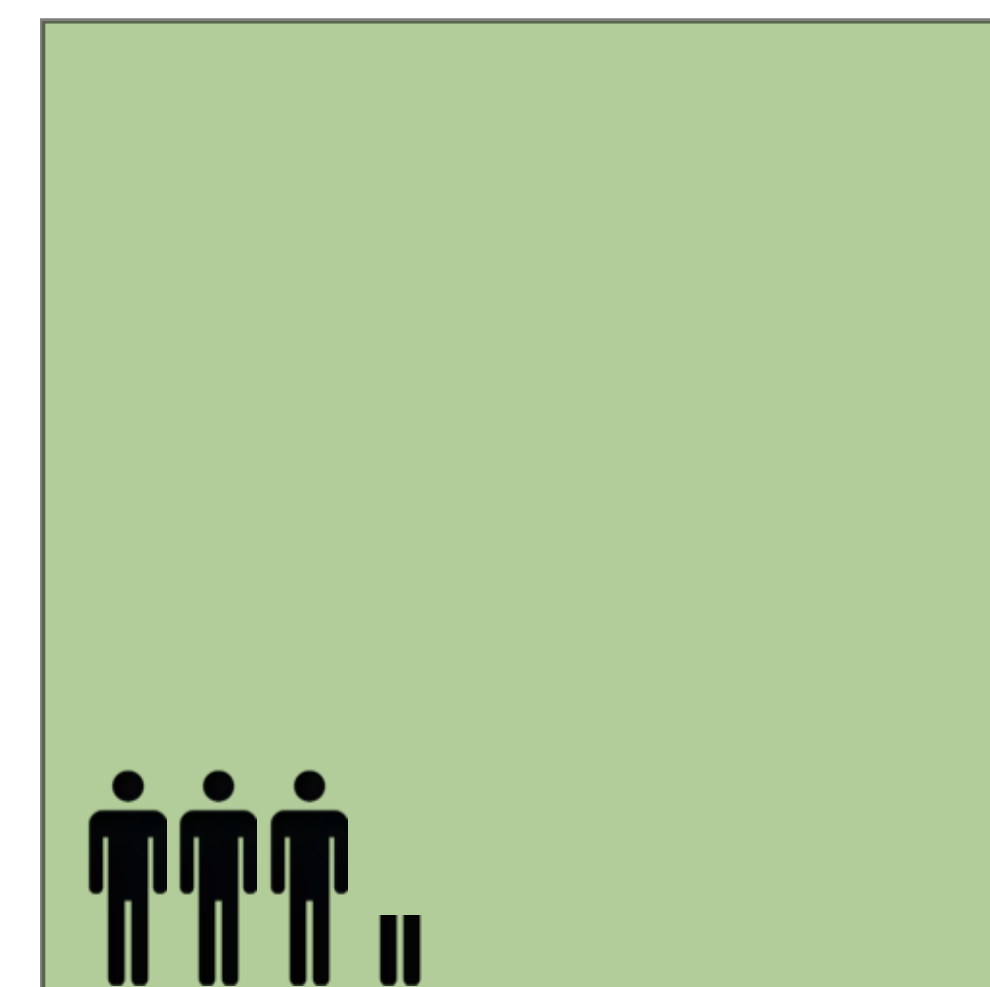
Davidson, TN
1,243 people/Sq. Mi.



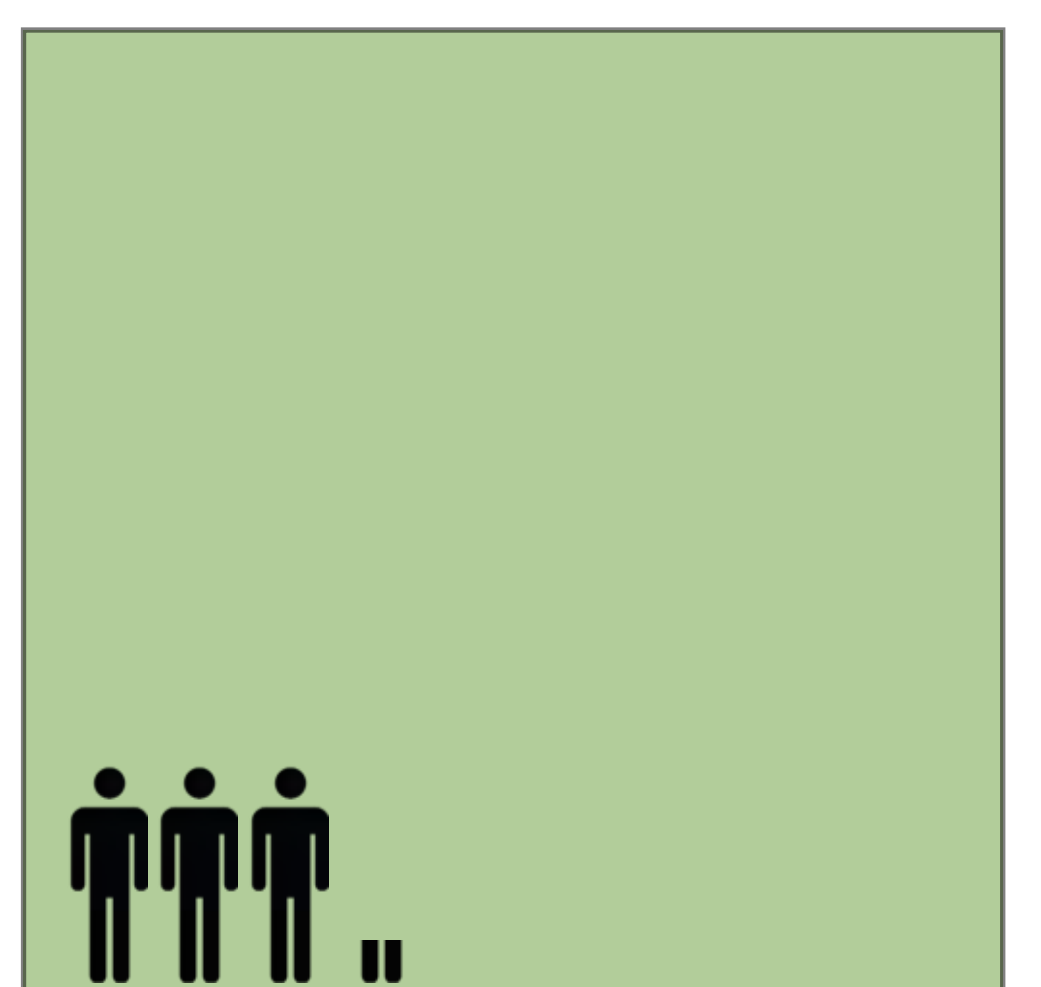
Travis, TX
1,034 people/Sq. Mi.



Wake, NC
992 people/Sq. Mi.



Buncombe, NC
344 people/Sq. Mi.



Orange, NC
313 people/Sq. Mi.

Gwinnett County, GA

Total Value Per Acre

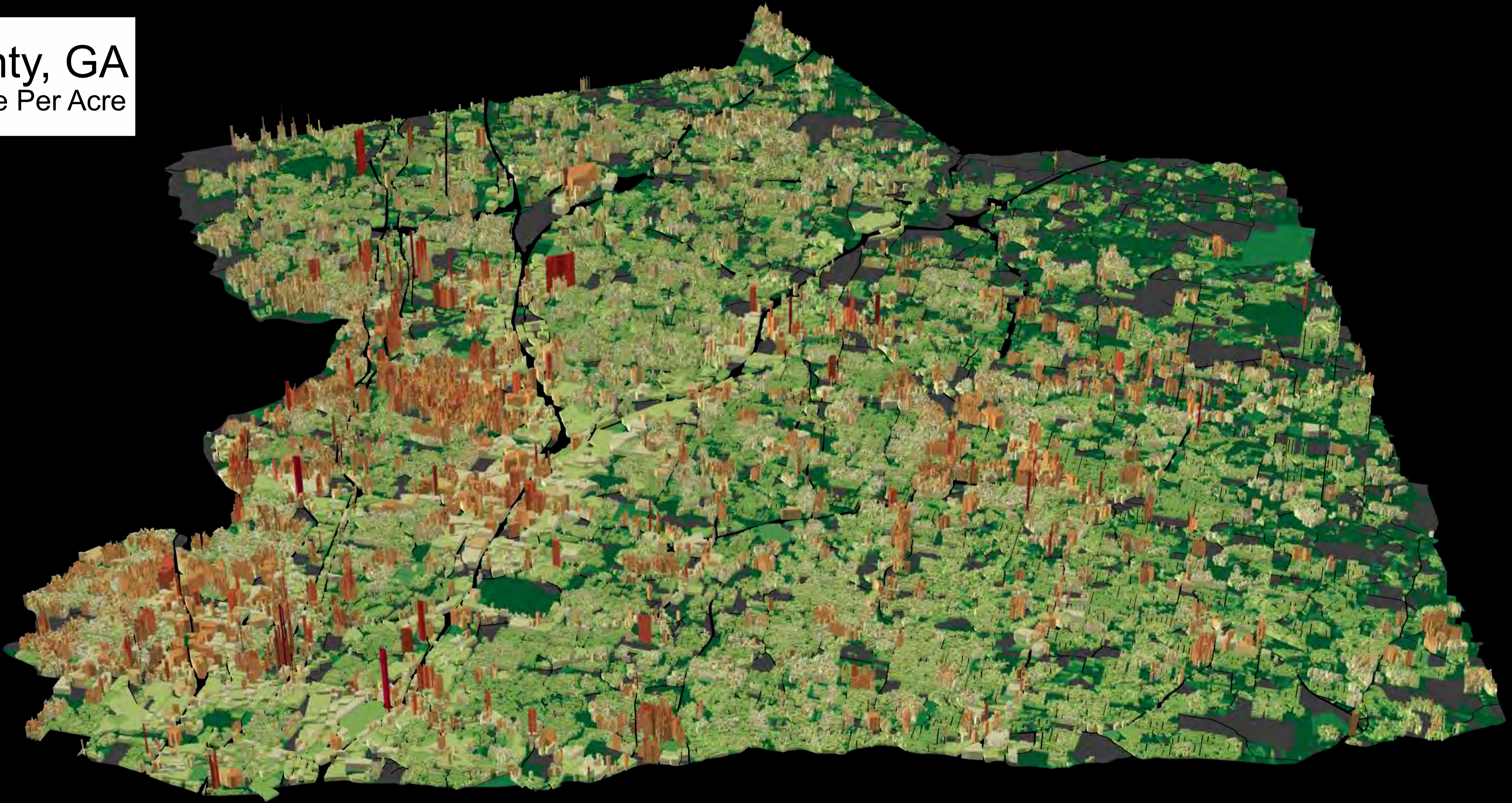


Total Value Per Acre

0
1 - 50,000
50,001 - 250,000
250,001 - 500,000
500,001 - 750,000
750,001 - 1,000,000
1,000,001 - 1,500,000
1,500,001 - 2,000,000
2,000,001 - 3,000,000
3,000,001 - 4,000,000
4,000,001 - 8,000,000

Gwinnett County, GA

Total Value Per Acre



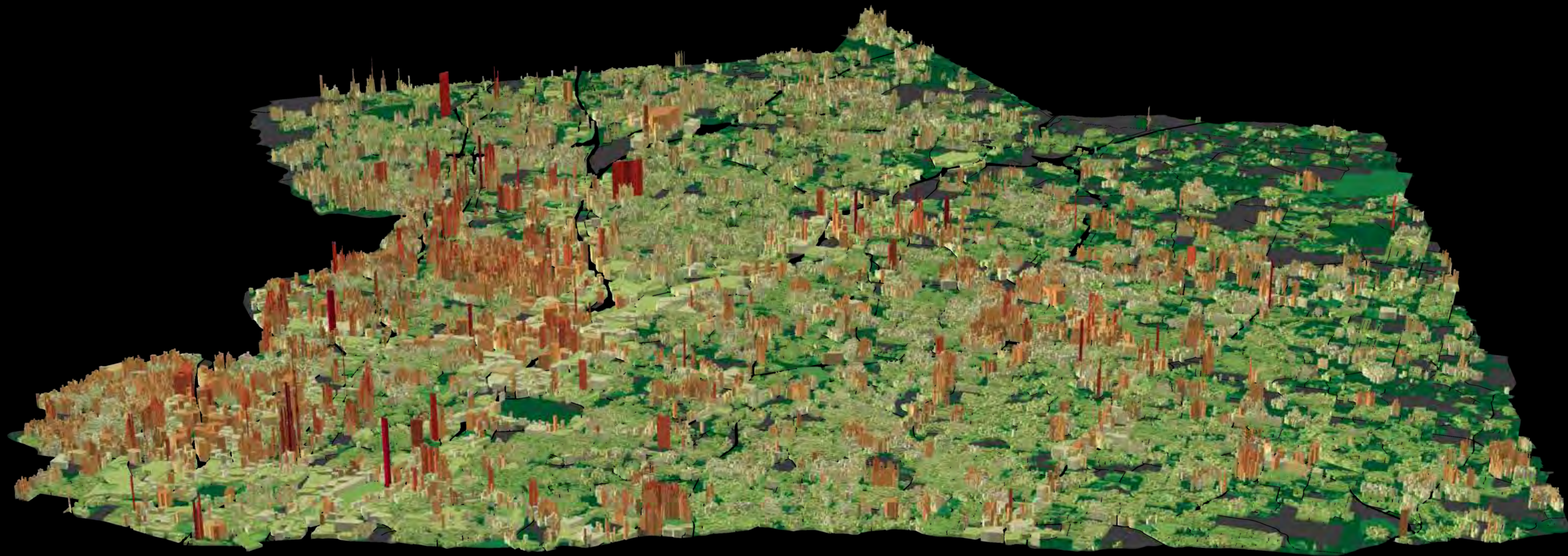
Total Value Per Acre

0
1 - 50,000
50,001 - 250,000
250,001 - 500,000
500,001 - 750,000
750,001 - 1,000,000
1,000,001 - 1,500,000
1,500,001 - 2,000,000
2,000,001 - 3,000,000
3,000,001 - 4,000,000
4,000,001 - 8,000,000

Gwinnett County, GA

Total Value Per Acre

2014



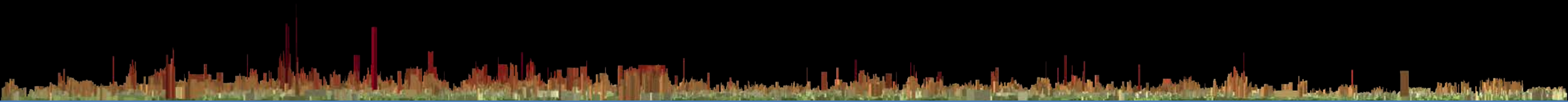
Total Value Per Acre

0
1 - 50,000
50,001 - 250,000
250,001 - 500,000
500,001 - 750,000
750,001 - 1,000,000
1,000,001 - 1,500,000
1,500,001 - 2,000,000
2,000,001 - 3,000,000
3,000,001 - 4,000,000
4,000,001 - 8,000,000

Gwinnett County, GA

Total Value Per Acre (elevation)

2014



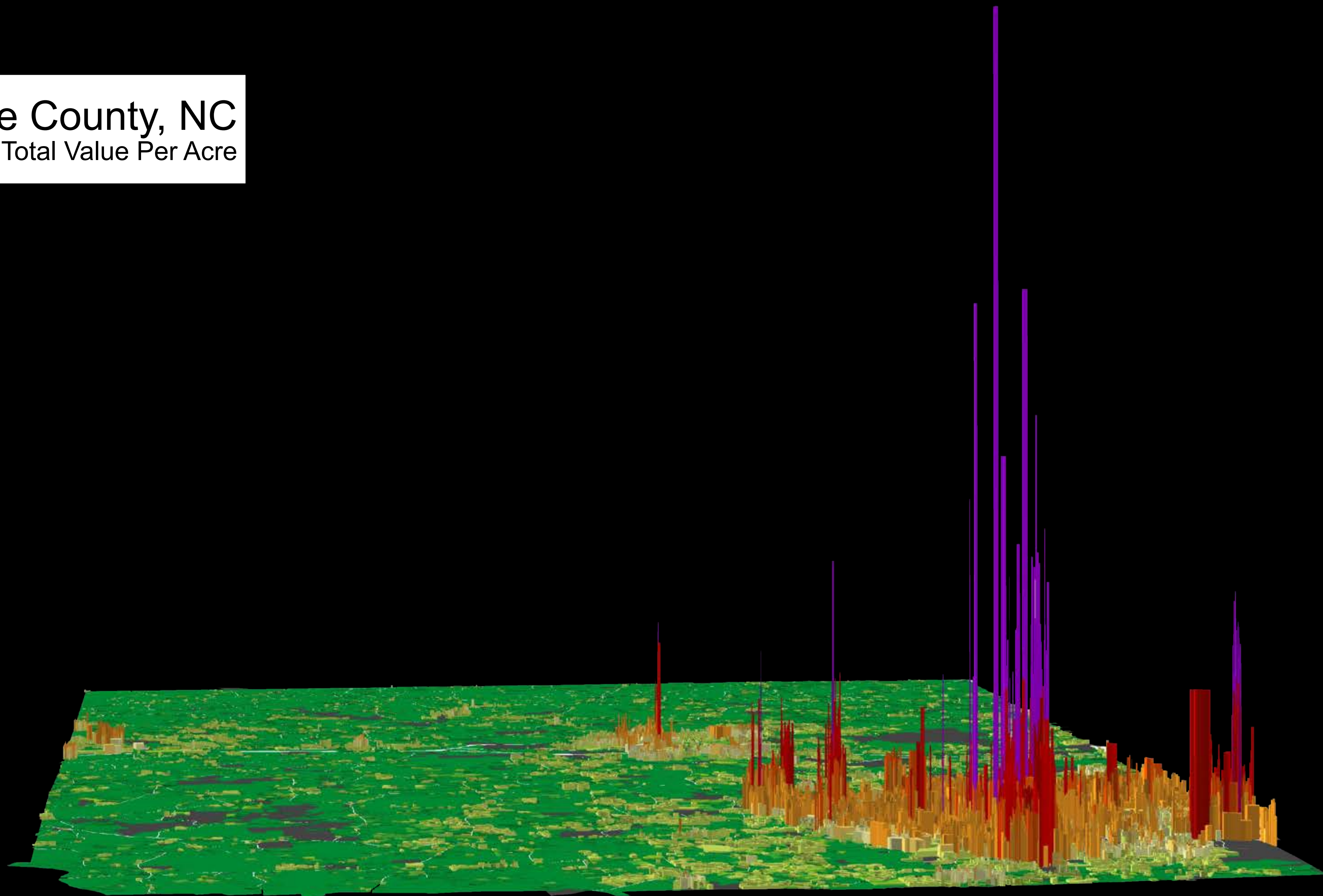
Total Value Per Acre



Orange County, NC

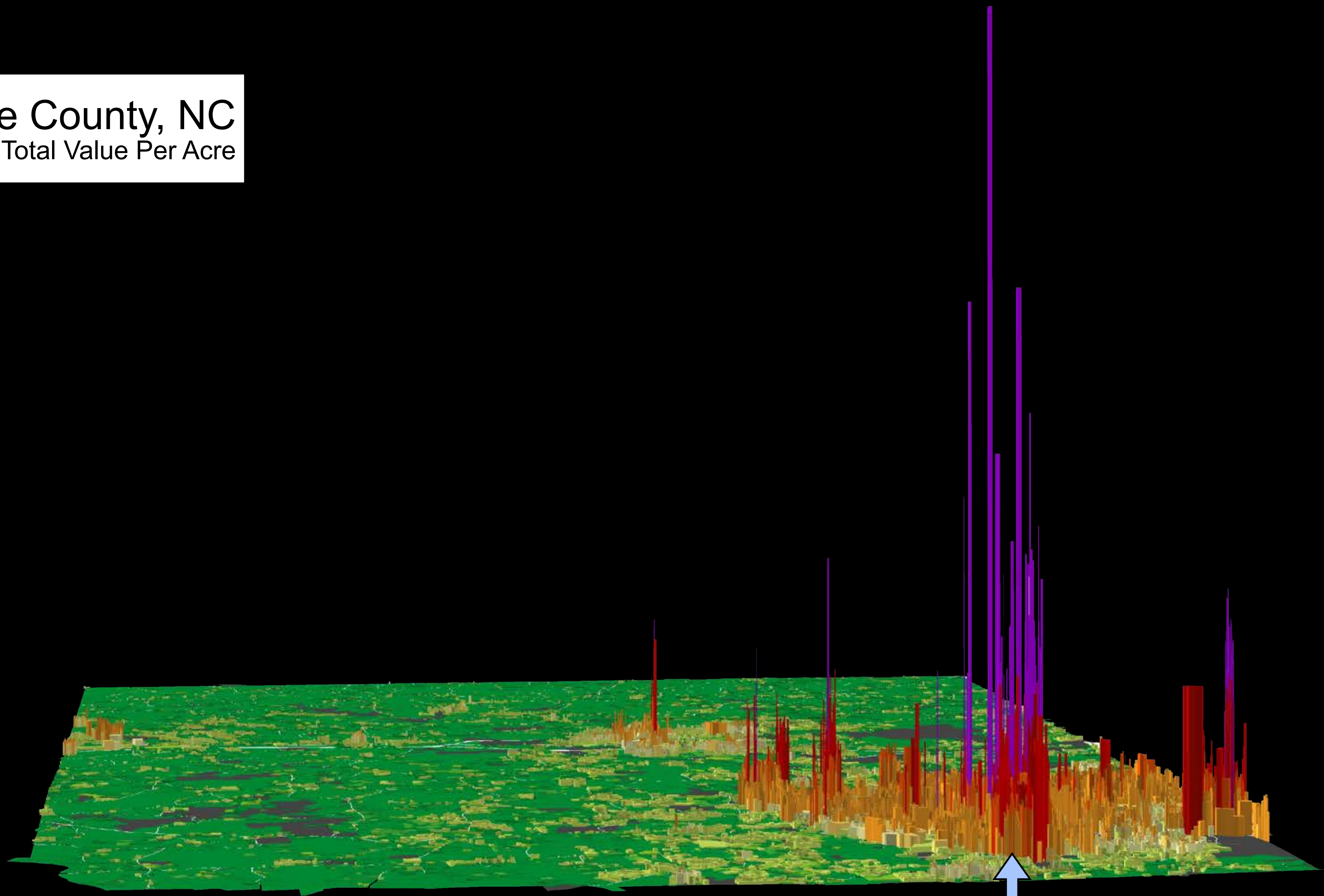
Total Value Per Acre

2014



Orange County, NC

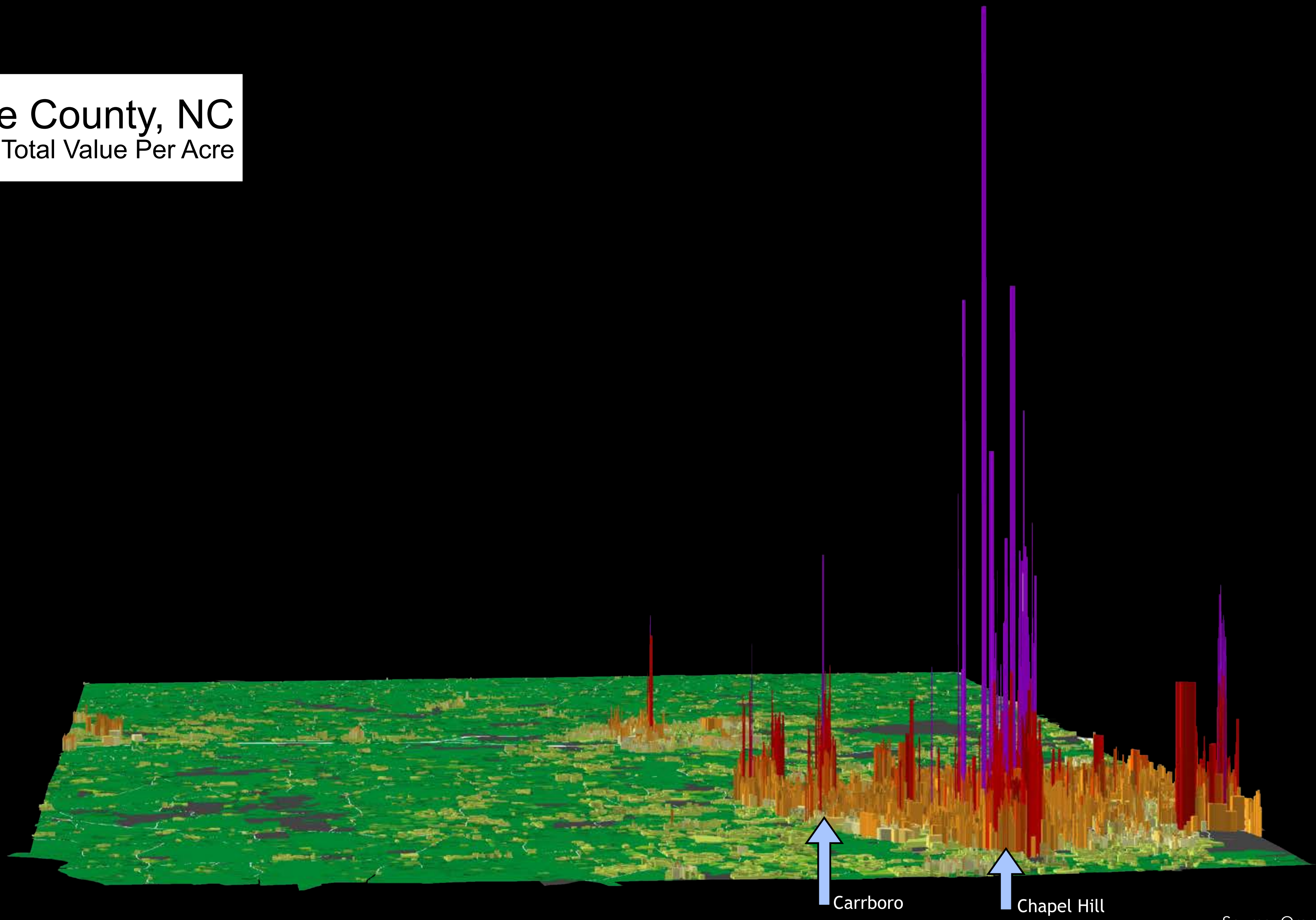
Total Value Per Acre



Chapel Hill

Orange County, NC

Total Value Per Acre

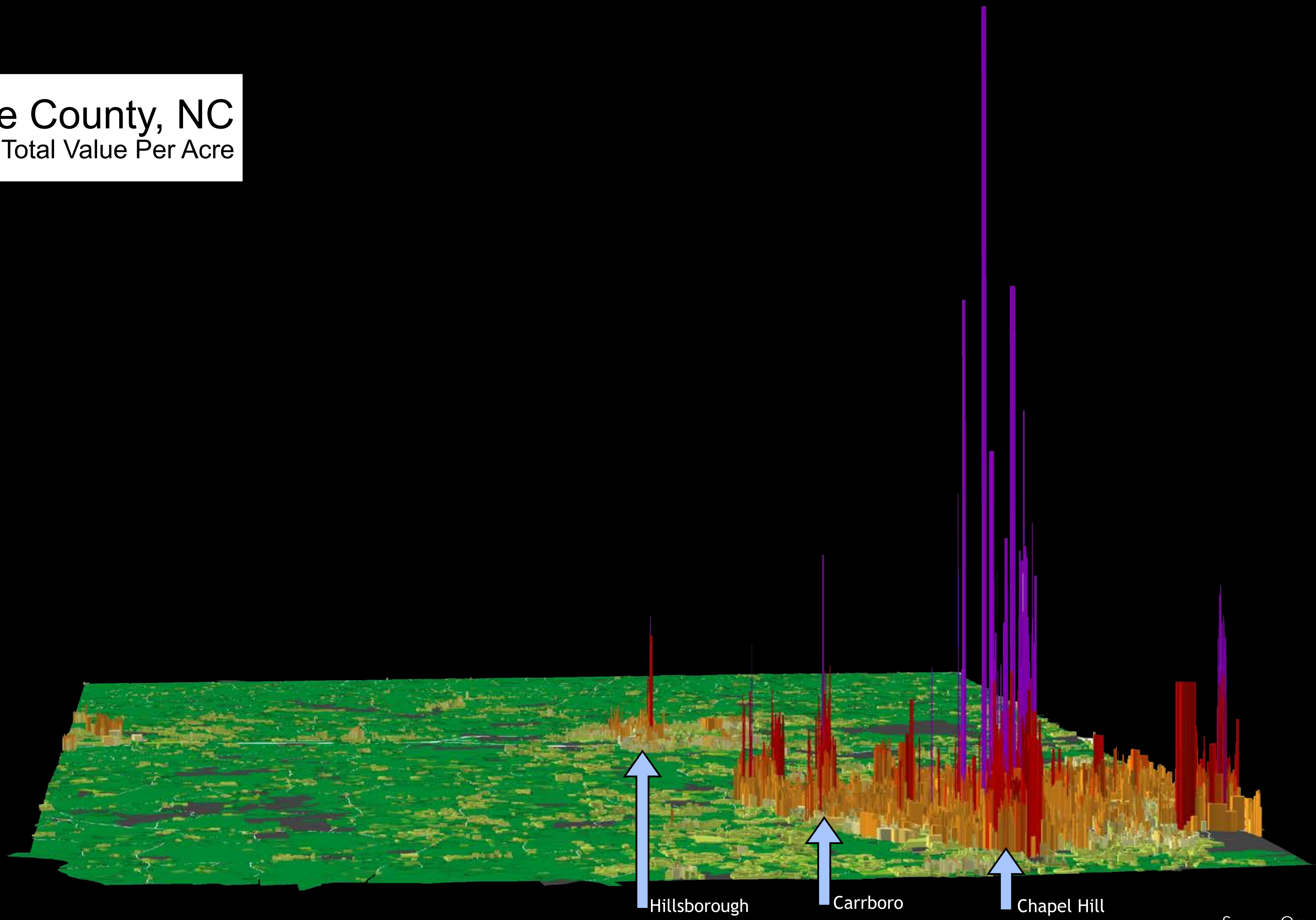


Carrboro

Chapel Hill

Orange County, NC

Total Value Per Acre



Hillsborough

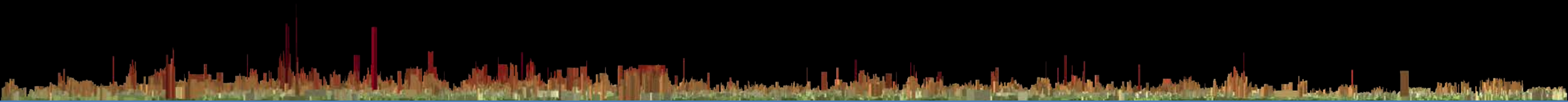
Carrboro

Chapel Hill

Gwinnett County, GA

Total Value Per Acre (elevation)

2014



Total Value Per Acre



Downtown Row (Assessed)



URBAN3



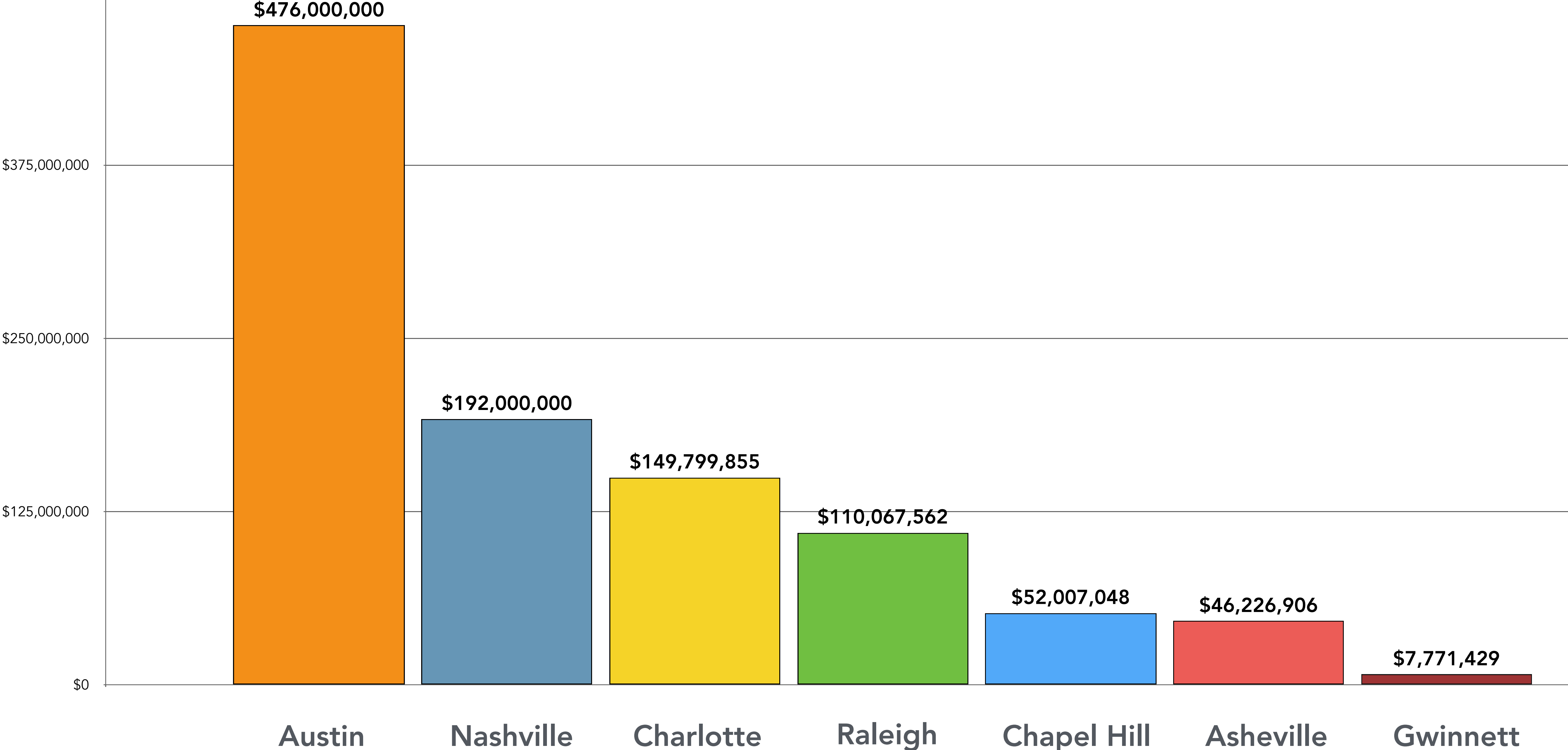
Bank of Buford

Assessed

\$ 7,771,429/acre

Highest Value of in Each Community

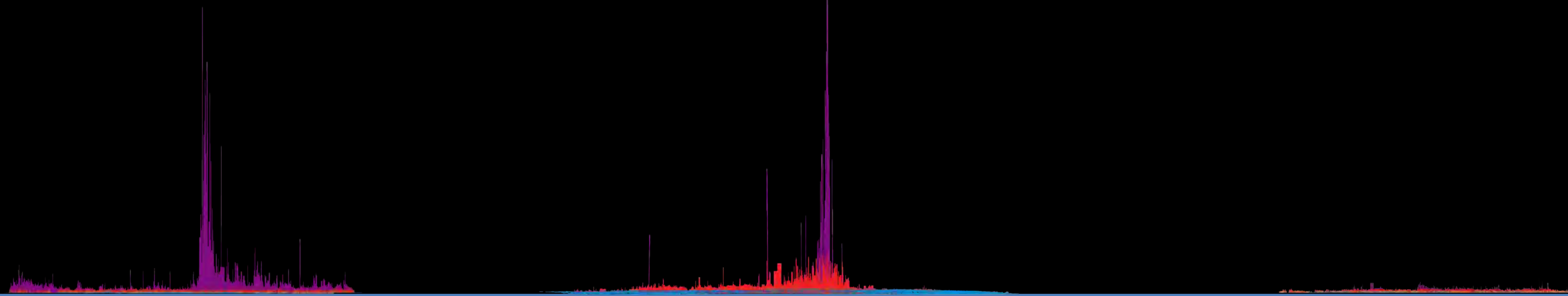
(Value/acre of individual parcel)



County Comparisons

Total Value Per Acre

2014



Nashville

Austin

Lawrenceville

Davidson County, TN
pop. 648,300
1,243 people/sq.mi.

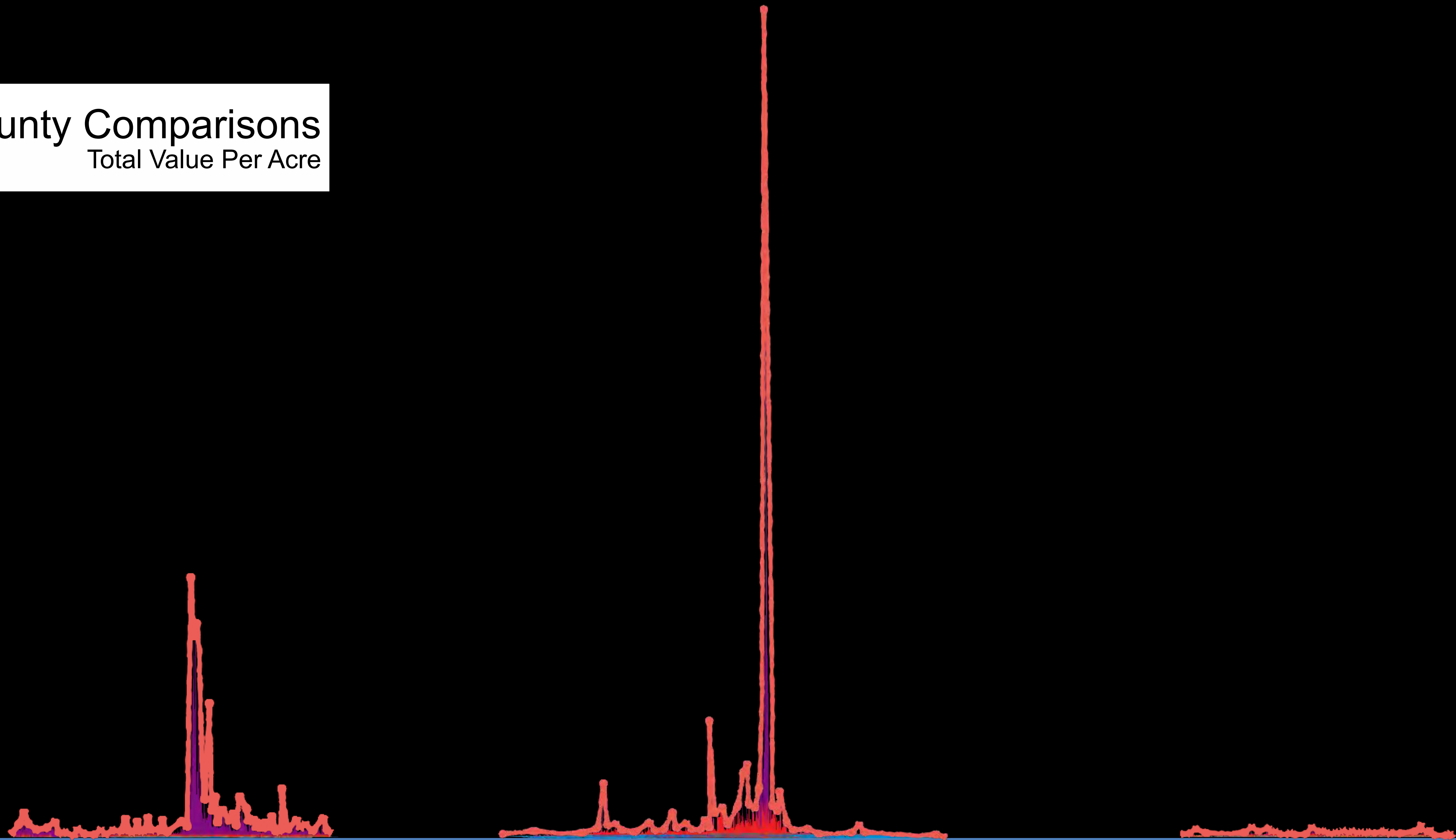
Travis County, TX
pop. 1,096,000
1,034 people/sq.mi.

Gwinnett County, GA
pop. 812,000
1,874 people/sq.mi.

County Comparisons

Total Value Per Acre

2014



Nashville

Austin

Lawrenceville

Davidson County, TN
pop. 648,300
1,243 people/sq.mi.

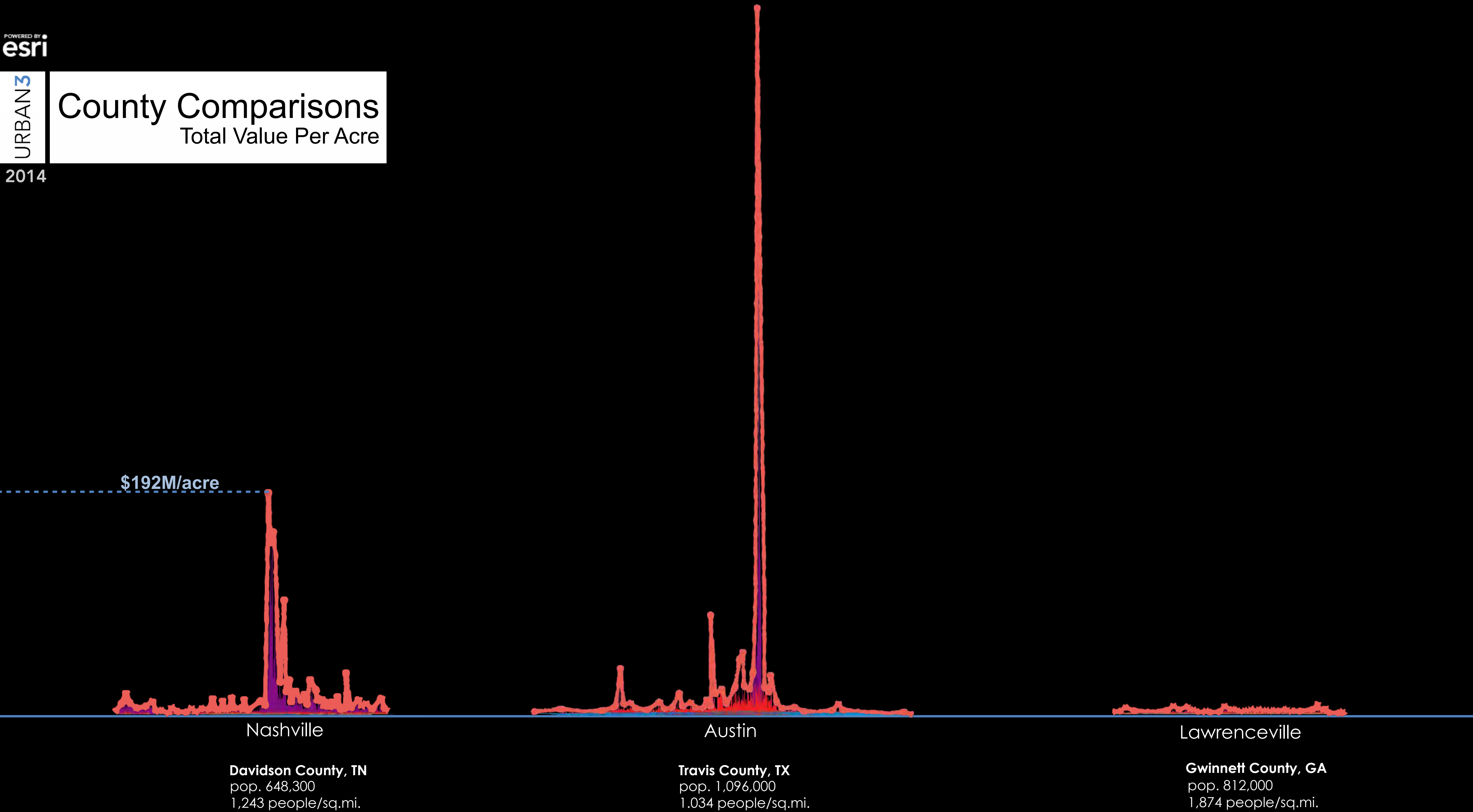
Travis County, TX
pop. 1,096,000
1,034 people/sq.mi.

Gwinnett County, GA
pop. 812,000
1,874 people/sq.mi.

County Comparisons

Total Value Per Acre

2014



\$192M/acre

Nashville

Davidson County, TN
pop. 648,300
1,243 people/sq.mi.

Austin

Travis County, TX
pop. 1,096,000
1,034 people/sq.mi.

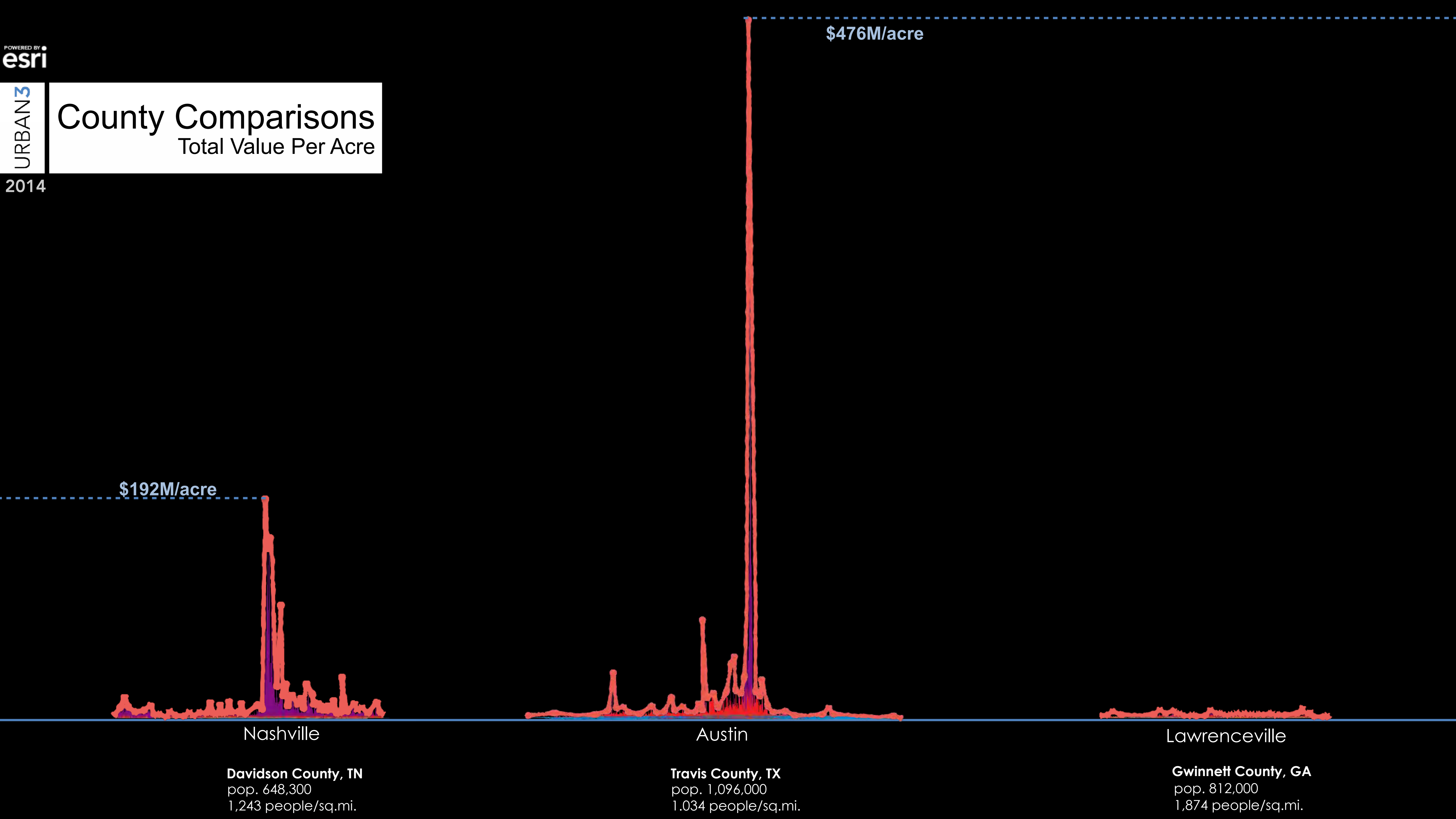
Lawrenceville

Gwinnett County, GA
pop. 812,000
1,874 people/sq.mi.

County Comparisons

Total Value Per Acre

2014



\$192M/acre

\$476M/acre

Nashville

Austin

Lawrenceville

Davidson County, TN
pop. 648,300
1,243 people/sq.mi.

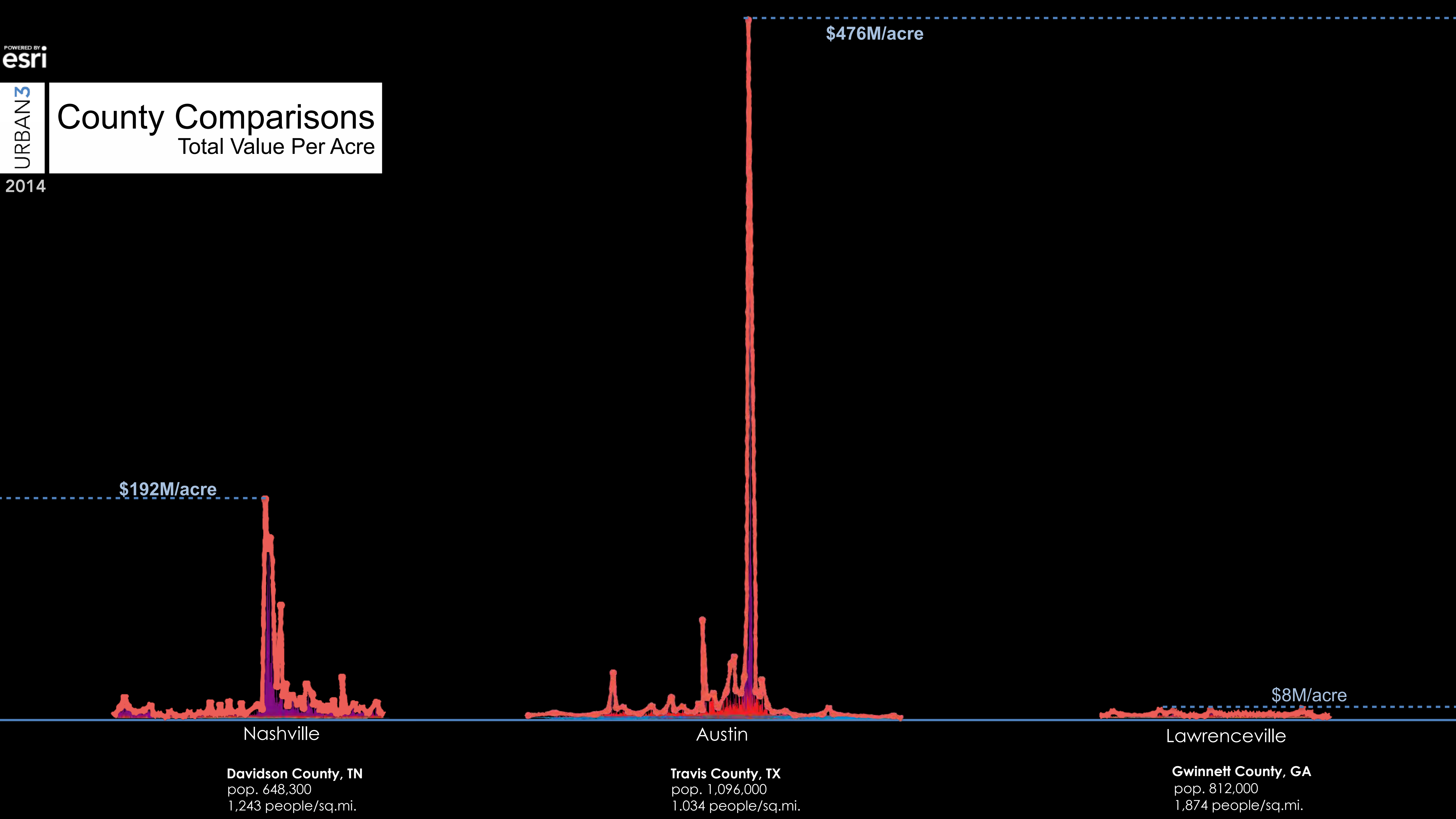
Travis County, TX
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Gwinnett County, GA
pop. 812,000
1,874 people/sq.mi.

County Comparisons

Total Value Per Acre

2014



Davidson County, TN
pop. 648,300
1,243 people/sq.mi.

Travis County, TX
pop. 1,096,000
1,034 people/sq.mi.

Gwinnett County, GA
pop. 812,000
1,874 people/sq.mi.

Question:

But what about retail?

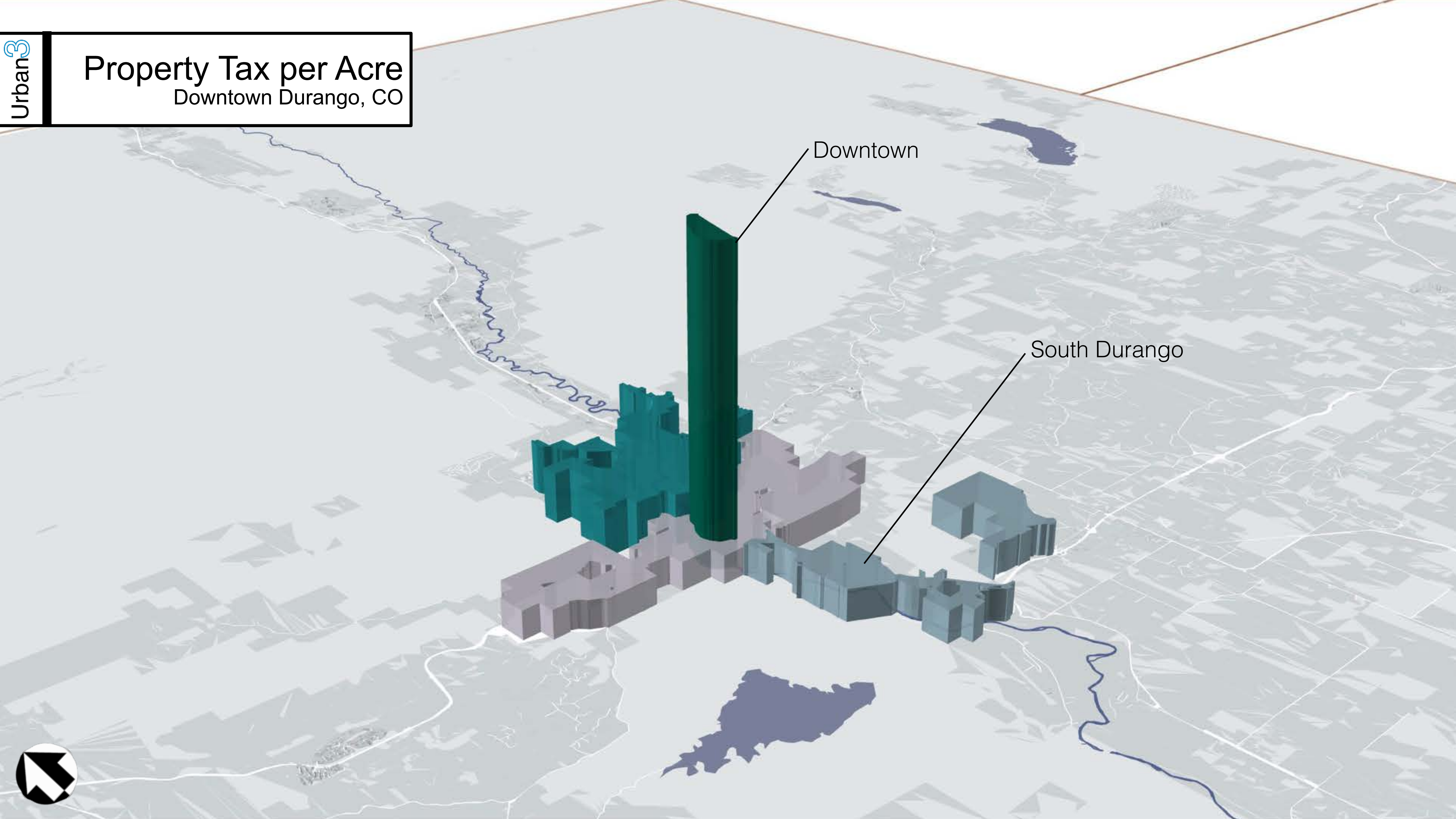


Case Study: Economic MRI®
2015

Durango, Colorado

Property Tax per Acre

Downtown Durango, CO



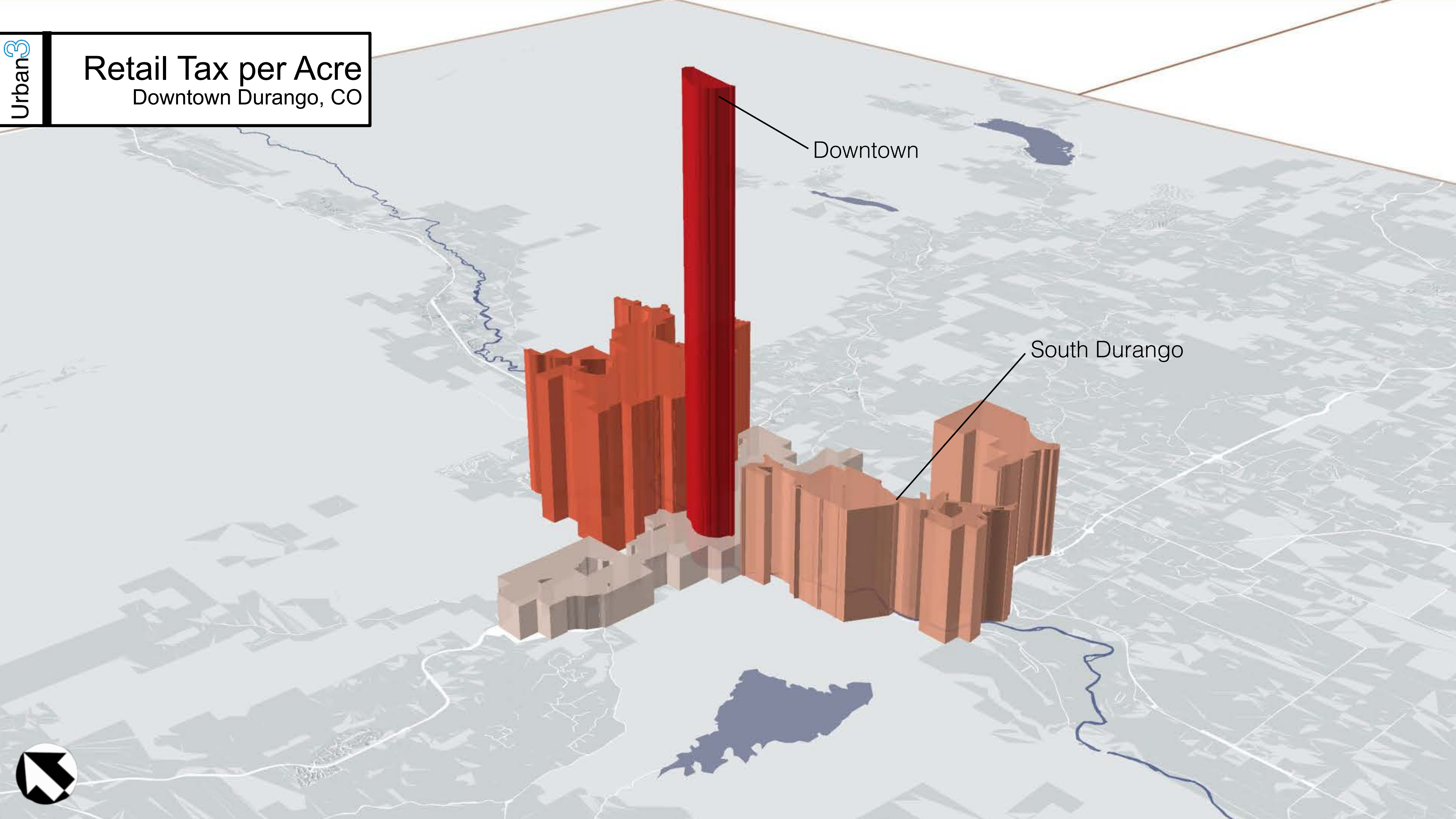
Downtown

South Durango



Retail Tax per Acre

Downtown Durango, CO



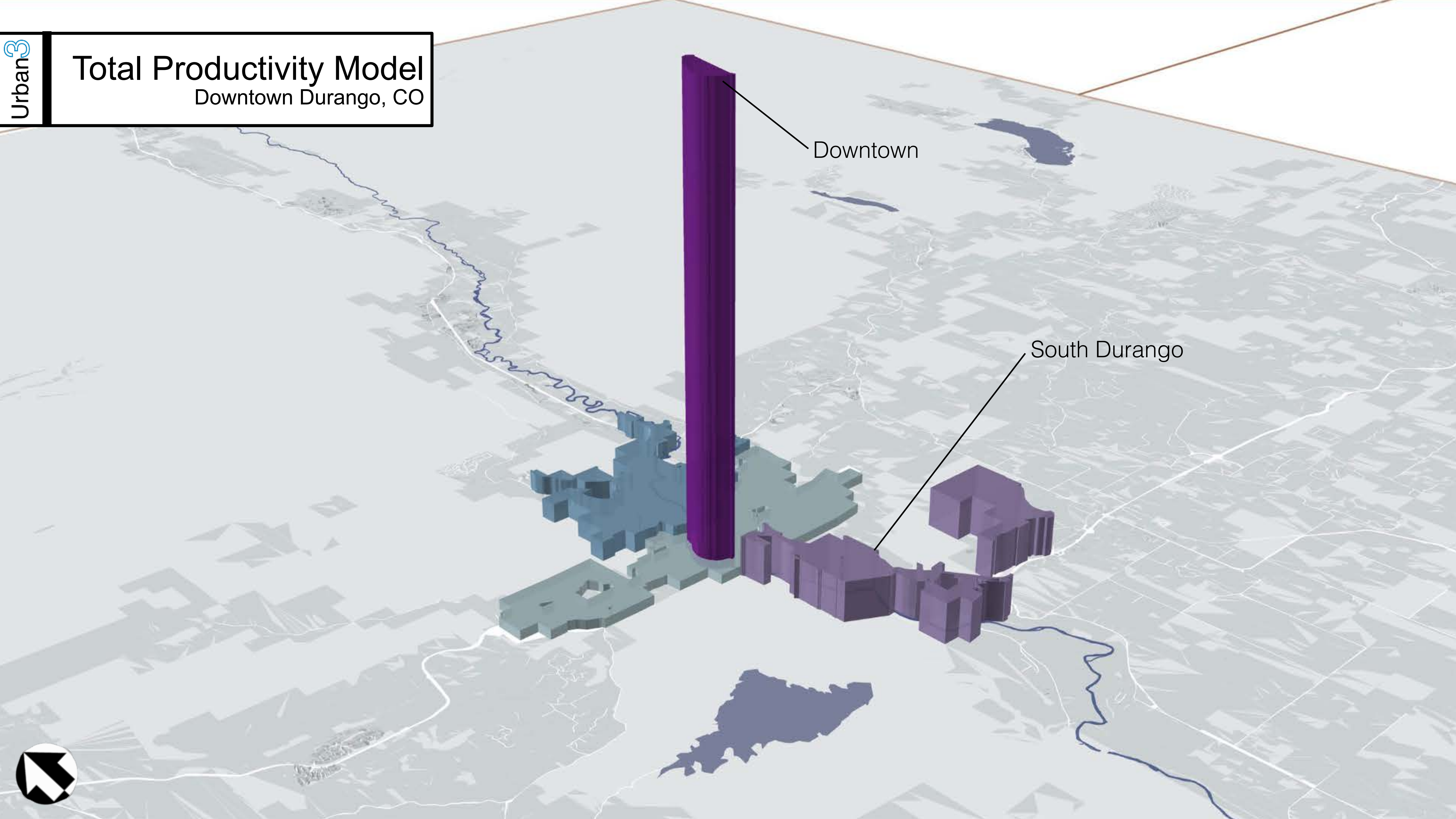
Downtown

South Durango



Total Productivity Model

Downtown Durango, CO



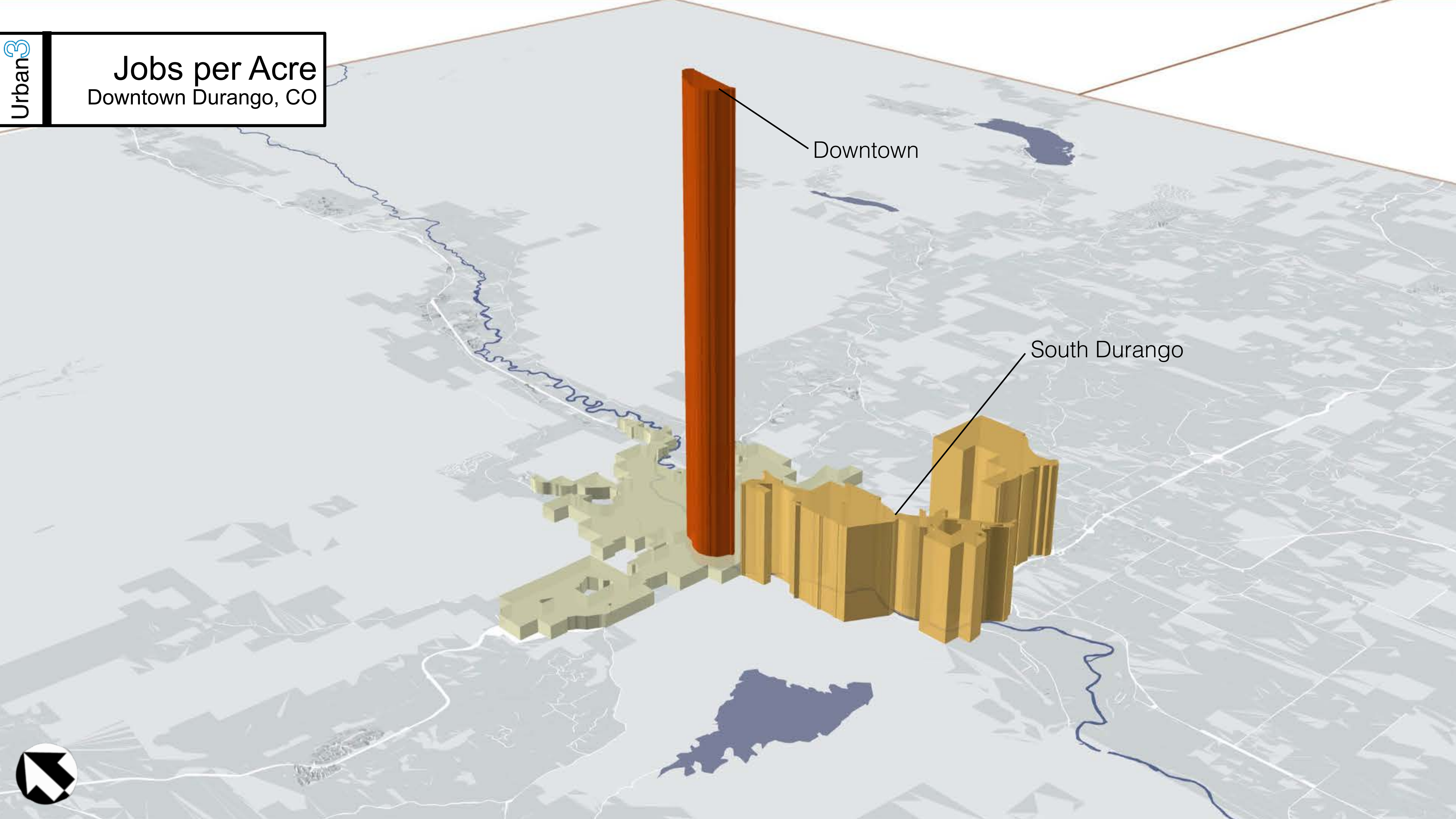
Downtown

South Durango



Jobs per Acre

Downtown Durango, CO



Downtown

South Durango



Apples to Apples

Comparing land use types



Peter Schertz



Tim Wheeler



Apples to Apples

Comparing land use types

2015



land consumed (acres)

13.4



0.15

Apples to Apples

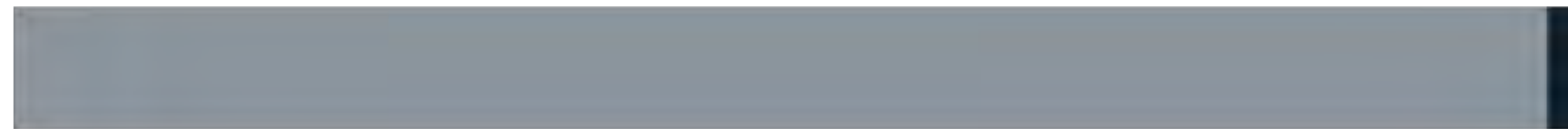
Comparing land use types

2015



land consumed (acres)

13.4



0.15



county property taxes / acre

\$1.8K



\$22.7K



Apples to Apples

Comparing land use types

2015



land consumed (acres)

13.4

0.15

county property taxes / acre

\$1.8K

\$22.7K

city retail taxes / acre

\$152K

\$556K

Apples to Apples

Comparing land use types

2015



land consumed (acres)

13.4

0.15

county property taxes / acre

\$1.8K

\$22.7K

city retail taxes / acre

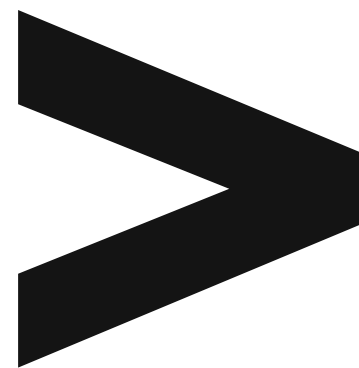
\$152K

\$556K

jobs / acre

15

233



Greenway



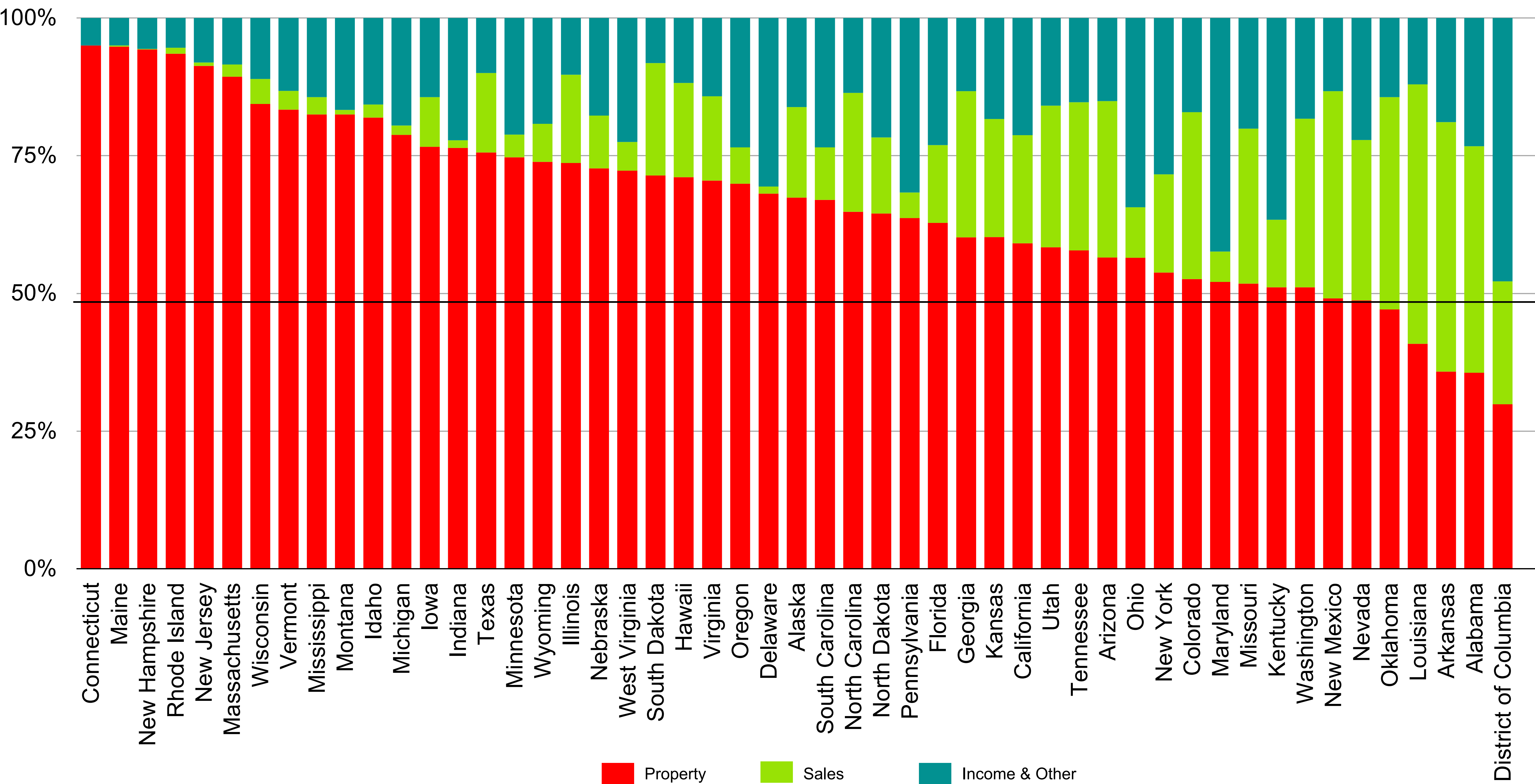
Art Teacher



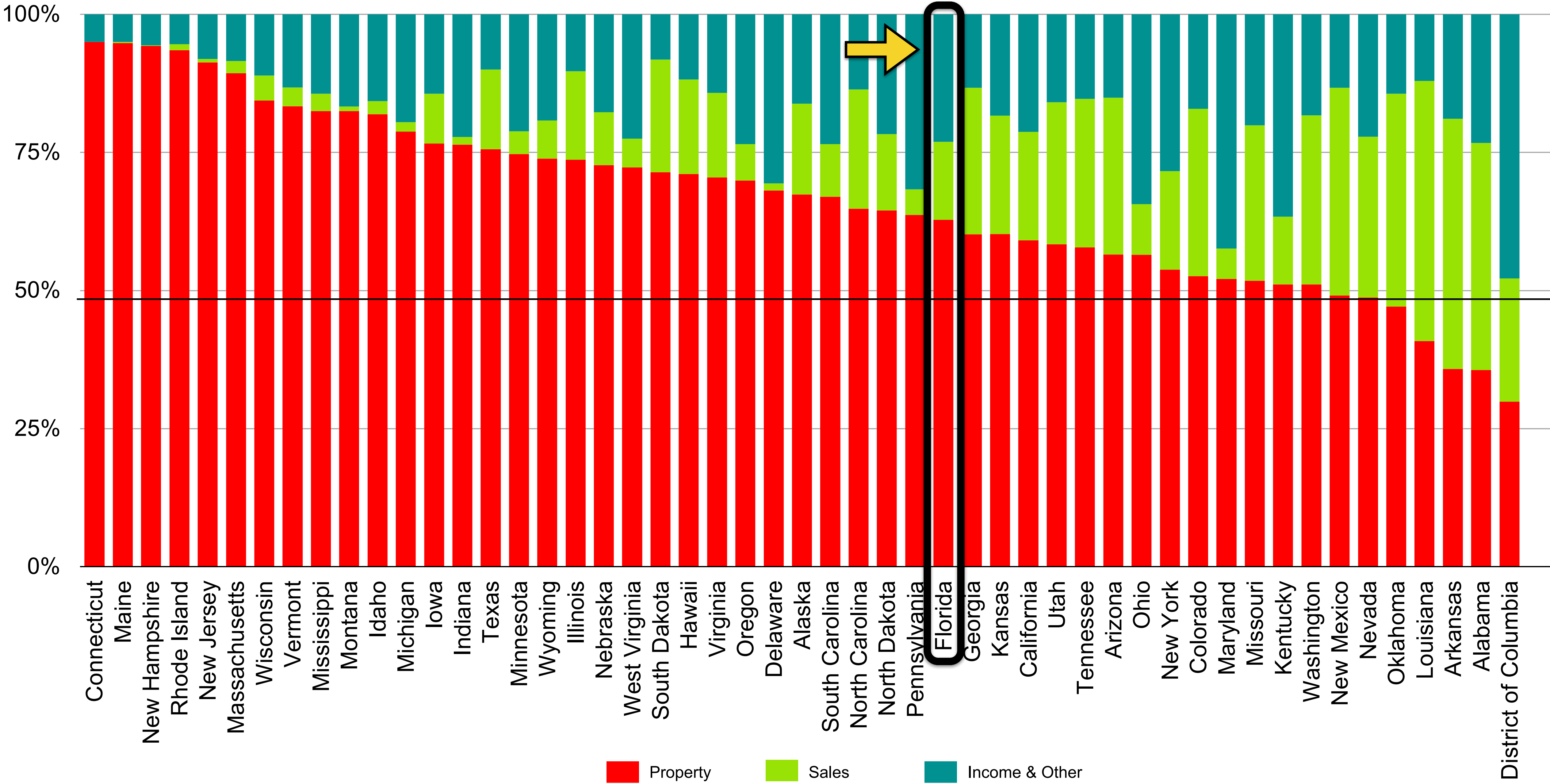
Dancing Traffic Cop

FL Response:

**But we're growing, and
we have plenty of income!**



■ Property
 ■ Sales
 ■ Income & Other



Florida Property Taxes SUMMARIZED

A Reference for North Carolinians!



Florida Property Taxes SUMMARIZED

$$\text{Assessed Value} \times \frac{\text{Taxable Value \%}}{\text{}} = \text{Taxable Value} \times \frac{\text{Tax Rate \%}}{\text{}} = \text{Tax Bill}$$

This is how NC's system works!



Florida Property Taxes SUMMARIZED

$$\text{Assessed Value} - \frac{\text{Homestead Exemption}}{\text{ }} = \text{Taxable Value} \times \frac{\text{Mill Rate}}{\text{ }} = \text{Tax Bill}$$

This is how FL's system works!



Florida Property Taxes SUMMARIZED

Assessed Value = \$100k



Commercial

Taxable Value

\$100,000



Residential

\$100,000



Florida Property Taxes SUMMARIZED

Assessed Value = \$100k



Commercial

Taxable Value

\$100,000



Residential

Homestead
Exemption takes off
\$50,000!

\$50,000



Florida Property Taxes SUMMARIZED

Assessed Value = \$100k



Commercial

Taxable Value

\$100,000

Except for the School District where only \$25,000 is removed!



Residential

\$50,000



Florida Property Taxes SUMMARIZED

Assessed Value = \$100k



Commercial

City Mill Rate

5 mills



Residential
Homestead

5 mills



Florida Property Taxes SUMMARIZED

Assessed Value = \$100k



Commercial

School/Other Mill Rate

6 mills



Residential
Homestead

6 mills



Florida Property Taxes SUMMARIZED

Assessed Value = \$100k



Commercial

County Mill Rate

11 mills



Residential
Homestead

11 mills



Florida Property Taxes SUMMARIZED

Assessed Value = \$100k



Commercial

Tax Bill

\$2,100



Residential
Homestead

\$1,125



Wait!

There's more!

Florida Property Taxes SUMMARIZED

Assessed Value = \$100k



Commercial**
or Non-Primary
Residential

Annual Increase Value Cap

10%



Residential
(Primary)

Less than CPI
or 3%



**Apartments too!

Florida Property Taxes SUMMARIZED

Assessed Value = \$100k



Commercial**
or Non-Primary
Residential

Annual Increase Value Cap

10%

Commercial
can grow 3x more
than residential!



Residential
(Primary)

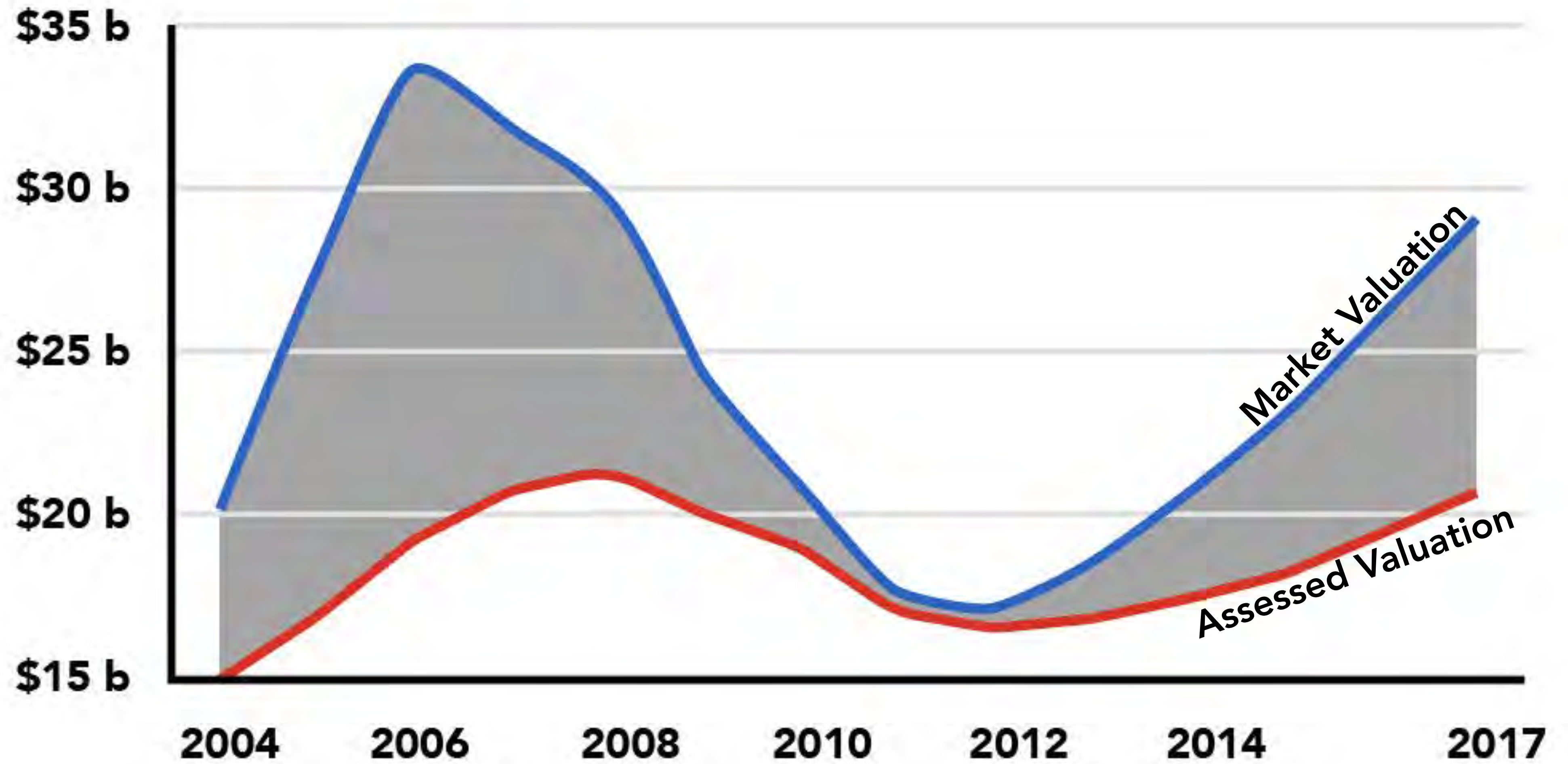
Less than CPI
or 3%



**Apartments too!

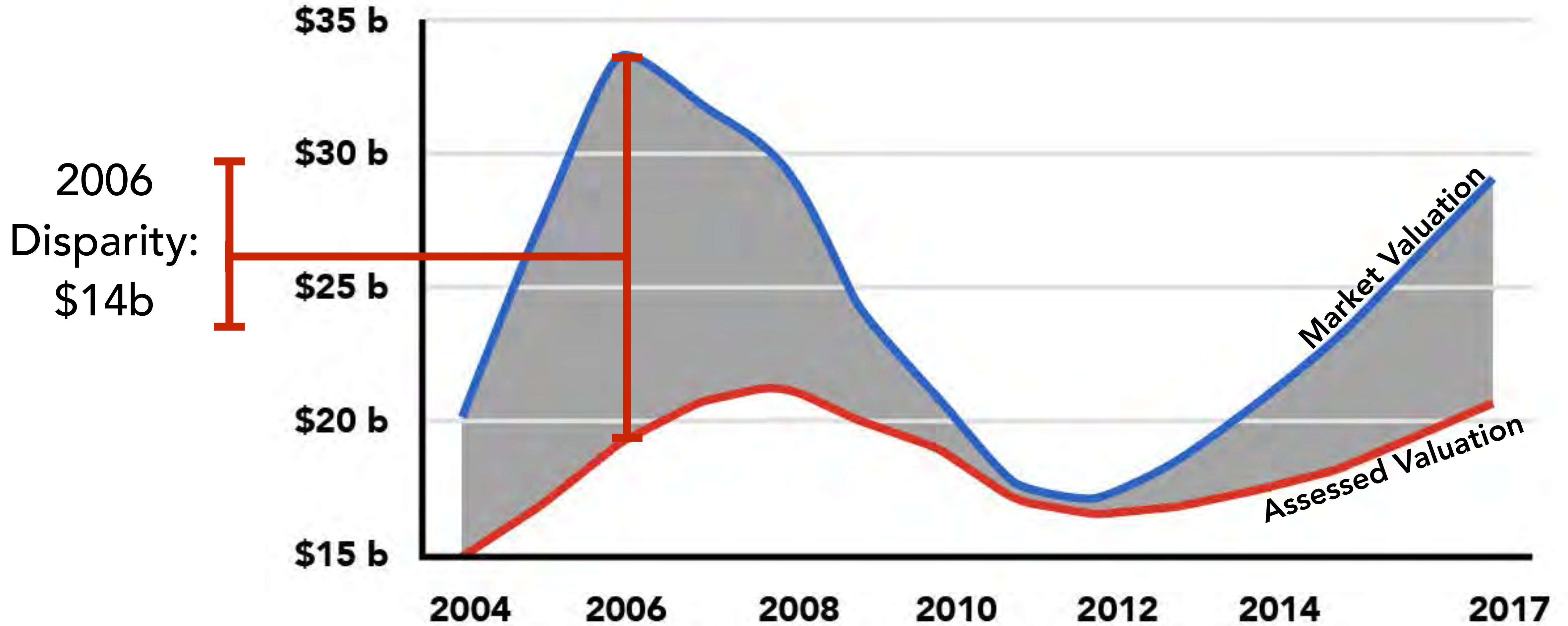
Save Our Homes Amendment

Brevard County, FL



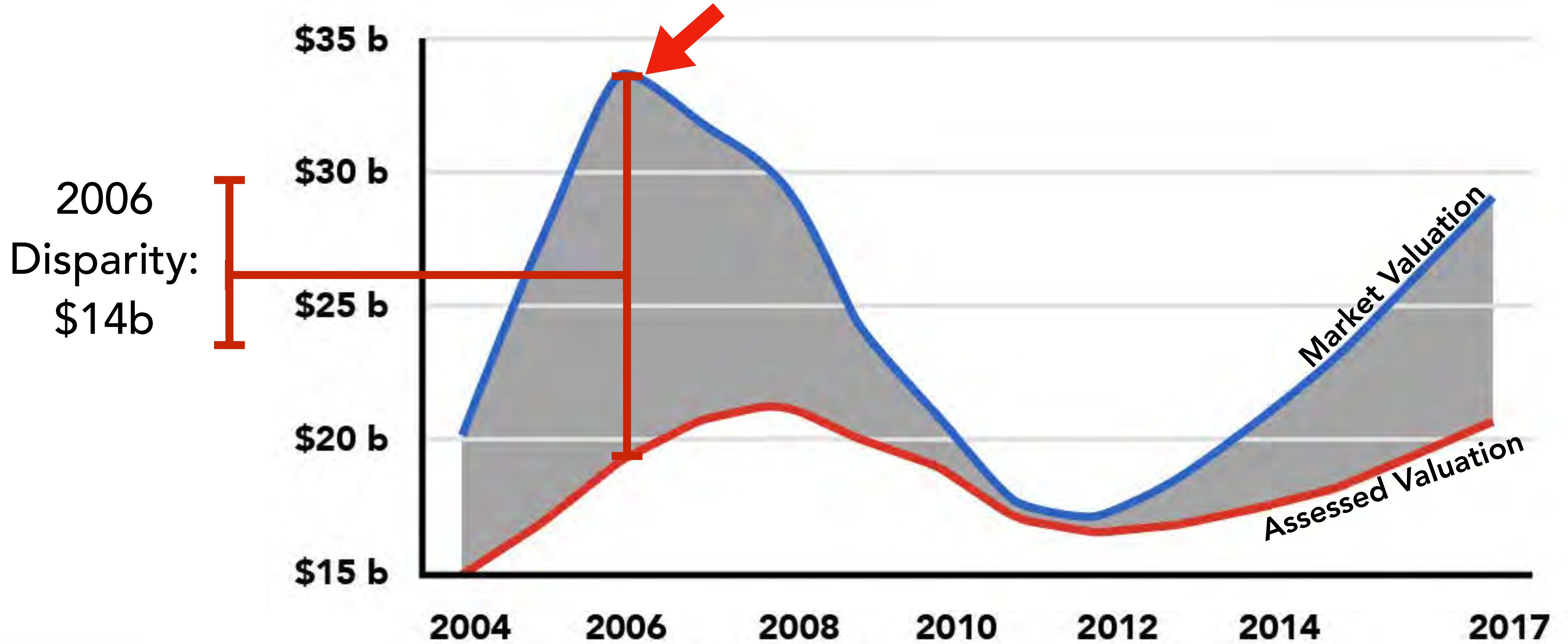
Save Our Homes Amendment

Brevard County, FL



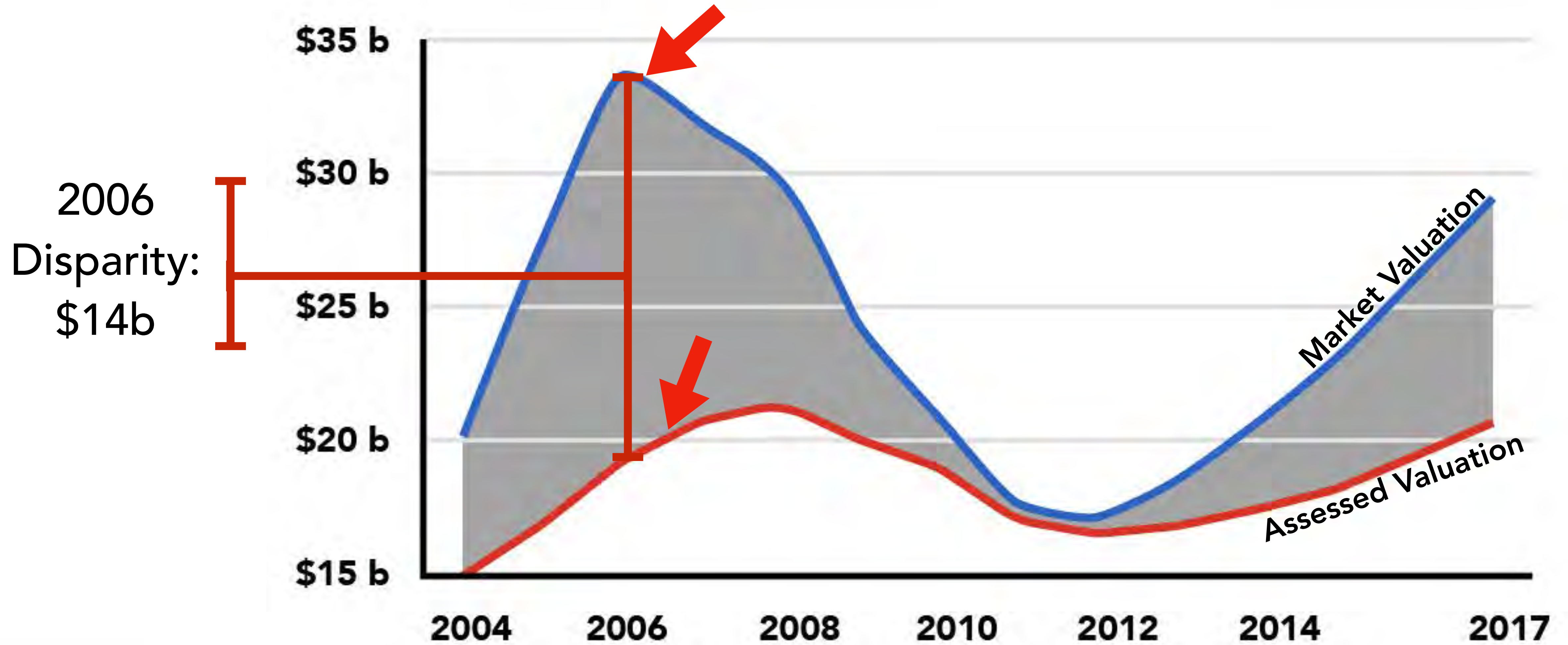
Save Our Homes Amendment

Brevard County, FL



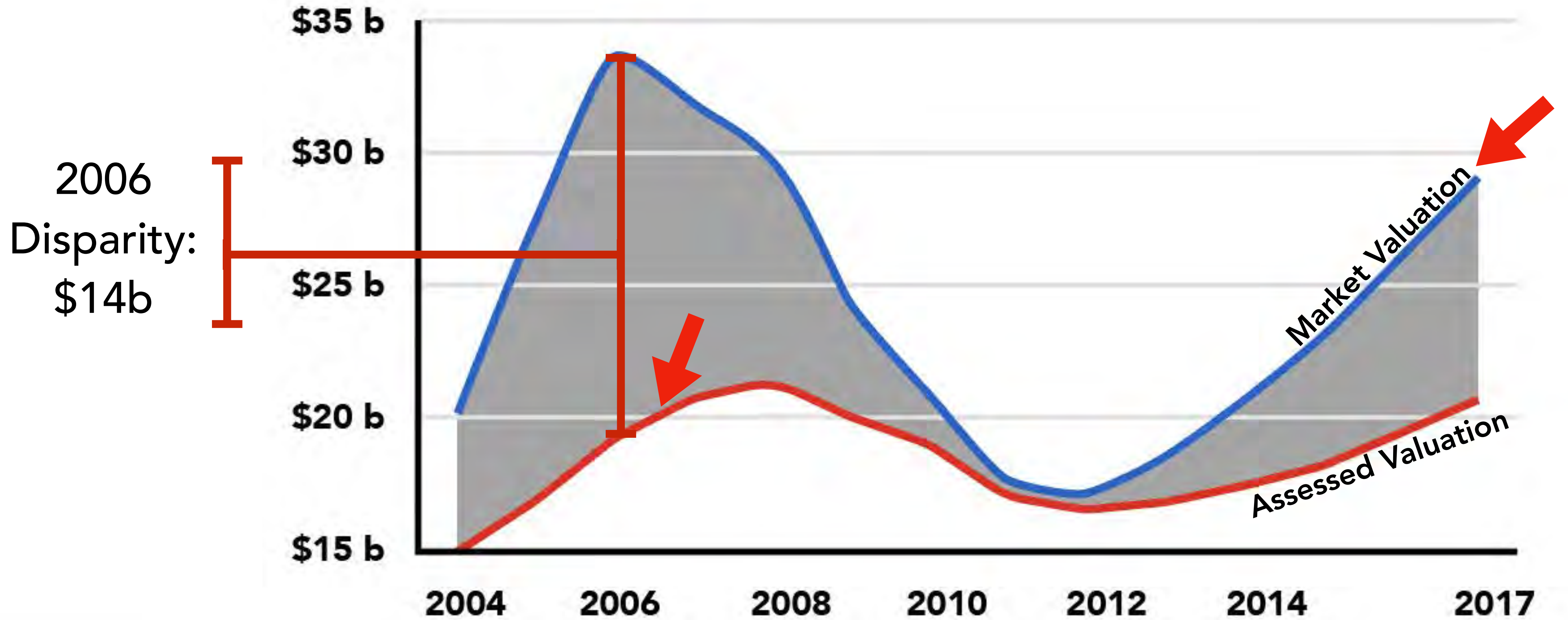
Save Our Homes Amendment

Brevard County, FL



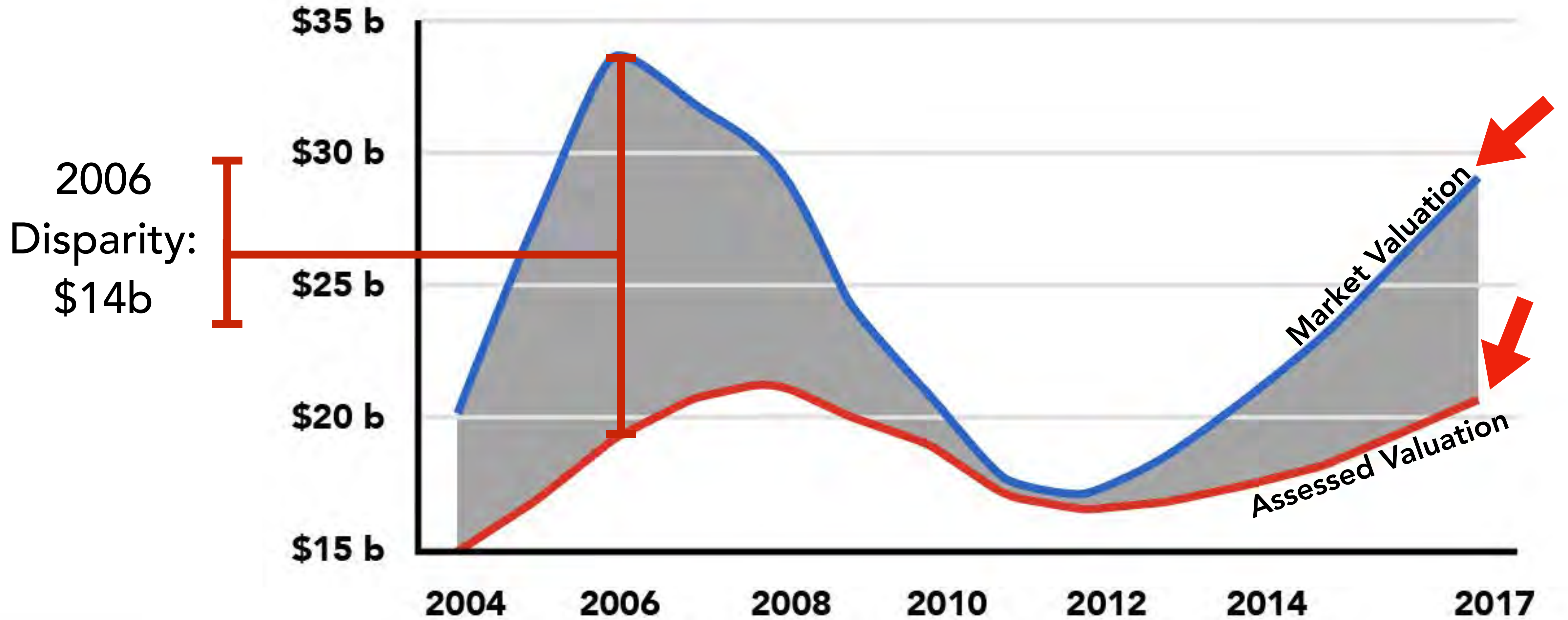
Save Our Homes Amendment

Brevard County, FL



Save Our Homes Amendment

Brevard County, FL

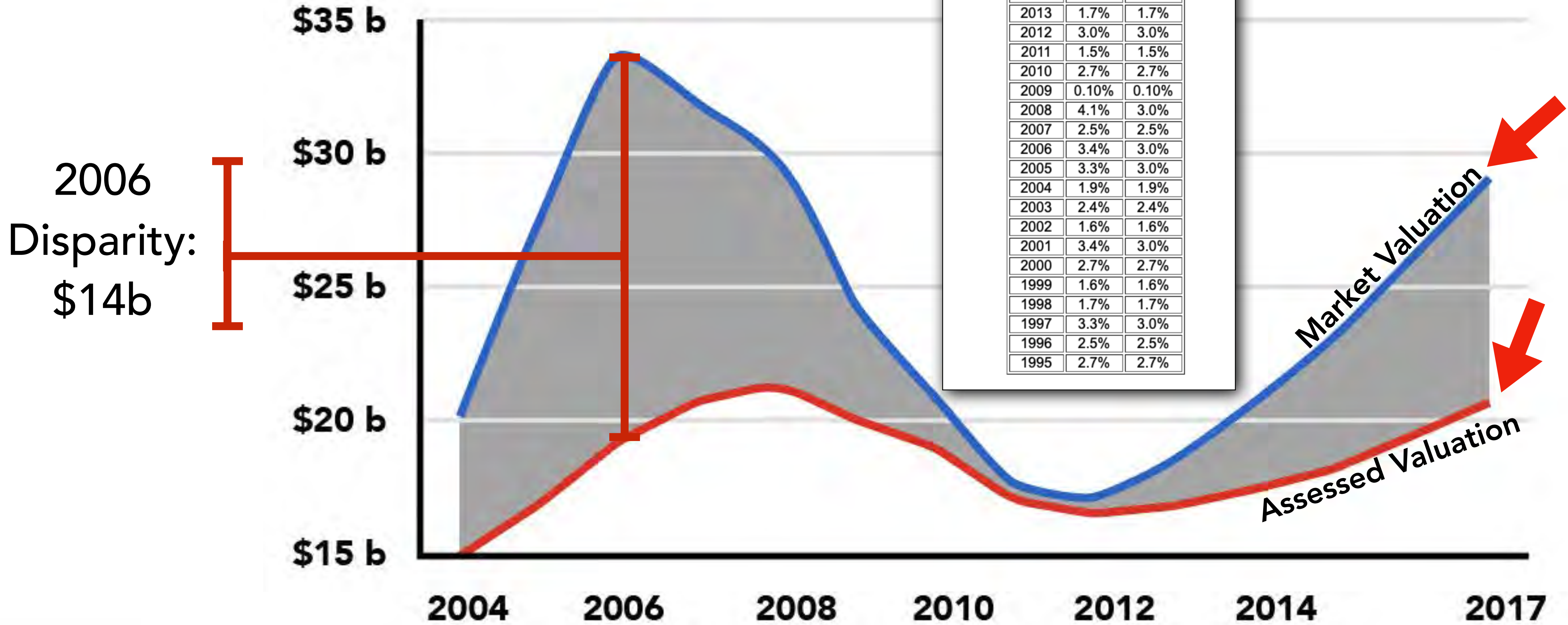


Save Our Homes Amendment

Brevard County, FL

Save Our Homes Annual Increase

YEAR	CPI	CAP
2021	1.4%	1.4%
2020	2.3%	2.3%
2019	1.9%	1.9%
2018	2.1%	2.1%
2017	2.1%	2.1%
2016	0.7%	0.7%
2015	0.8%	0.8%
2014	1.5%	1.5%
2013	1.7%	1.7%
2012	3.0%	3.0%
2011	1.5%	1.5%
2010	2.7%	2.7%
2009	0.10%	0.10%
2008	4.1%	3.0%
2007	2.5%	2.5%
2006	3.4%	3.0%
2005	3.3%	3.0%
2004	1.9%	1.9%
2003	2.4%	2.4%
2002	1.6%	1.6%
2001	3.4%	3.0%
2000	2.7%	2.7%
1999	1.6%	1.6%
1998	1.7%	1.7%
1997	3.3%	3.0%
1996	2.5%	2.5%
1995	2.7%	2.7%

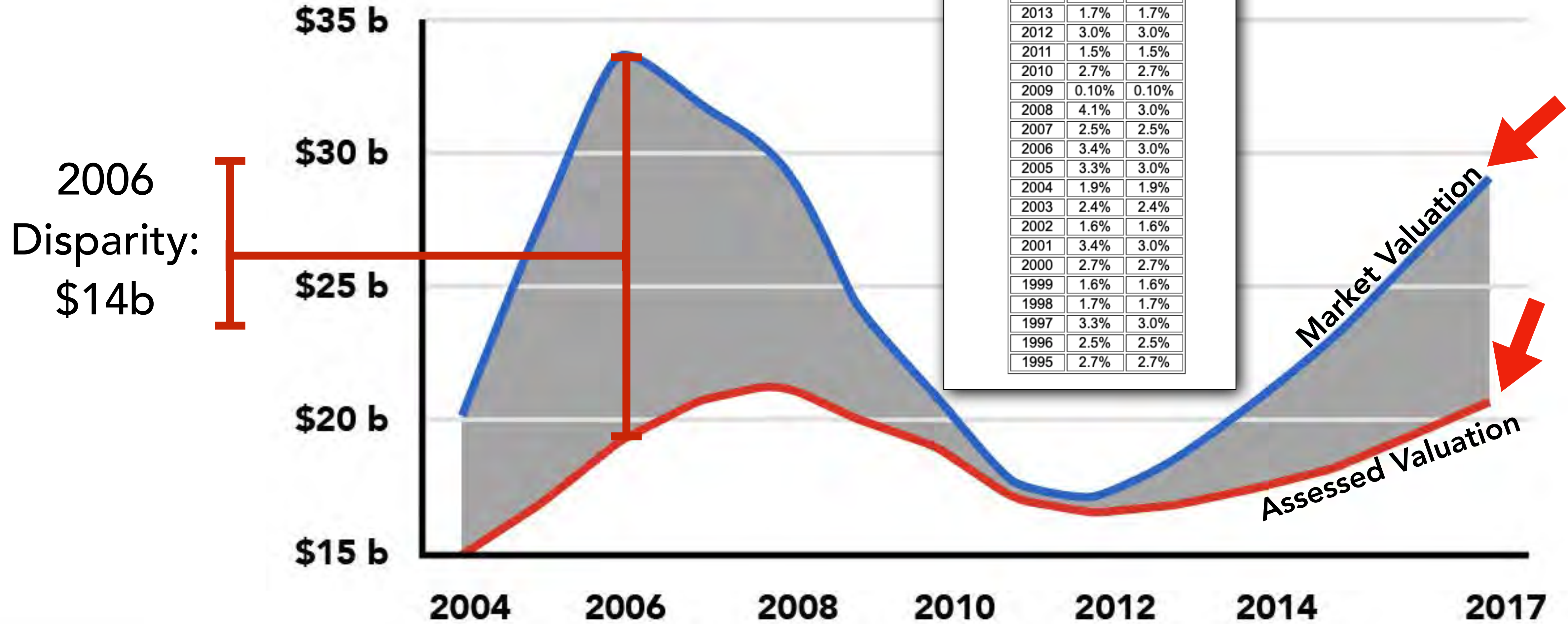


Save Our Homes Amendment

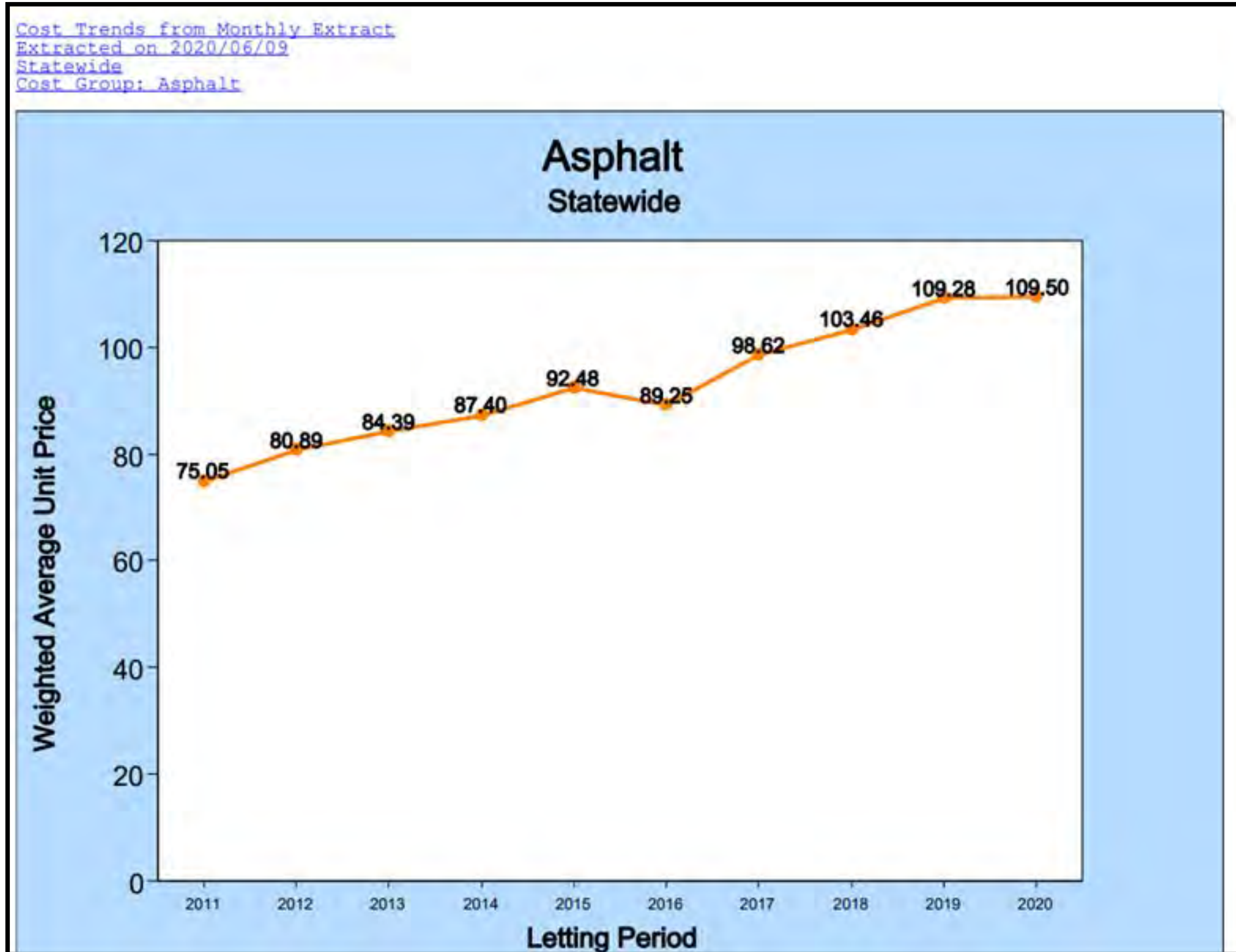
Brevard County, FL

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1998	1.7%	1.7%
1997	3.3%	3.0%
1996	2.5%	2.5%
1995	2.7%	2.7%

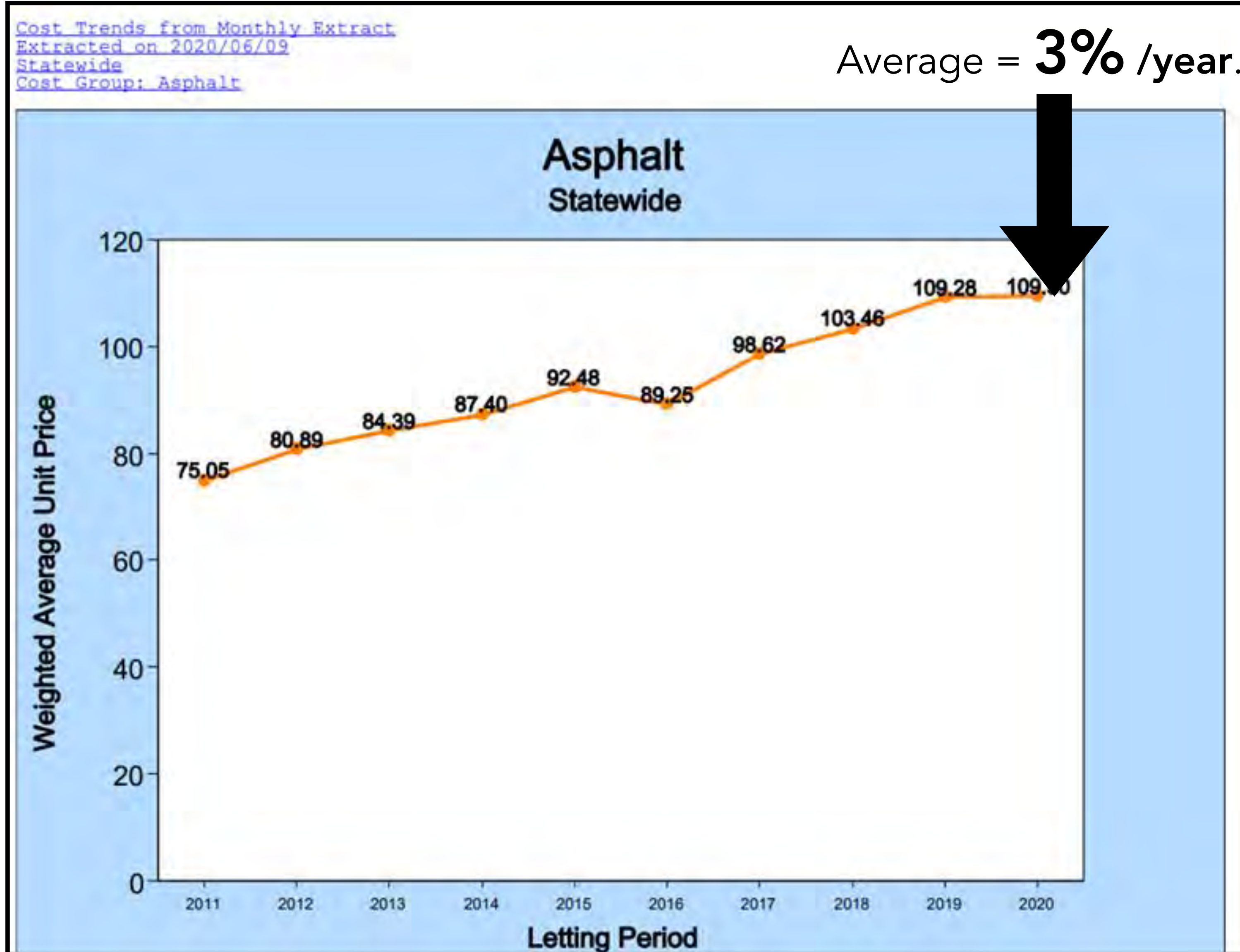


Growth in Infrastructure Costs



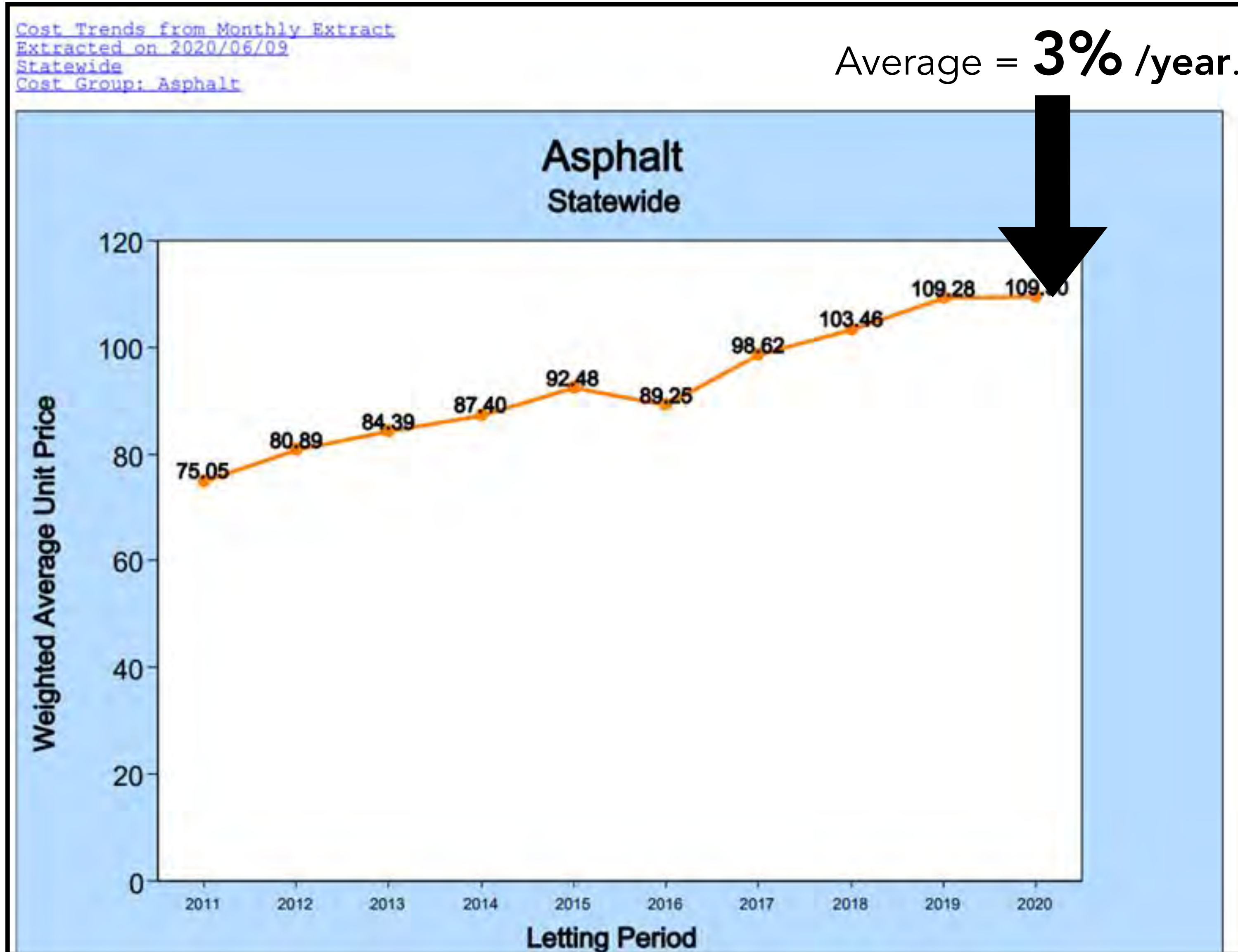
FDOT analysis for asphalt demonstrates (left) just the cost of asphalt is growing at **3% per year**. Meanwhile, CPI growth is a **1.4% cap**.

Growth in Infrastructure Costs



FDOT analysis for asphalt demonstrates (left) just the cost of asphalt is growing at **3% per year**. Meanwhile, CPI growth is a **1.4%** cap.

Growth in Infrastructure Costs



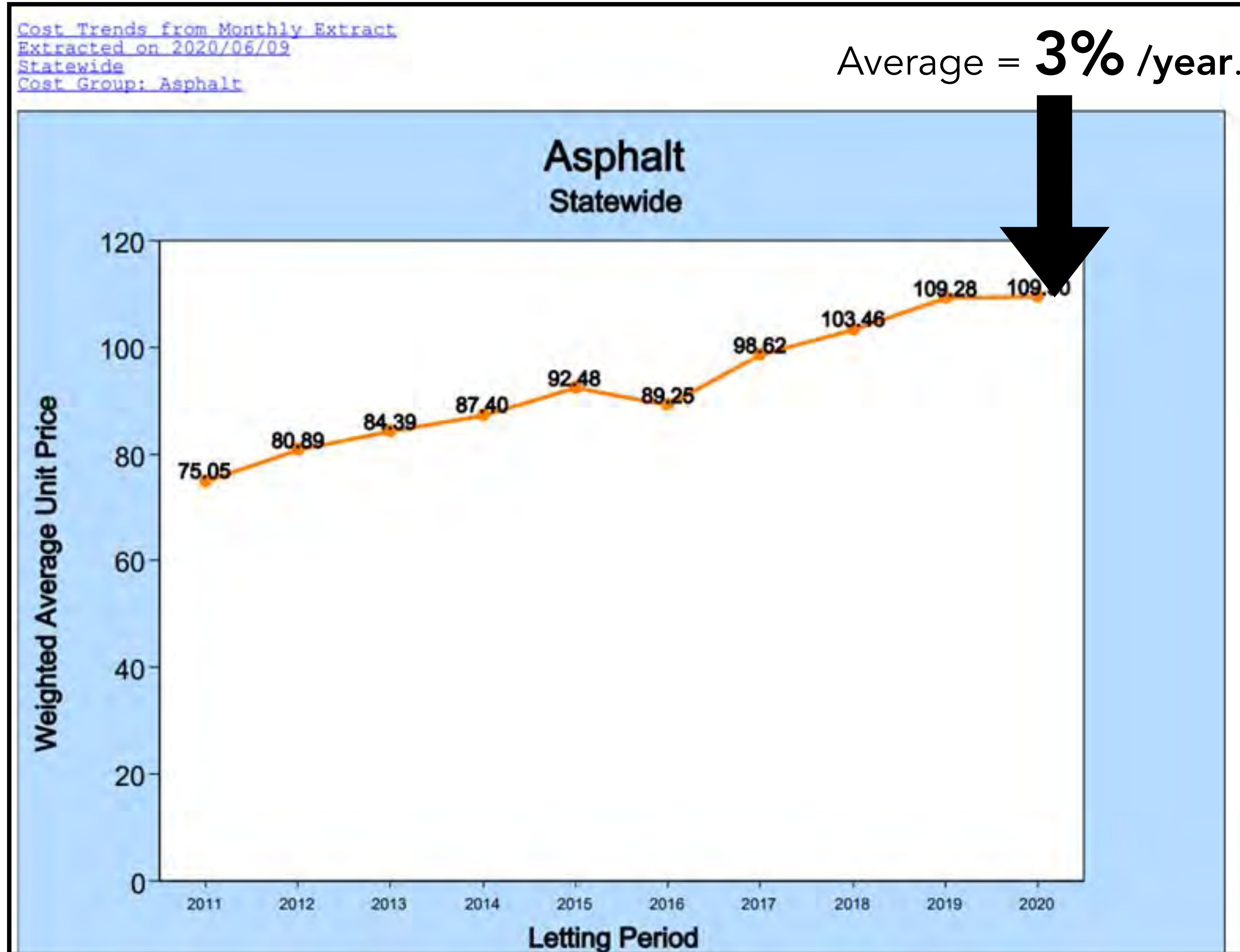
Save Our Homes Annual Increase

YEAR	CPI	CAP
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2020	2.3%	2.3%
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2015	0.8%	0.8%
2014	1.5%	1.5%
2013	1.7%	1.7%
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2002	1.6%	1.6%
2001	3.4%	3.0%
2000	2.7%	2.7%
1999	1.6%	1.6%
1998	1.7%	1.7%
1997	3.3%	3.0%
1996	2.5%	2.5%
1995	2.7%	2.7%

Source: <https://www.pcpao.org/SOH.html>

FDOT analysis for asphalt demonstrates (left) just the cost of asphalt is growing at **3% per year**. Meanwhile, CPI growth is a **1.4% cap**.

Growth in Infrastructure Costs



Save Our Homes Annual Increase

YEAR	CPI	GAP
2021	1.4%	1.4%
2020	2.3%	2.3%
2019	1.9%	1.9%
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2009	0.10%	0.10%
2008	4.1%	3.0%
2007	2.5%	2.5%
2006	3.4%	3.0%
2005	3.3%	3.0%
2004	1.9%	1.9%
2003	2.4%	2.4%
2002	1.6%	1.6%
2001	3.4%	3.0%
2000	2.7%	2.7%
1999	1.6%	1.6%
1998	1.7%	1.7%
1997	3.3%	3.0%
1996	2.5%	2.5%
1995	2.7%	2.7%

CPI = **1.4% /year.**

Source: <https://www.pcpao.org/SOH.html>

FDOT analysis for asphalt demonstrates (left) just the cost of asphalt is growing at **3% per year**. Meanwhile, CPI growth is a **1.4% cap**.



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☆ Producer Price Index by Industry: Asphalt Paving and Roofing Materials Manufacturing (PCU3241232412)

DOWNLOAD

Observation: Apr 2022: **322.206** (+ more)
Updated: May 12, 2022

Units: Index Dec 1984=100,
Not Seasonally Adjusted

Frequency: Monthly

1Y | 5Y | 10Y | Max

1984-12-01 to 2022-04-01

EDIT GRAPH

FRED — Producer Price Index by Industry: Asphalt Paving and Roofing Materials Manufacturing



Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

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☆ Producer Price Index by Industry: Asphalt Paving and Roofing Materials Manufacturing (PCU3241232412)

DOWNLOAD

Observation: Apr 2022: **322.206** (+ more)
Updated: May 12, 2022

Units: Index Dec 1984=100, Not Seasonally Adjusted

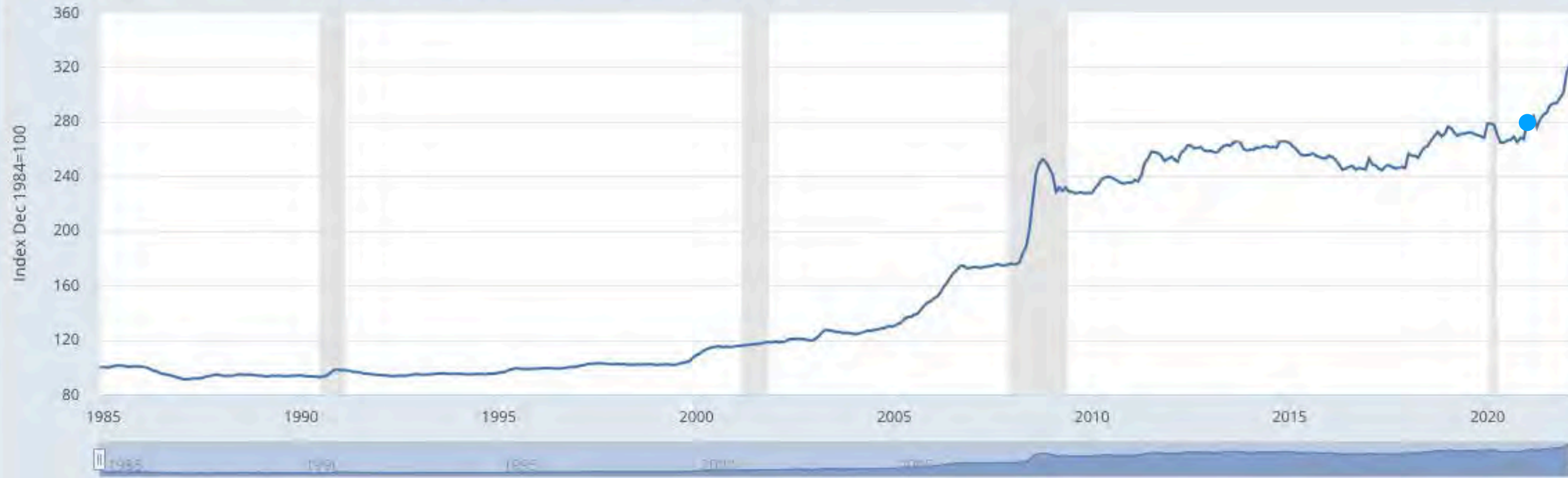
Frequency: Monthly

1Y | 5Y | 10Y | Max

1984-12-01 to 2022-04-01

EDIT GRAPH

FRED — Producer Price Index by Industry: Asphalt Paving and Roofing Materials Manufacturing



Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

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Frequency: Monthly

1Y | 5Y | 10Y | Max

1984-12-01 to 2022-04-01

EDIT GRAPH

FRED — Producer Price Index by Industry: Asphalt Paving and Roofing Materials Manufacturing



Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

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Observation: Apr 2022: **322.206** (+ more)
Updated: May 12, 2022

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Frequency: Monthly

1Y | 5Y | 10Y | Max

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Updated: May 12, 2022

Units: Index Dec 1984=100,
Not Seasonally Adjusted

Frequency: Monthly

1Y | 5Y | 10Y | Max 1984-12-01 to 2022-04-01

EDIT GRAPH

FRED — Producer Price Index by Industry: Asphalt Paving and Roofing Materials Manufacturing



2022 = **360** index.

2021 = **280** index

Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

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☆ Producer Price Index by Industry: Asphalt Paving and Roofing Materials Manufacturing

(PCU3241232412)

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Observation: Apr 2022: **322.206** (+ more)
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1Y | 5Y | 10Y | Max 1984-12-01 to 2022-04-01

EDIT GRAPH

FRED — Producer Price Index by Industry: Asphalt Paving and Roofing Materials Manufacturing



Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

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This is a **29%** increase in 2022.

2022 = **360** index.

2021 = **280** index

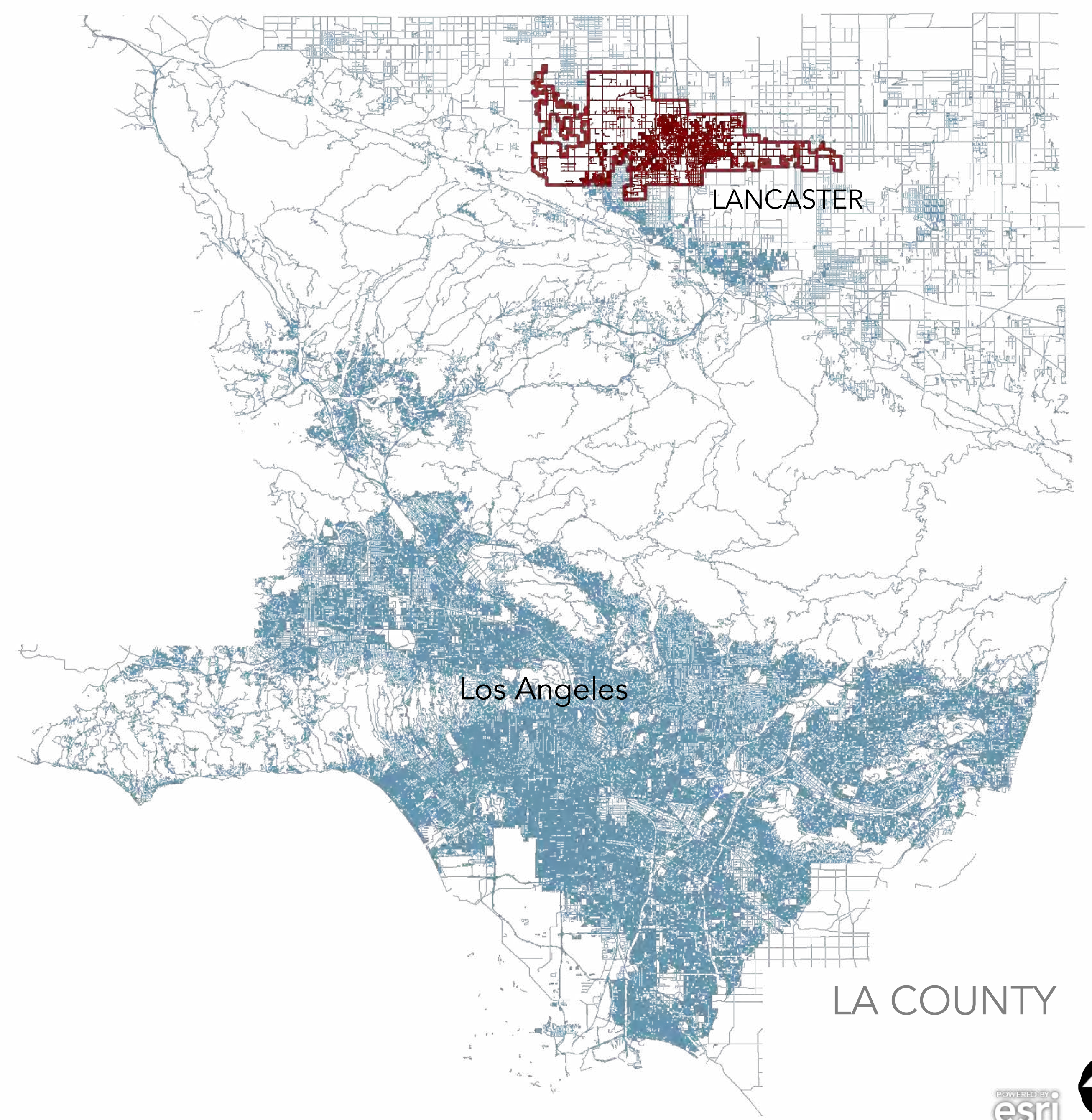
Question:

**How does income connect
to cost?**



Case Study: Economic MRI®, Fiscal MRI®, Policy Analytics
2014 - 2019

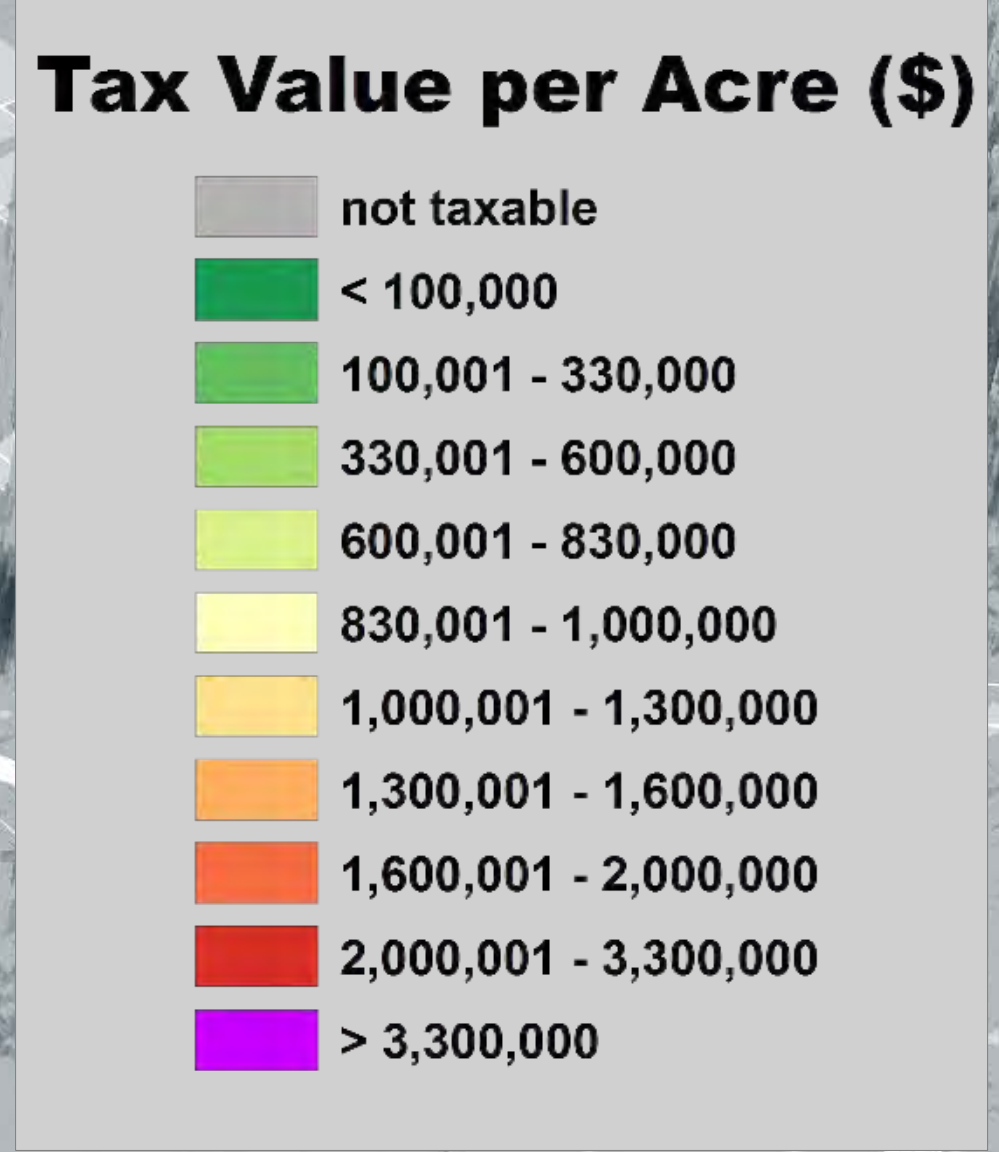
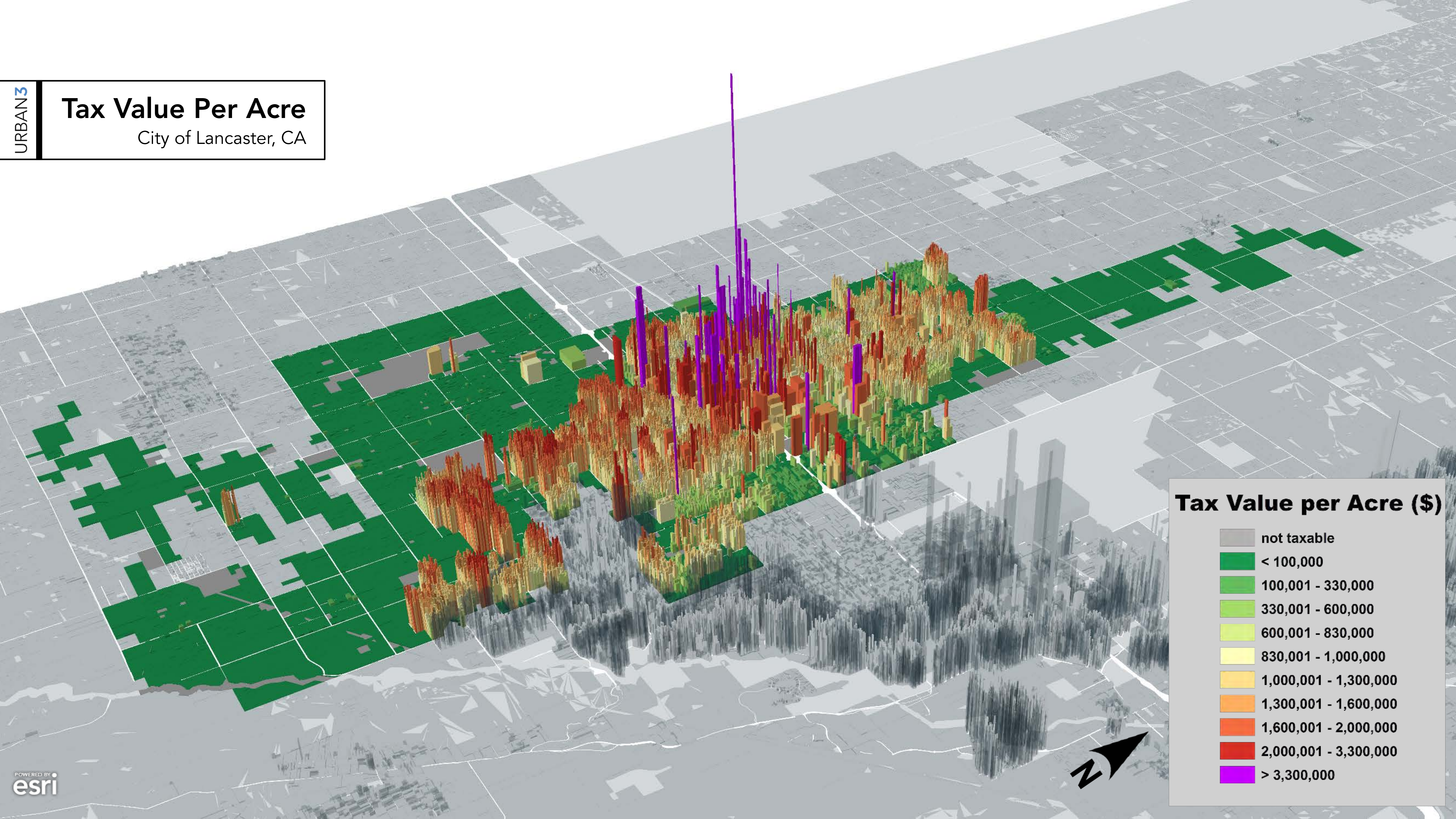
Lancaster, California



LANCASTER:

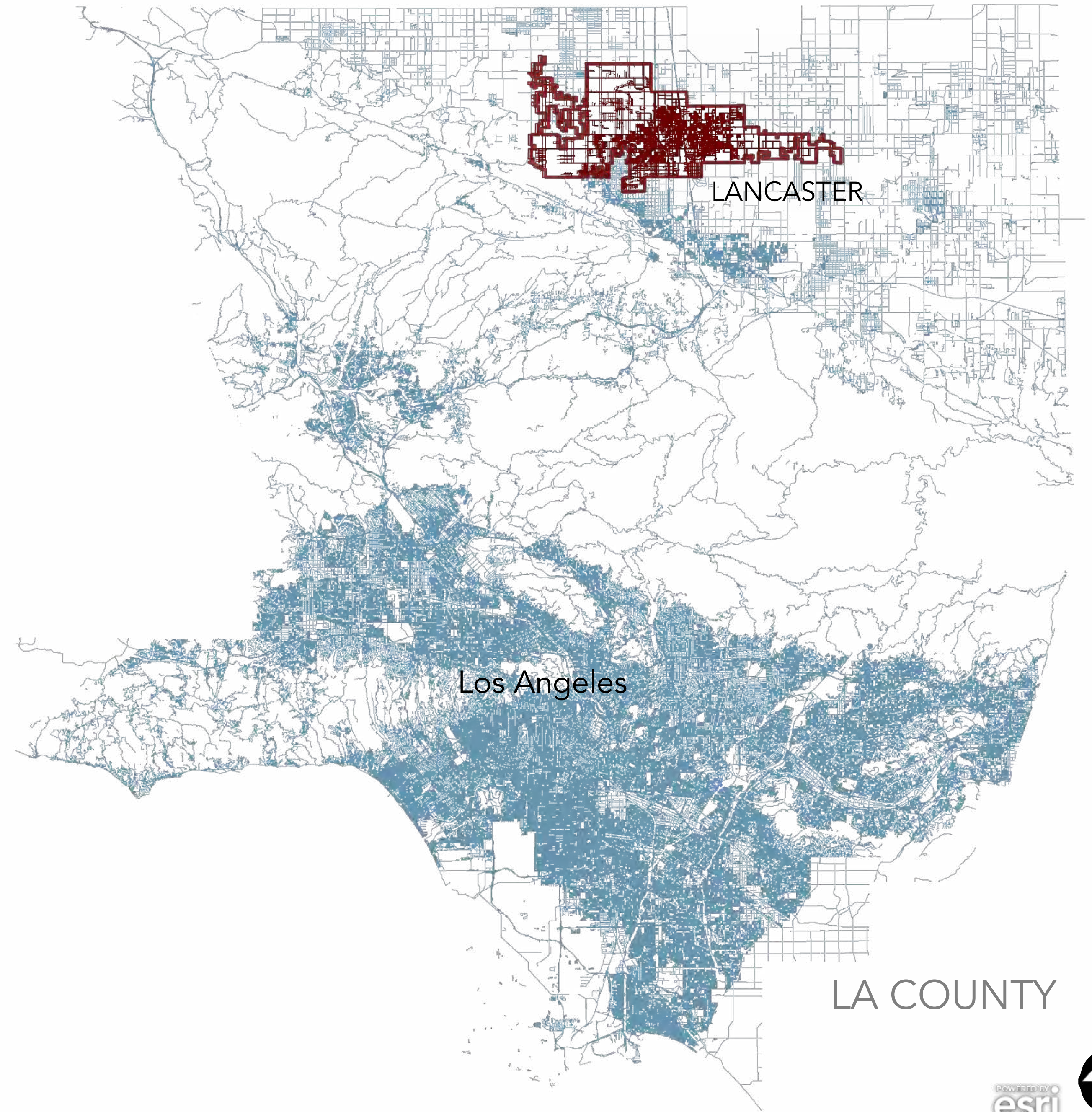
Tax Value Per Acre

City of Lancaster, CA

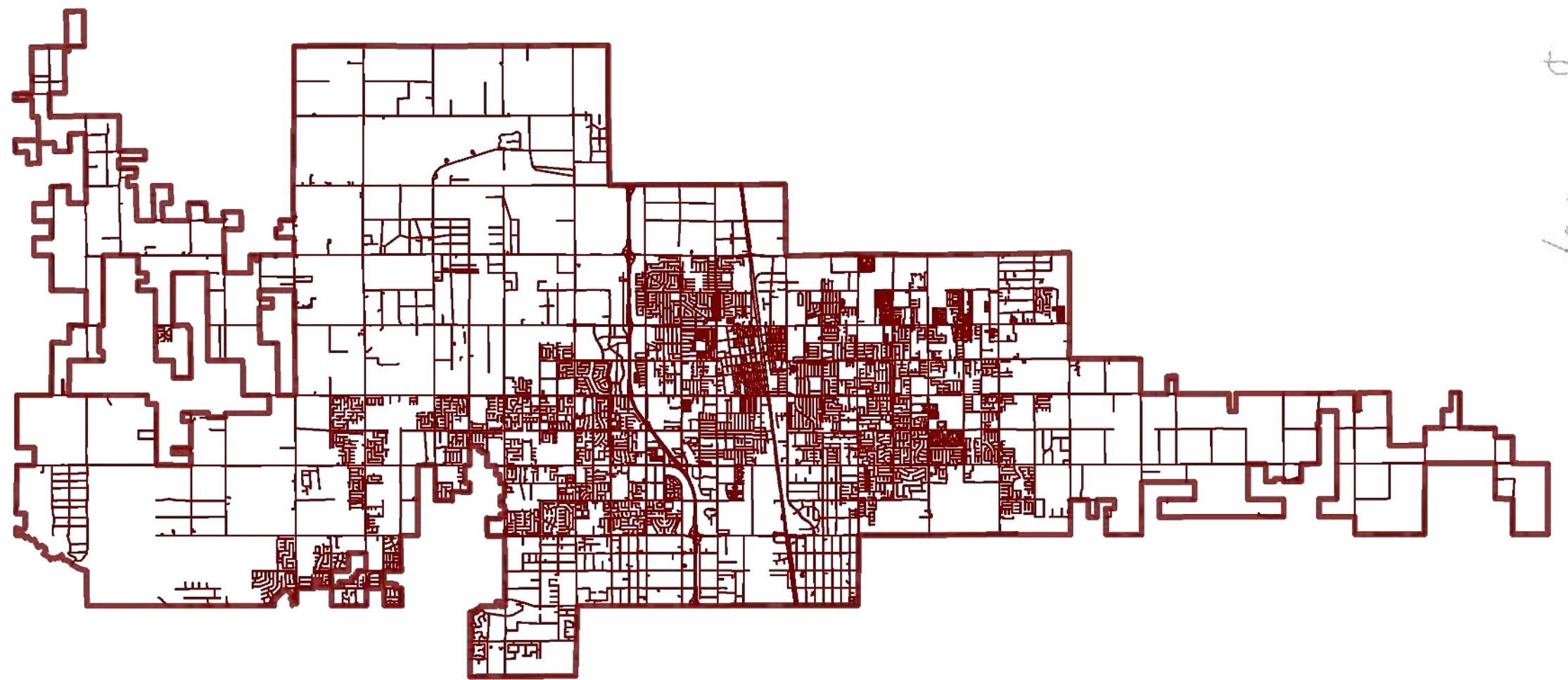


Paved Roads

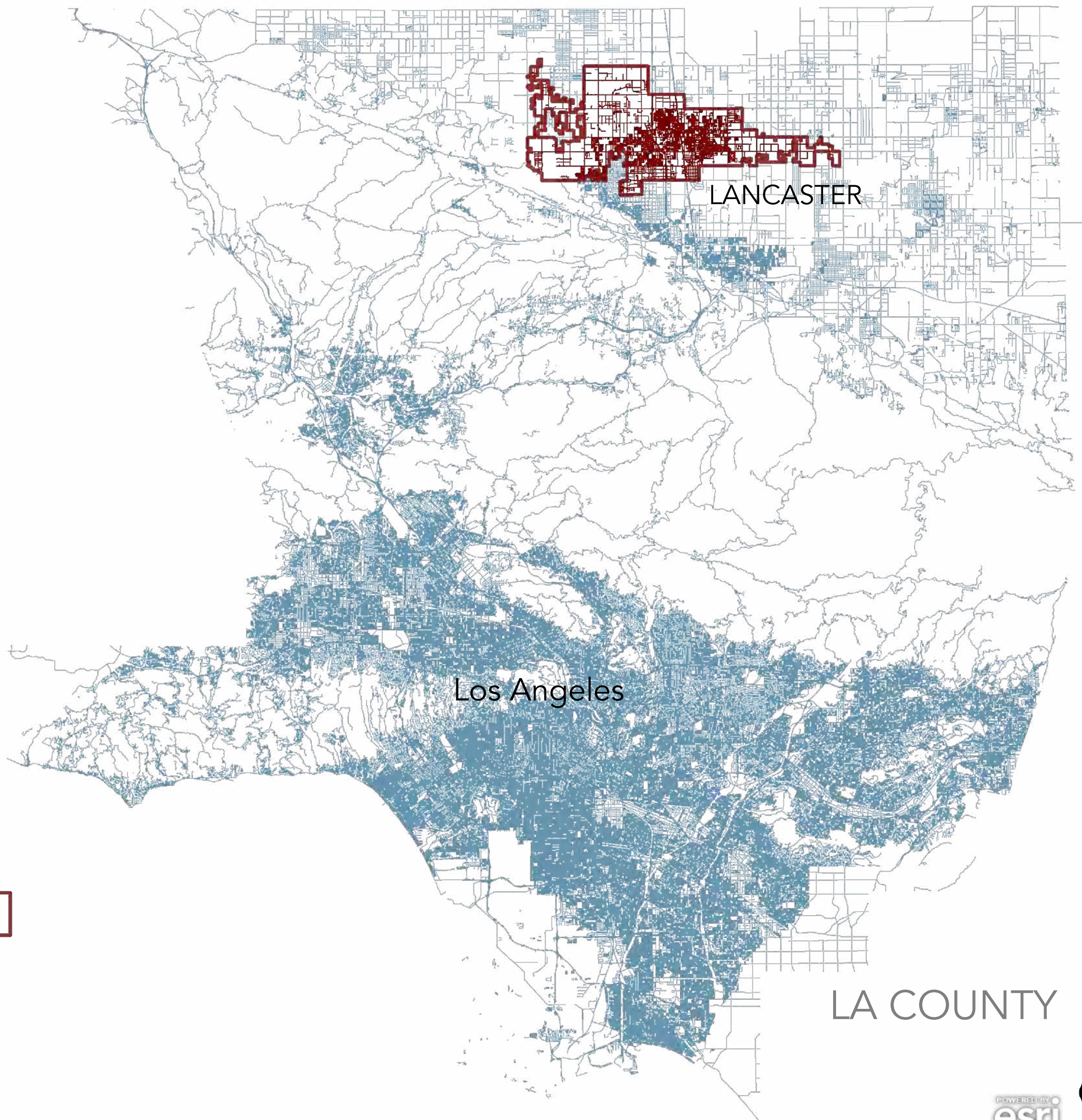
City of Lancaster, CA



LANCASTER:

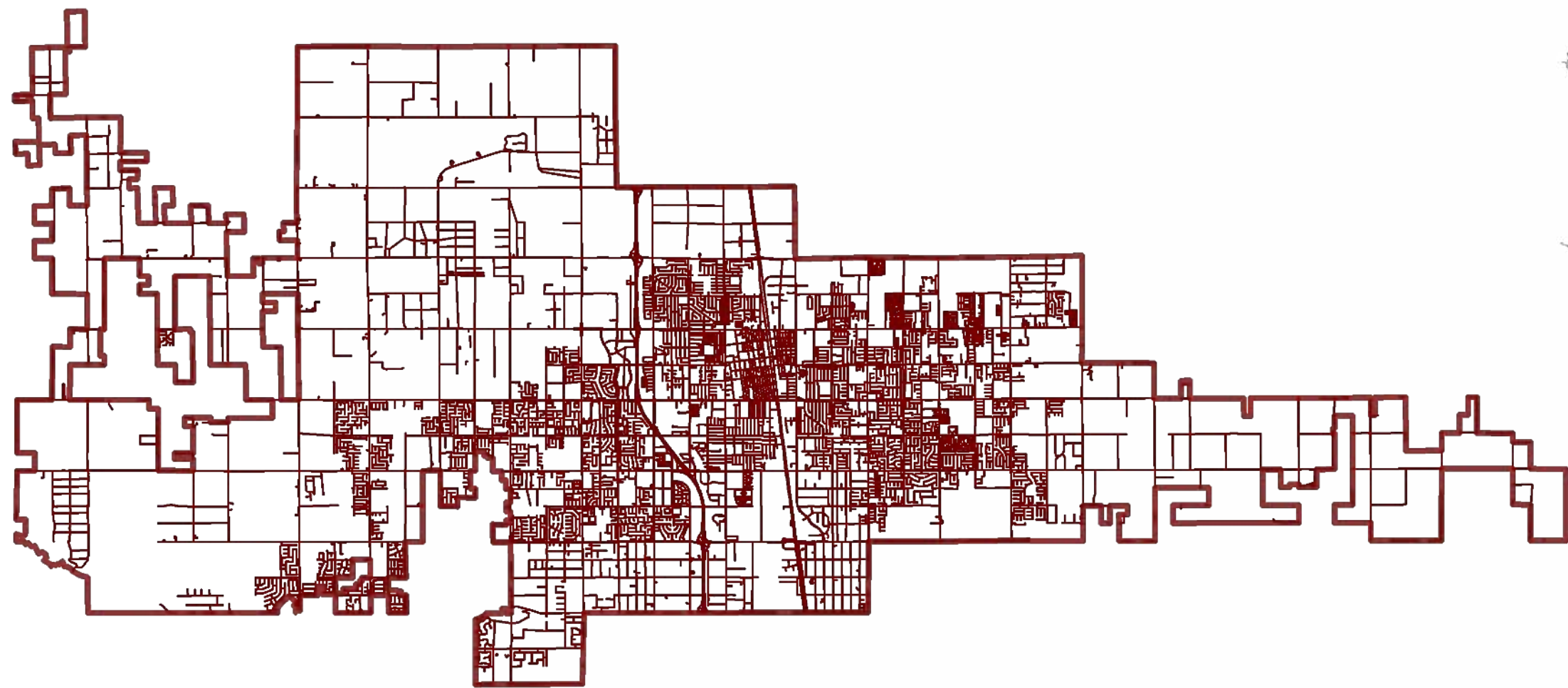


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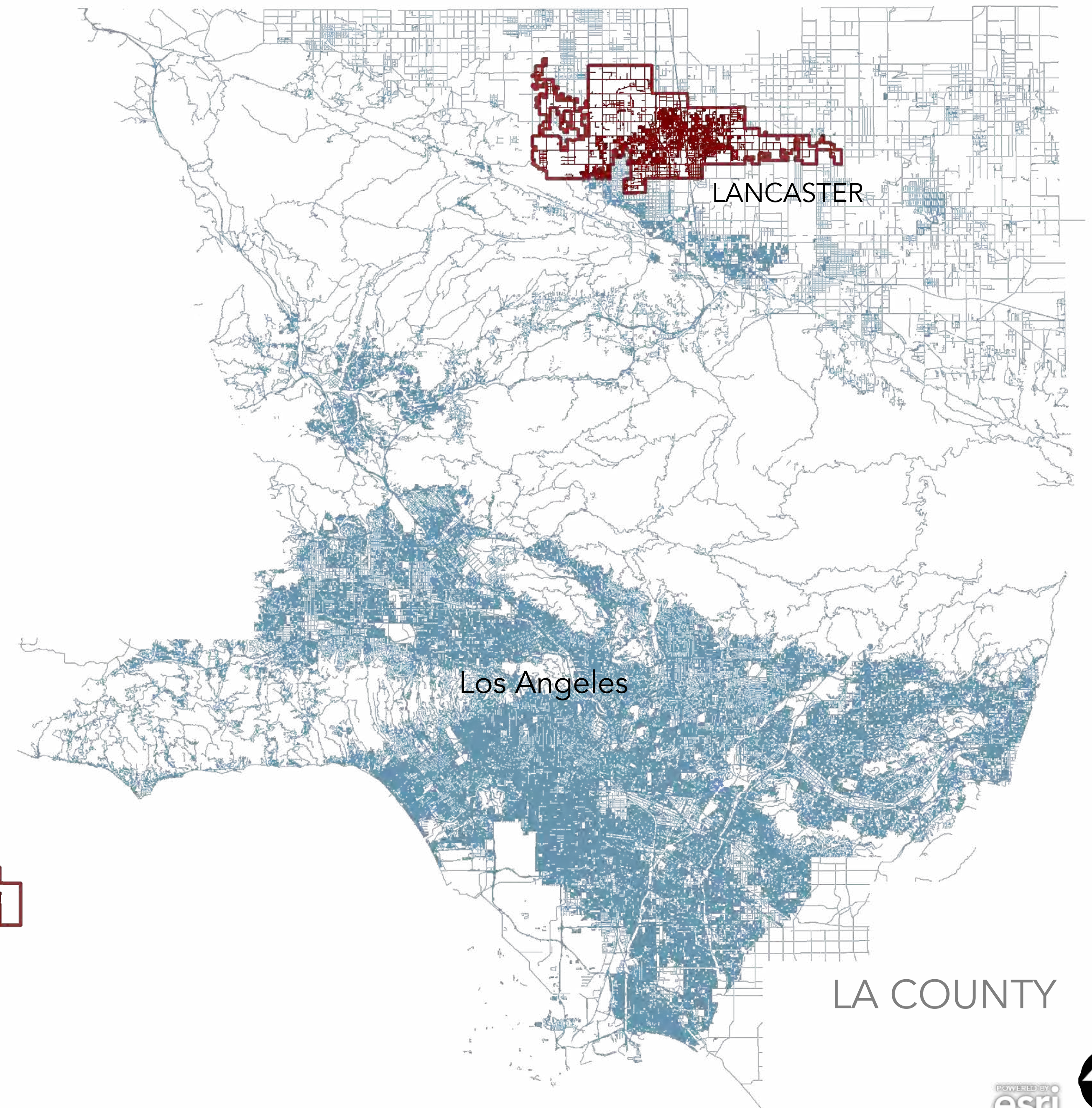


Paved Roads

City of Lancaster, CA



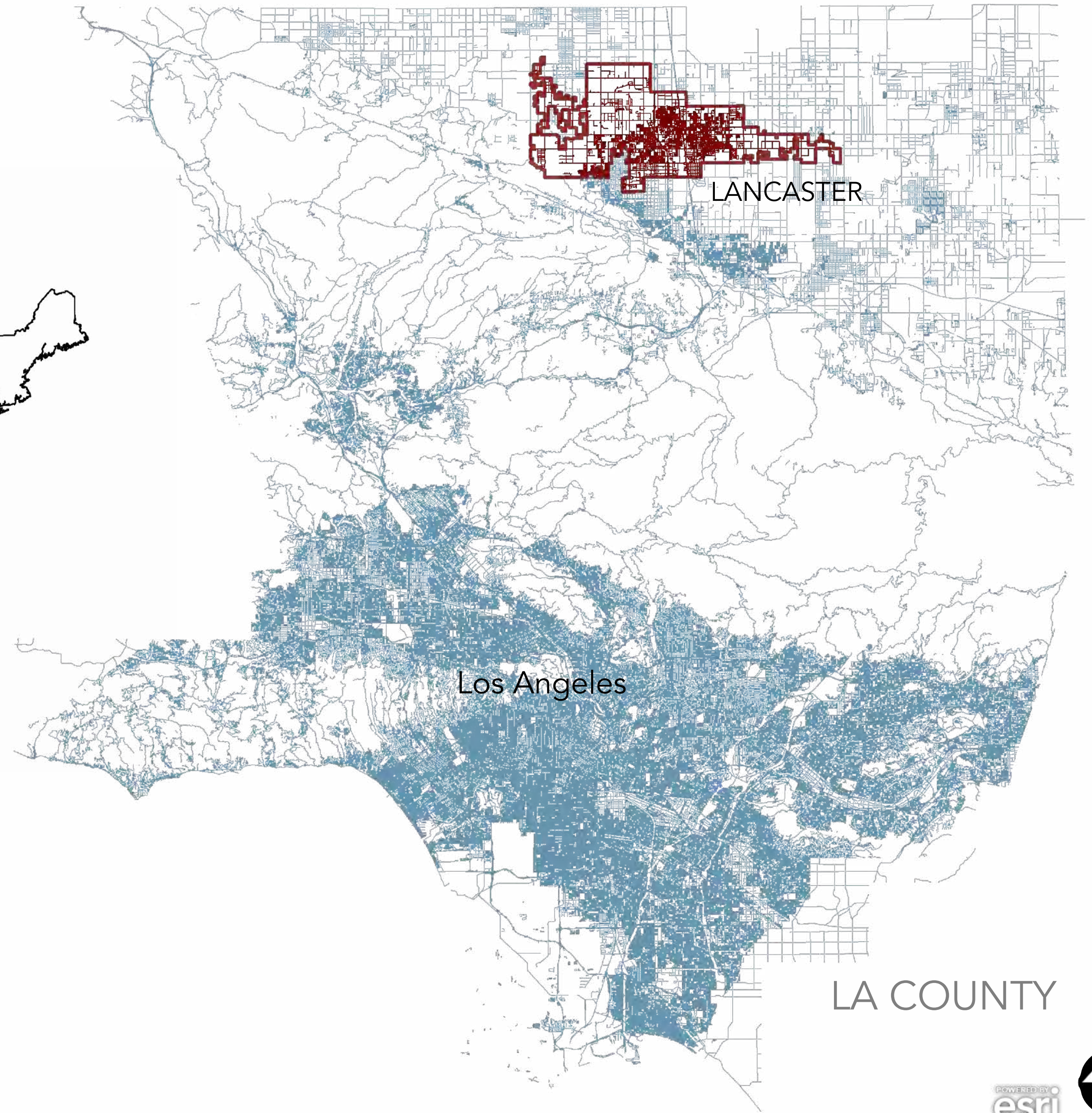
LANCASTER: 953 MILES



LA COUNTY

Paved Roads

City of Lancaster, CA



LANCASTER: 953 MILES

Assets*

* According to the Municipal Finance Standards (CAFR)

Assets*



* According to the Municipal Finance Standards (CAFR)

Assets*



* According to the Municipal Finance Standards (CAFR)

Assets*



* According to the Municipal Finance Standards (CAFR)

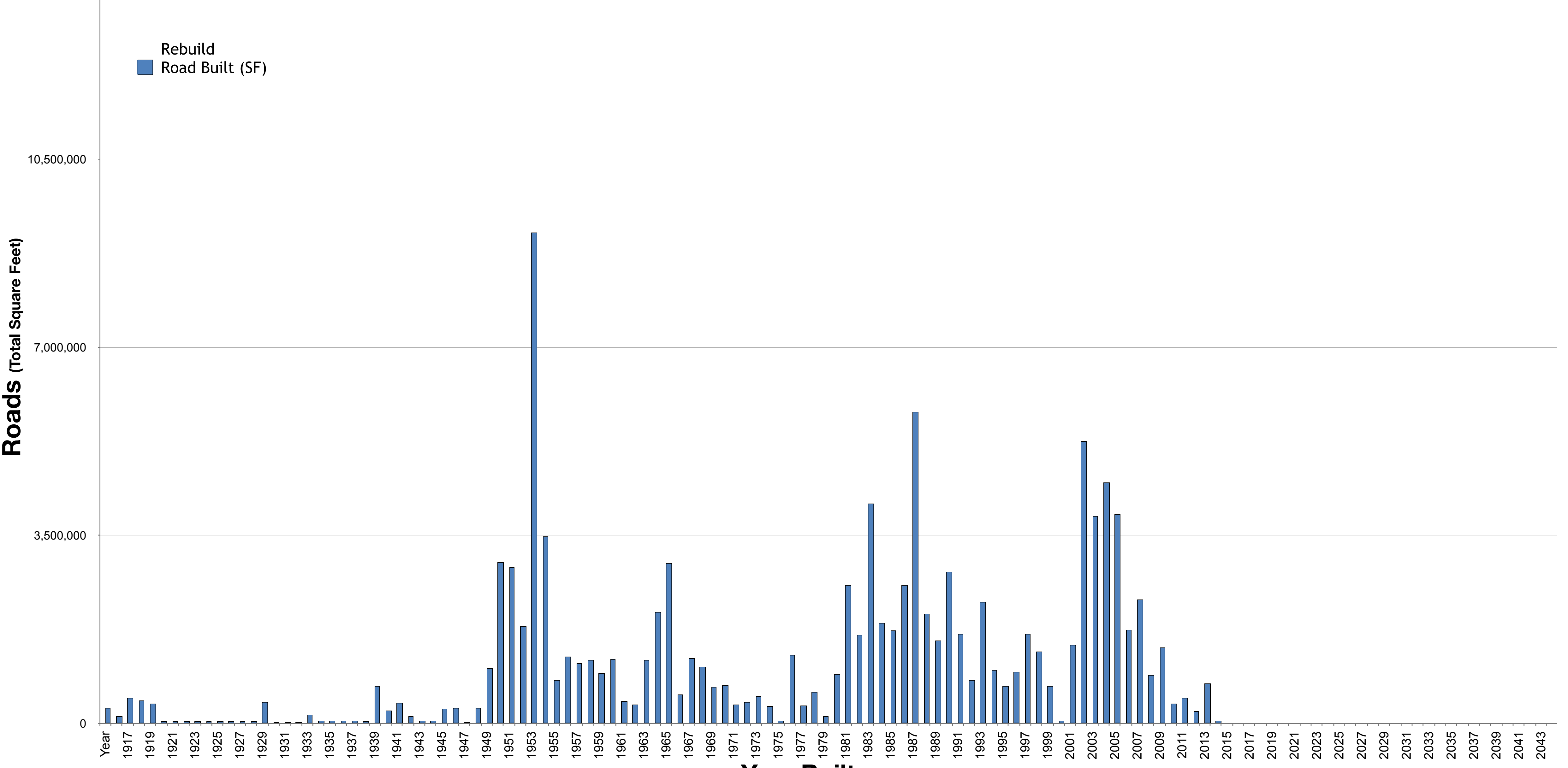
Assets*



* According to the Municipal Finance Standards (CAFR)

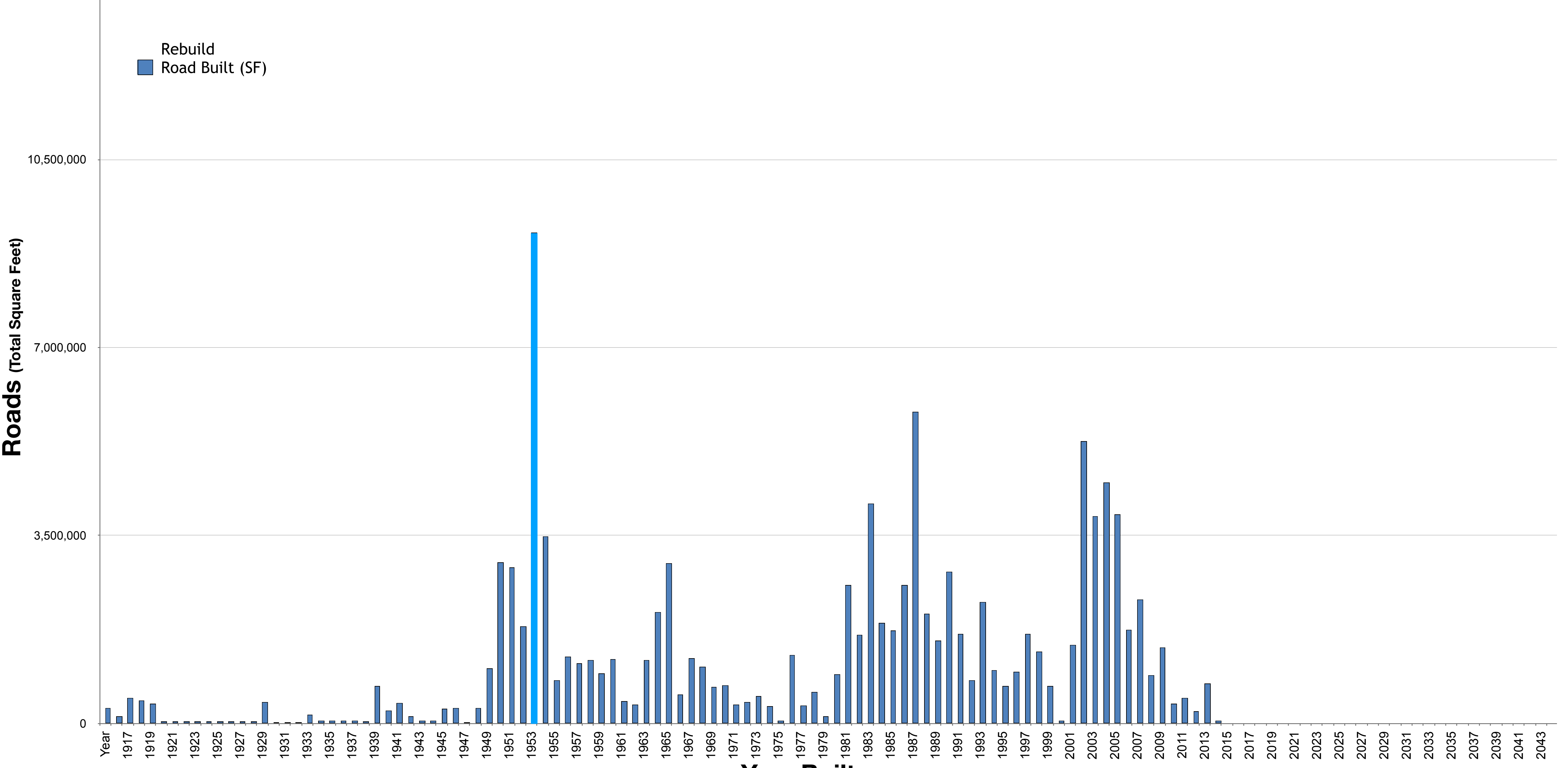
Road Construction and Reconstruction

Lancaster, CA



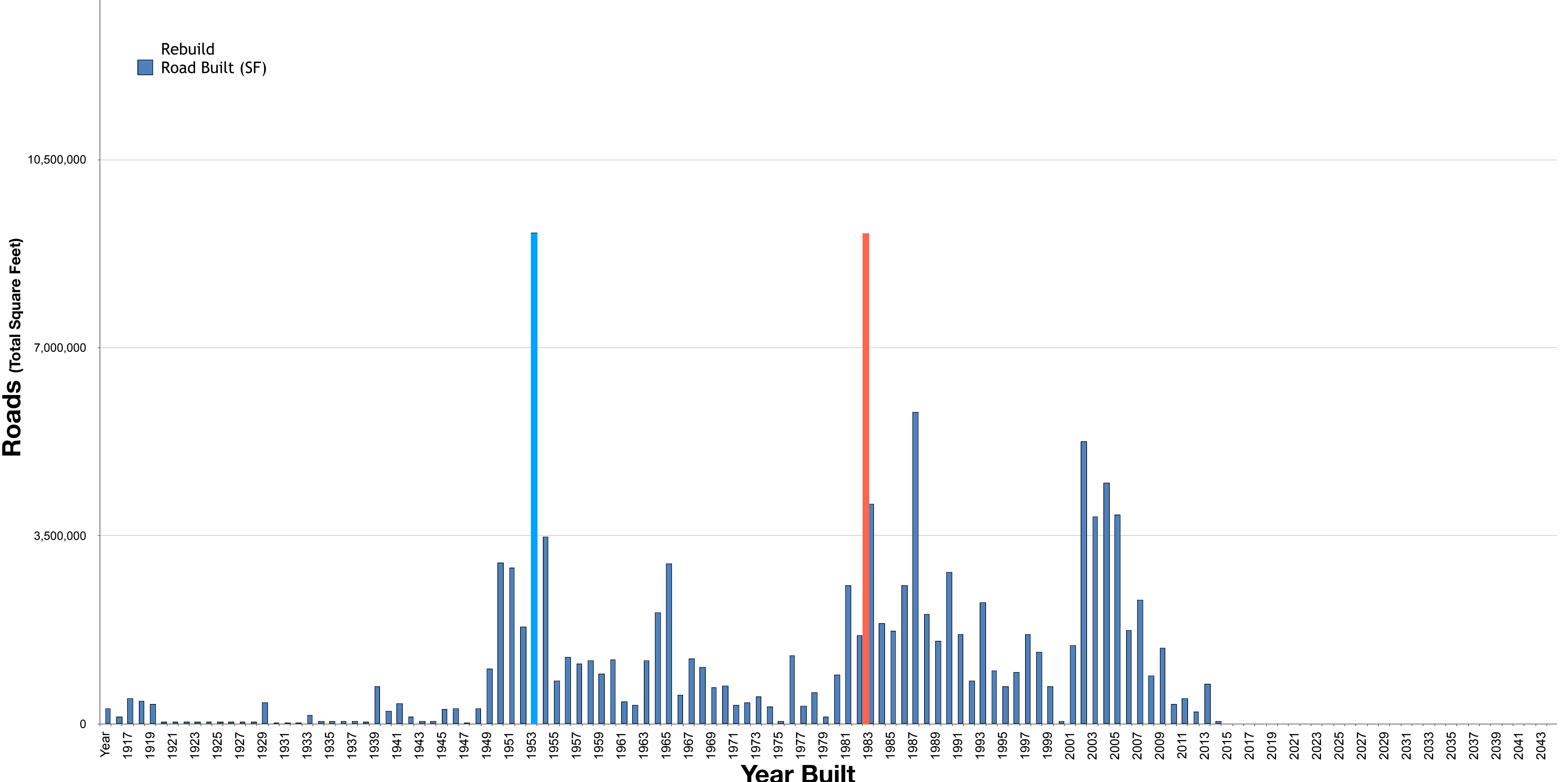
Road Construction and Reconstruction

Lancaster, CA



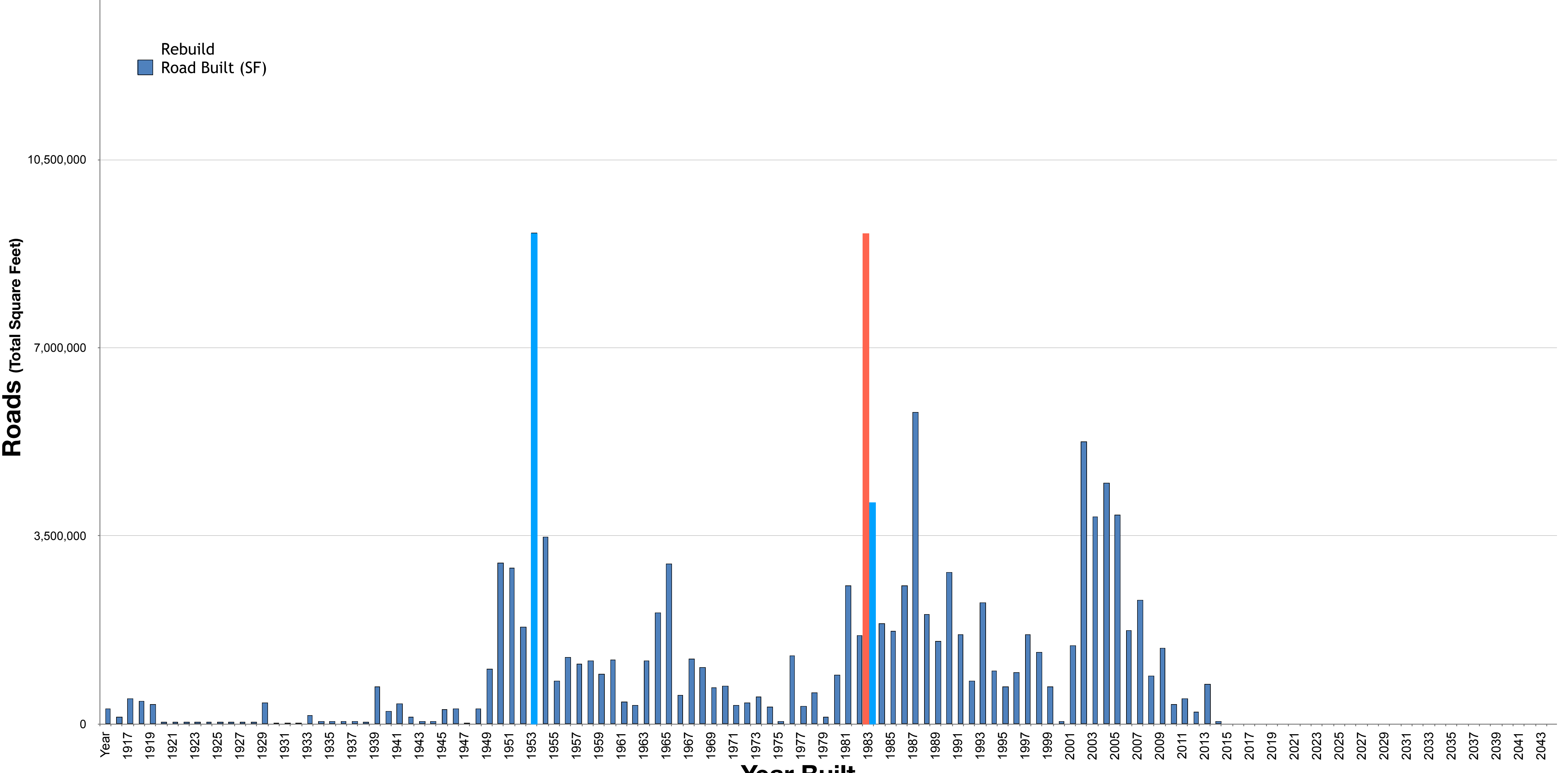
Road Construction and Reconstruction

Lancaster, CA



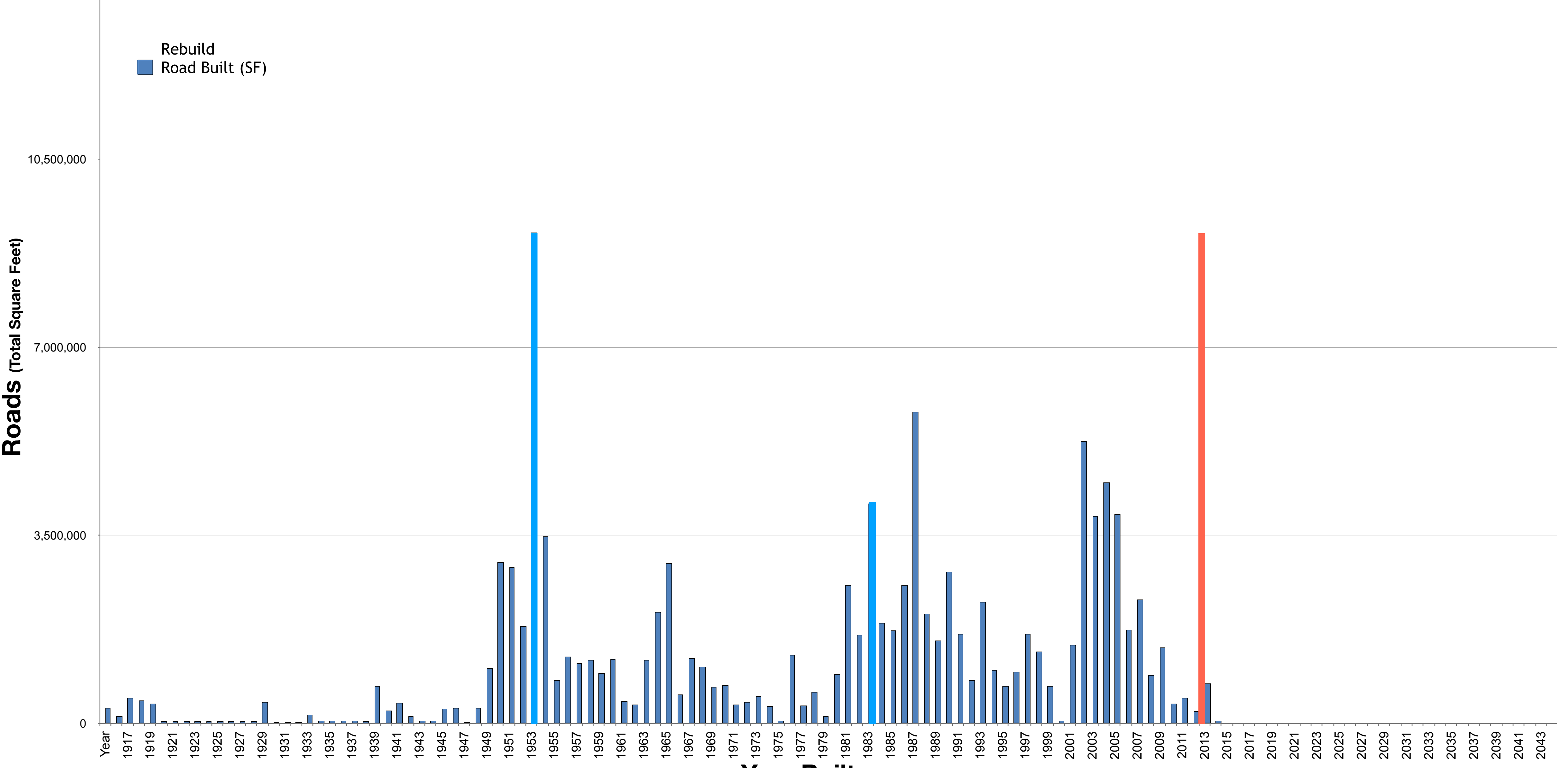
Road Construction and Reconstruction

Lancaster, CA



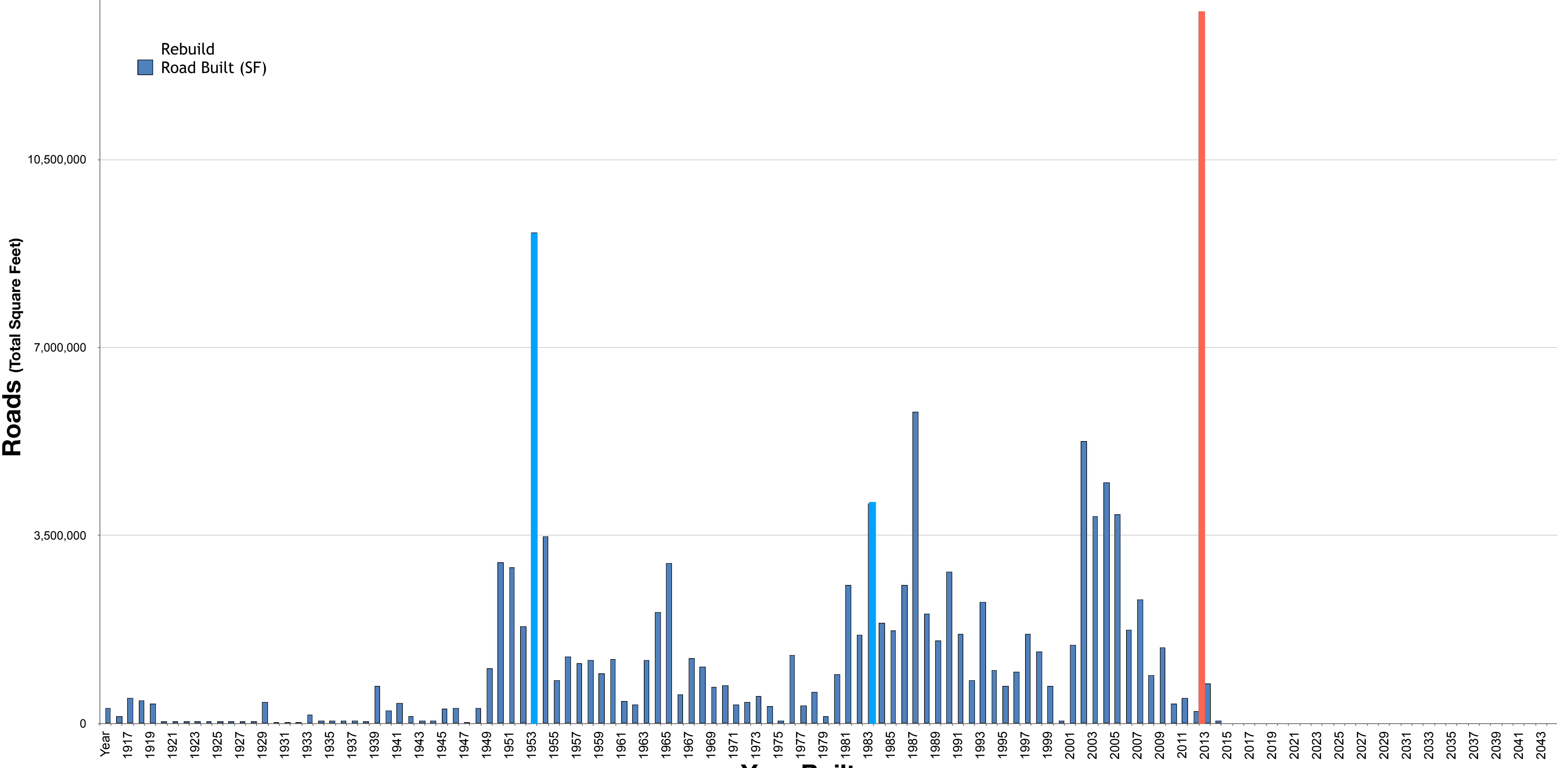
Road Construction and Reconstruction

Lancaster, CA



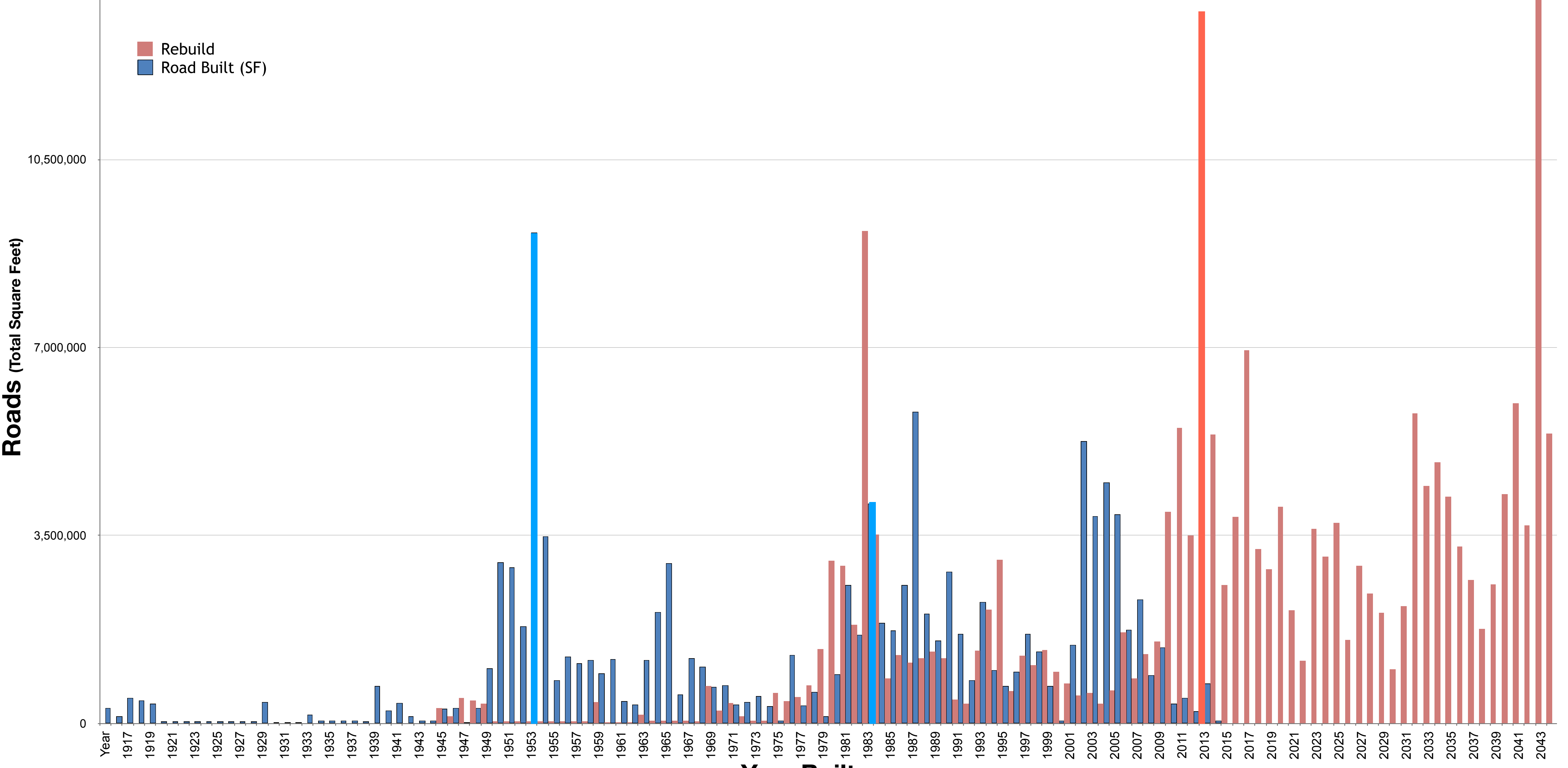
Road Construction and Reconstruction

Lancaster, CA



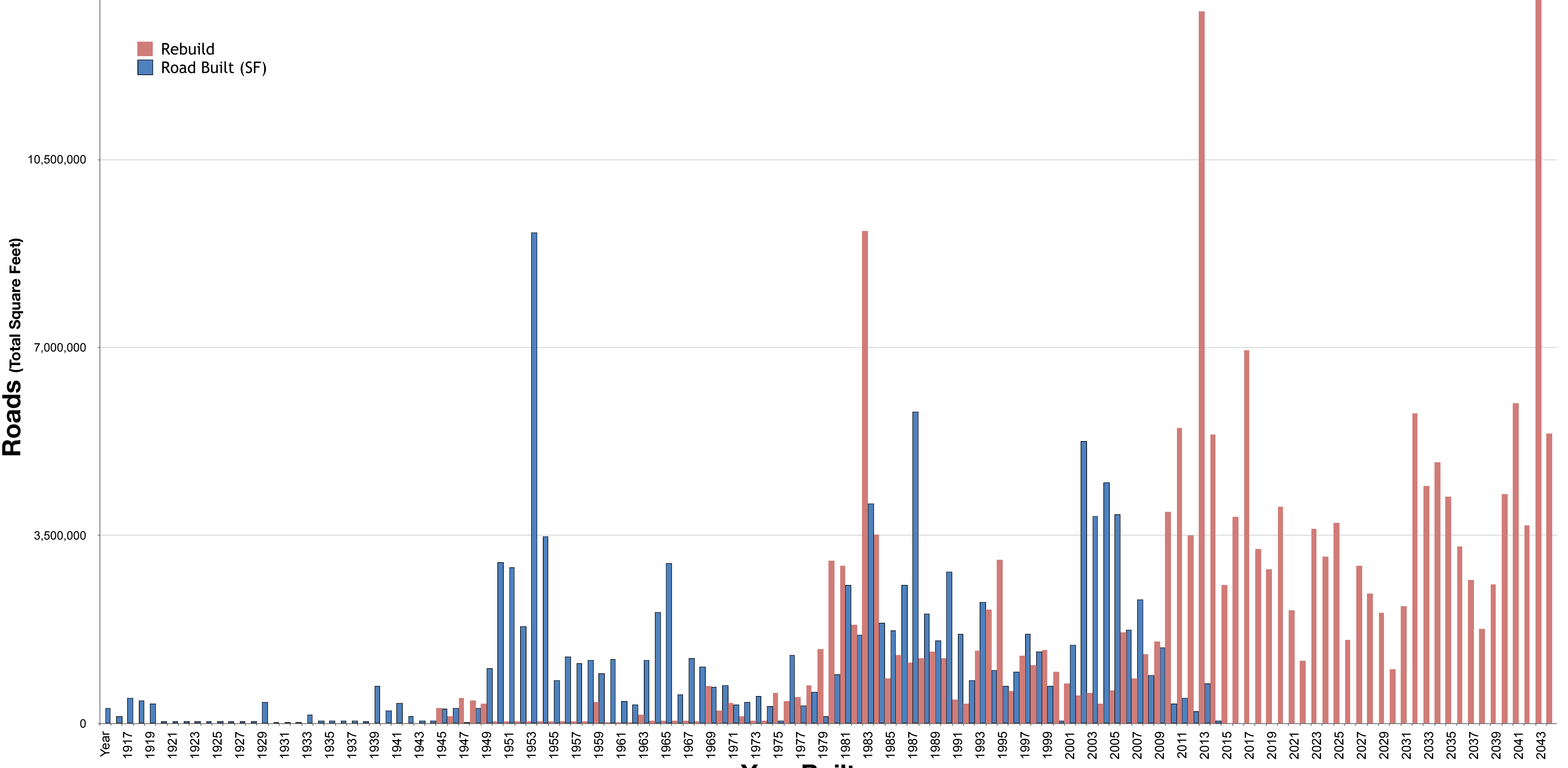
Road Construction and Reconstruction

Lancaster, CA



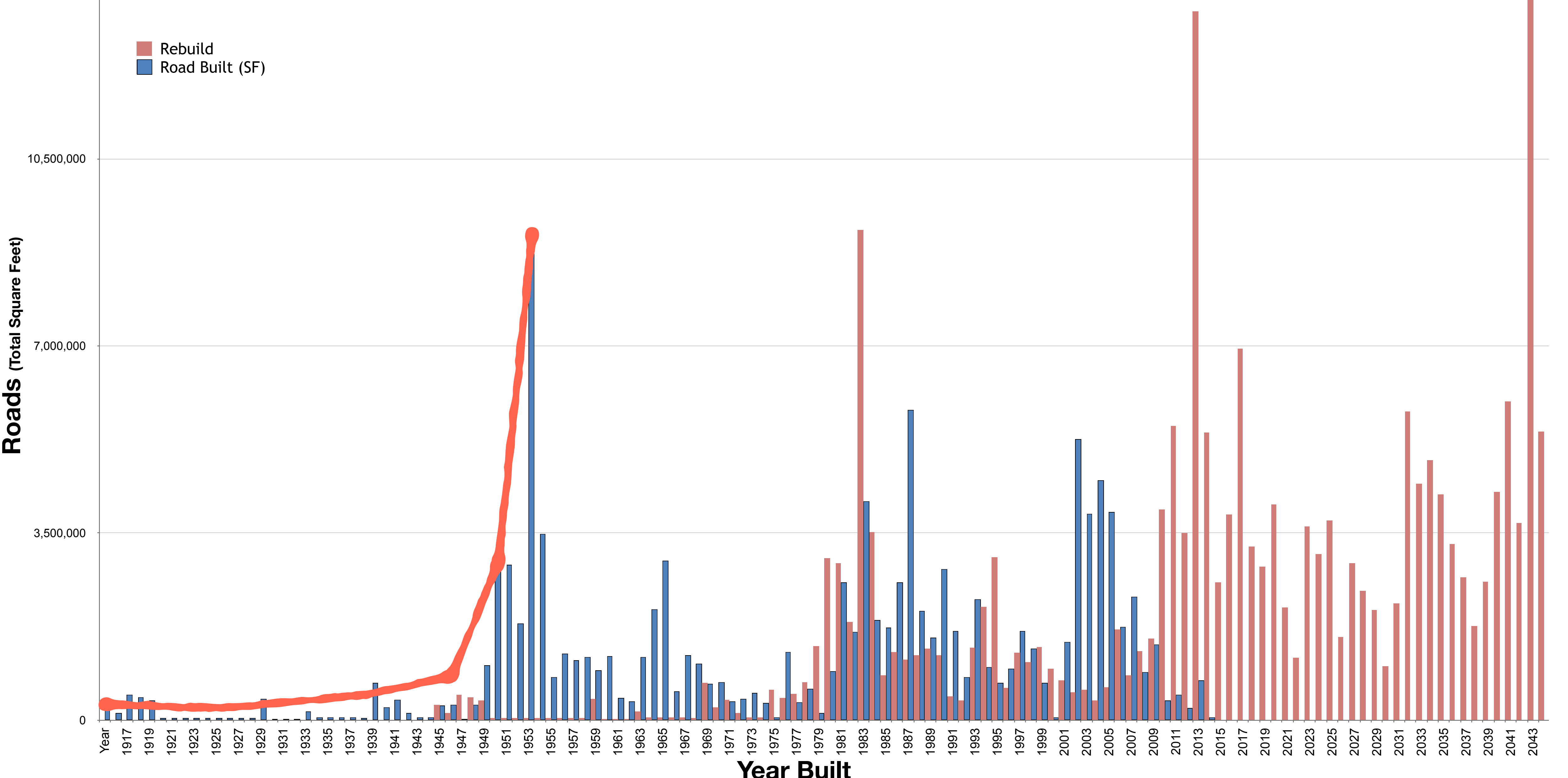
Road Construction and Reconstruction

Lancaster, CA



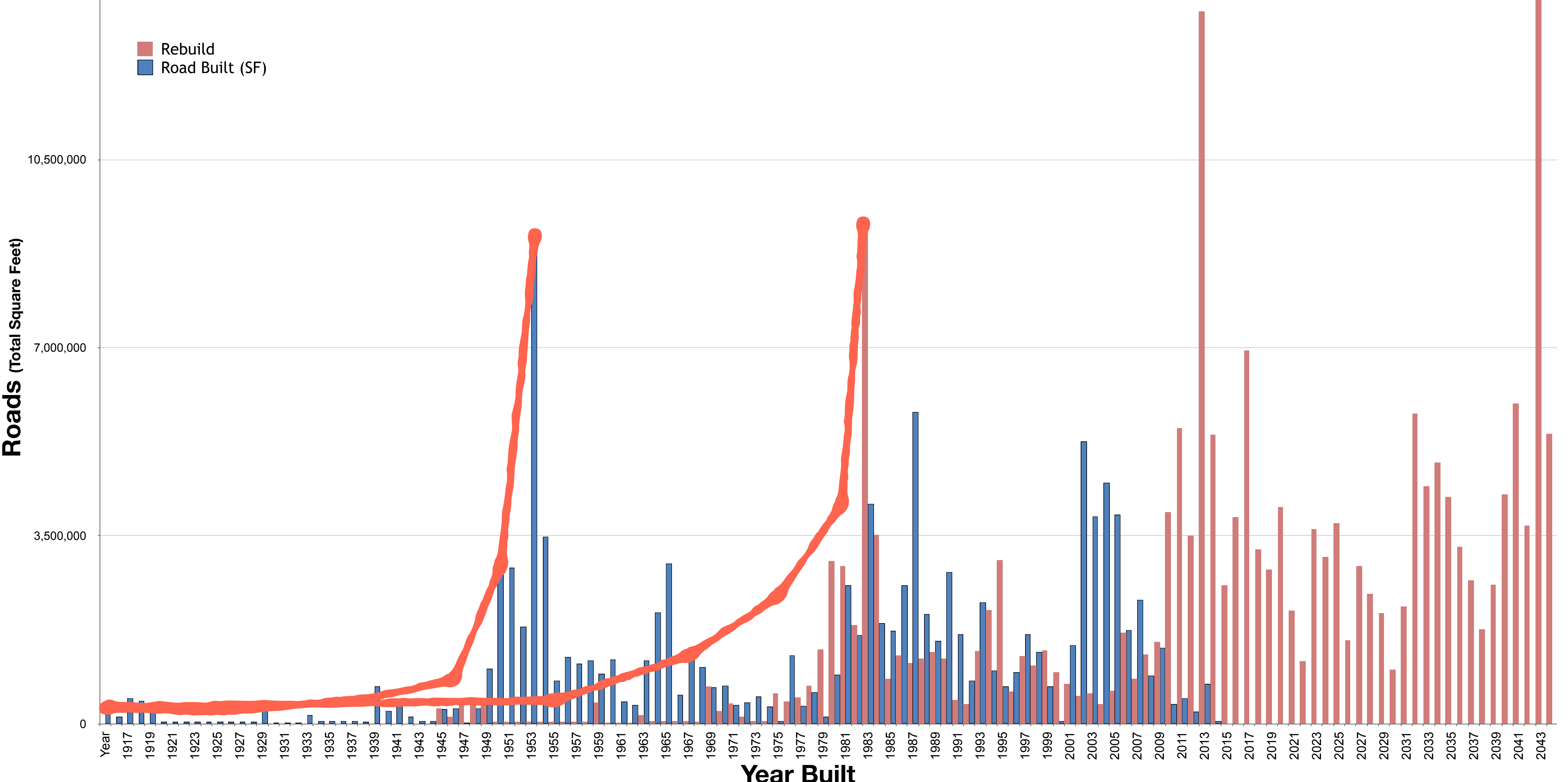
Road Construction and Reconstruction

Lancaster, CA



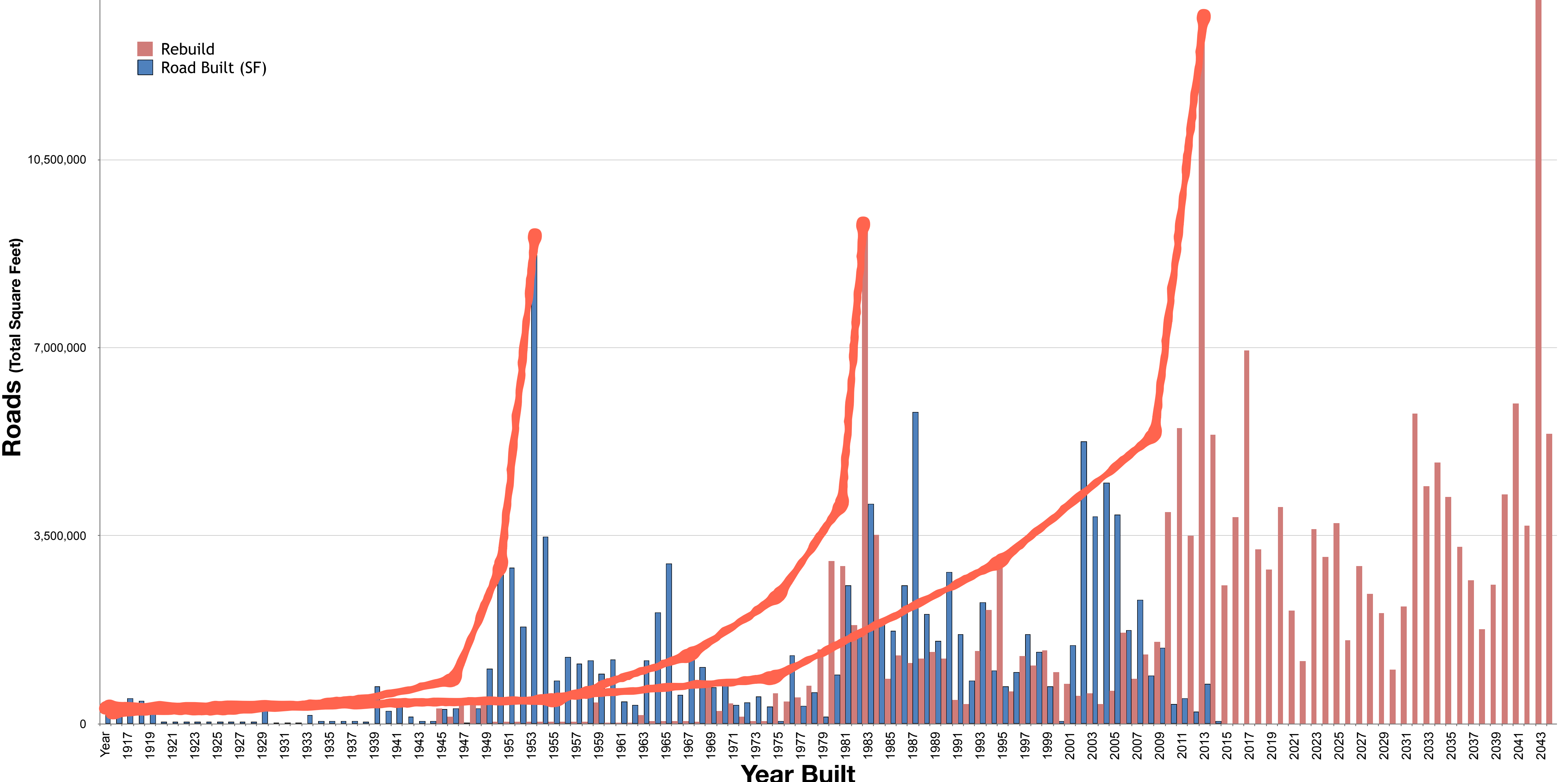
Road Construction and Reconstruction

Lancaster, CA



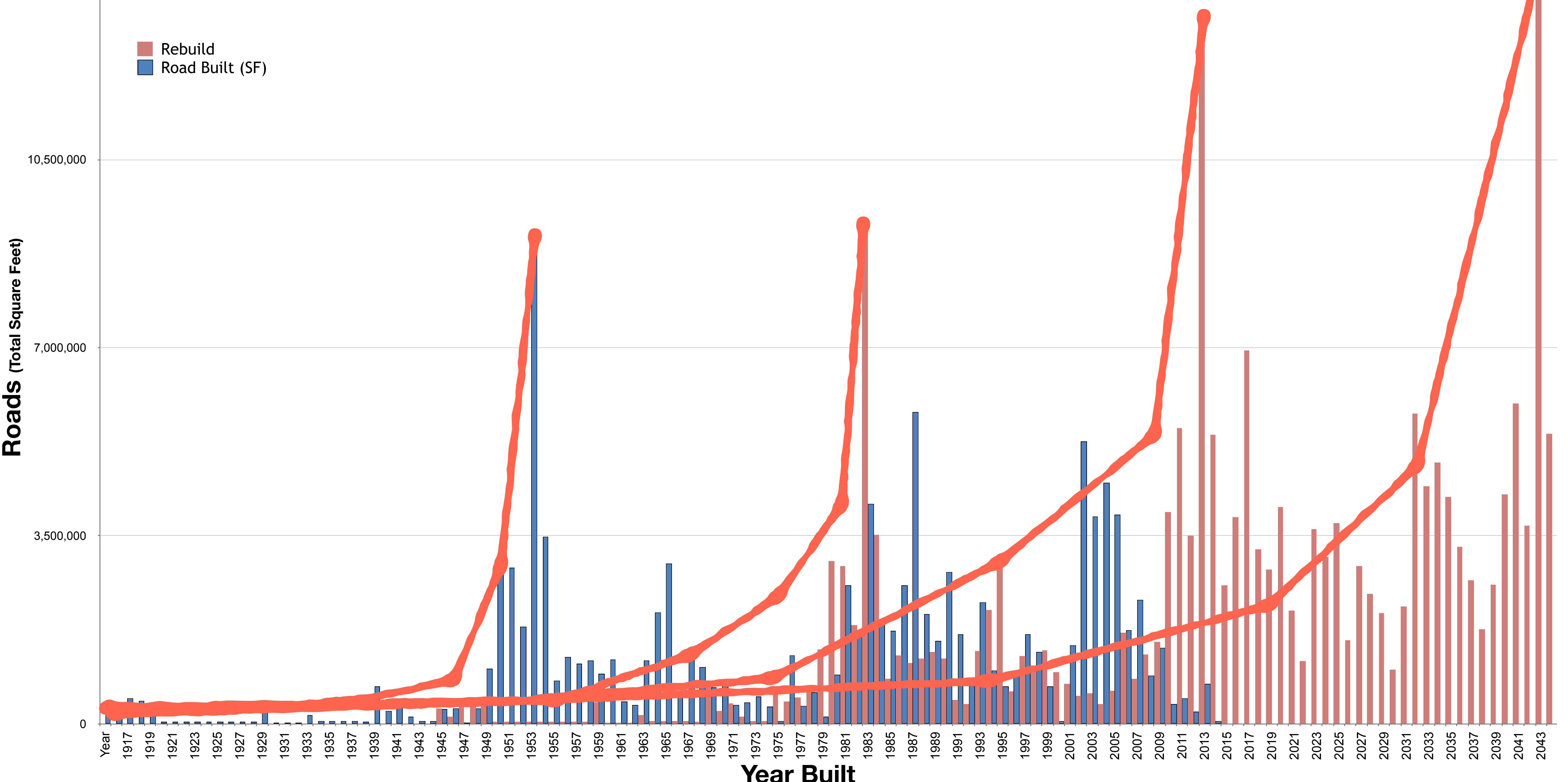
Road Construction and Reconstruction

Lancaster, CA



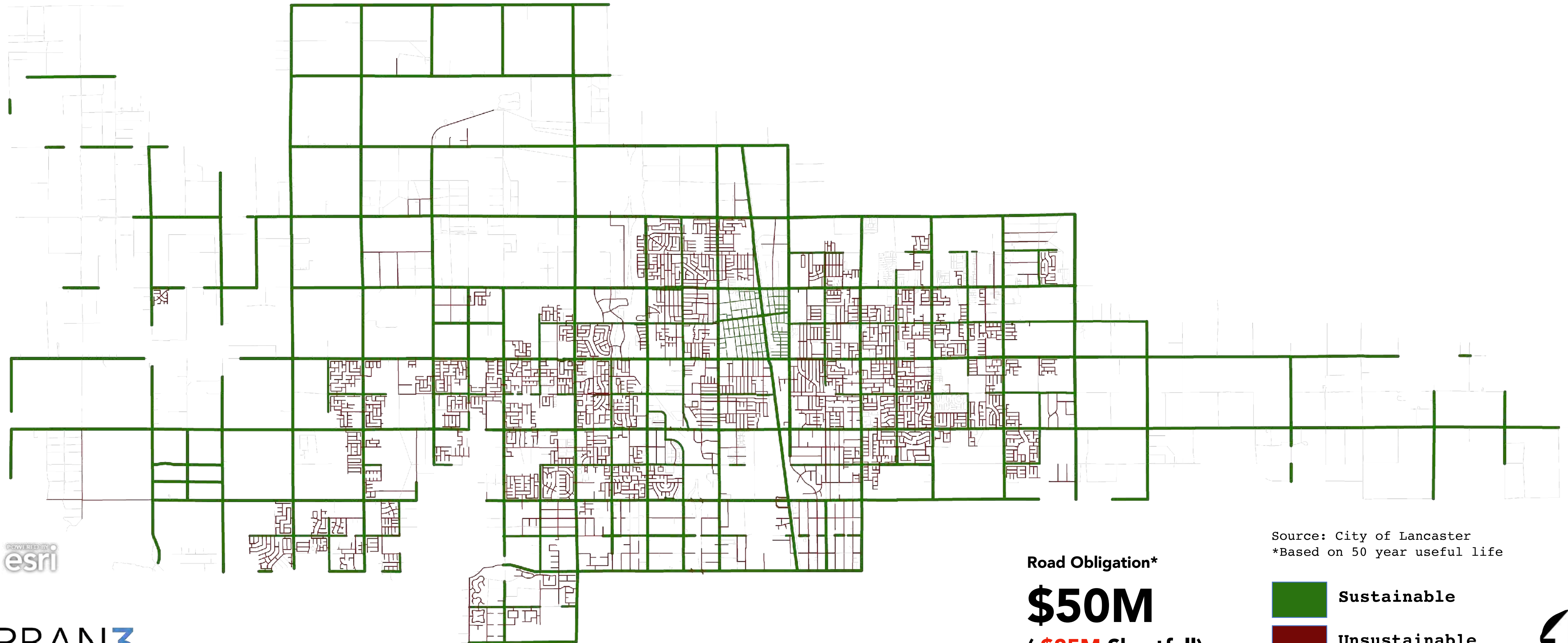
Road Construction and Reconstruction

Lancaster, CA



What Roads Can You Sustain?

Based on revenue flow, what can we afford? About half the network.



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Road Obligation*

\$50M

(**-\$25M** Shortfall)

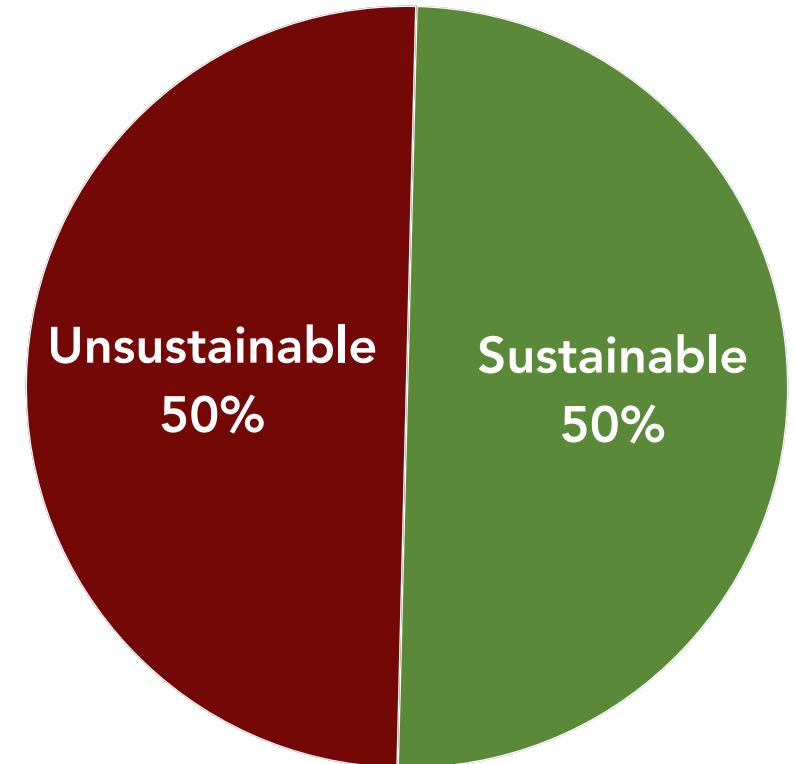
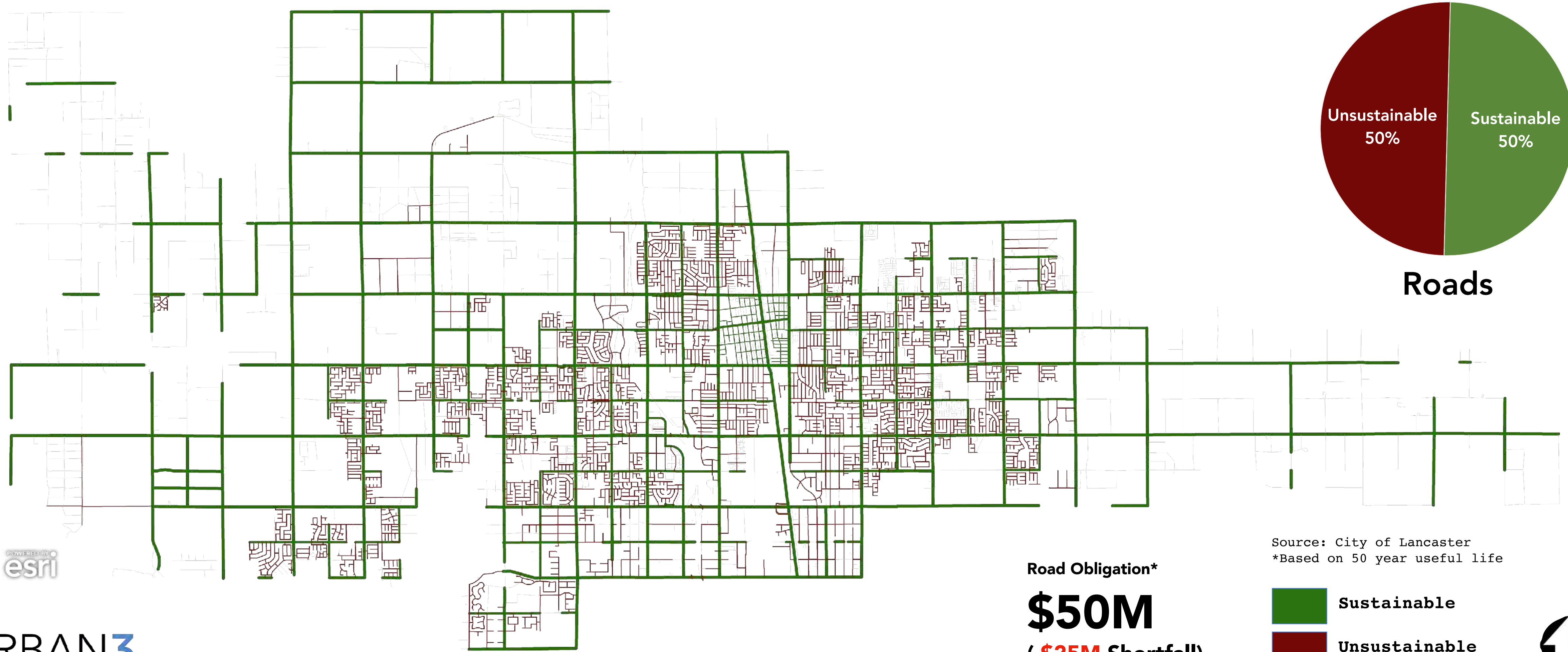
Source: City of Lancaster
*Based on 50 year useful life

 Sustainable
 Unsustainable



What Roads Can You Sustain?

Based on revenue flow, what can we afford? About half the network.



Roads



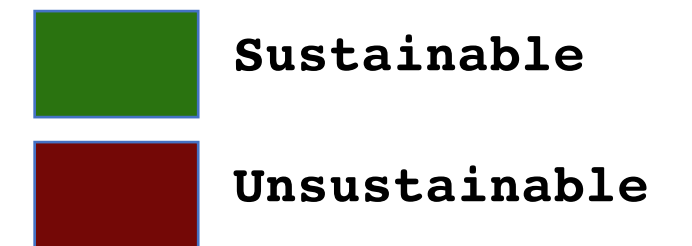
URBAN3

Road Obligation*

\$50M

(**-\$25M** Shortfall)

Source: City of Lancaster
*Based on 50 year useful life



A photograph of a desert landscape with a sign in the foreground. The sign is yellow with a red border and black text. The text reads "BUY NOW" in blue and "PAY LATER" in red. The sign is supported by two wooden posts. The background shows a vast, flat desert with sparse vegetation and a blue sky with light clouds.

BUY NOW
PAY LATER

A photograph of a desert landscape with a sign in the foreground. The sign is yellow with a red border and black text. The text reads "BUY NOW" in blue and "PAY LATER" in red. The sign is supported by two wooden posts. The background shows a vast, flat, arid landscape with sparse, low-lying vegetation and a clear blue sky with some light clouds.

BUY NOW
PAY LATER

Question:

**But this is super depressing.
What's a way out?**

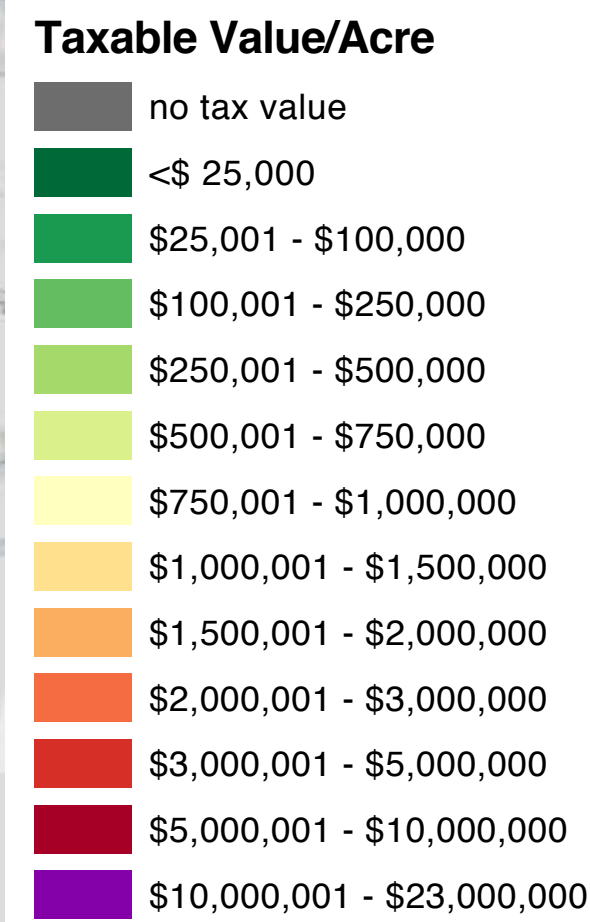


Case Study: Fiscal MRI®
2018

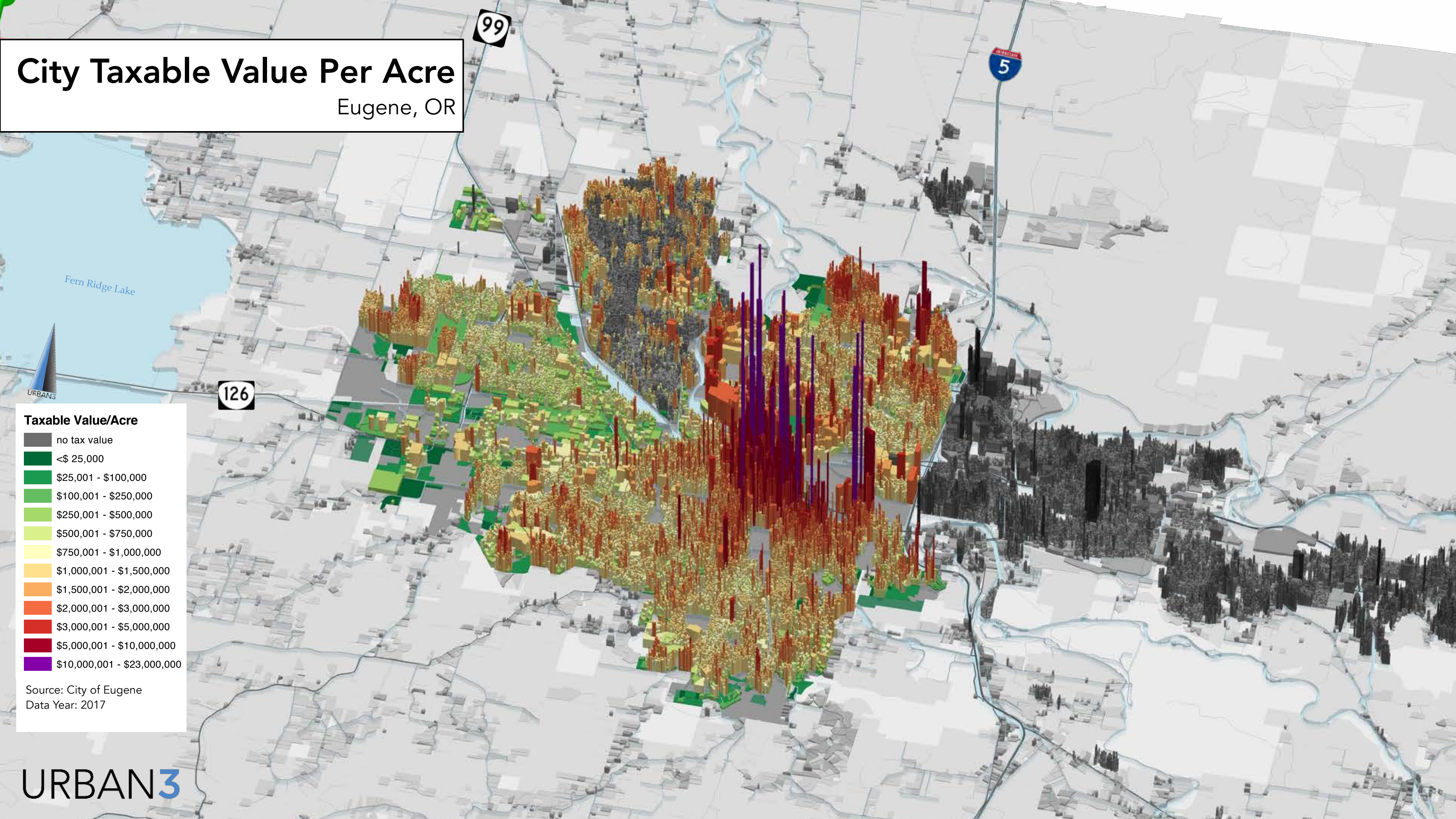
Eugene, Oregon

City Taxable Value Per Acre

Eugene, OR

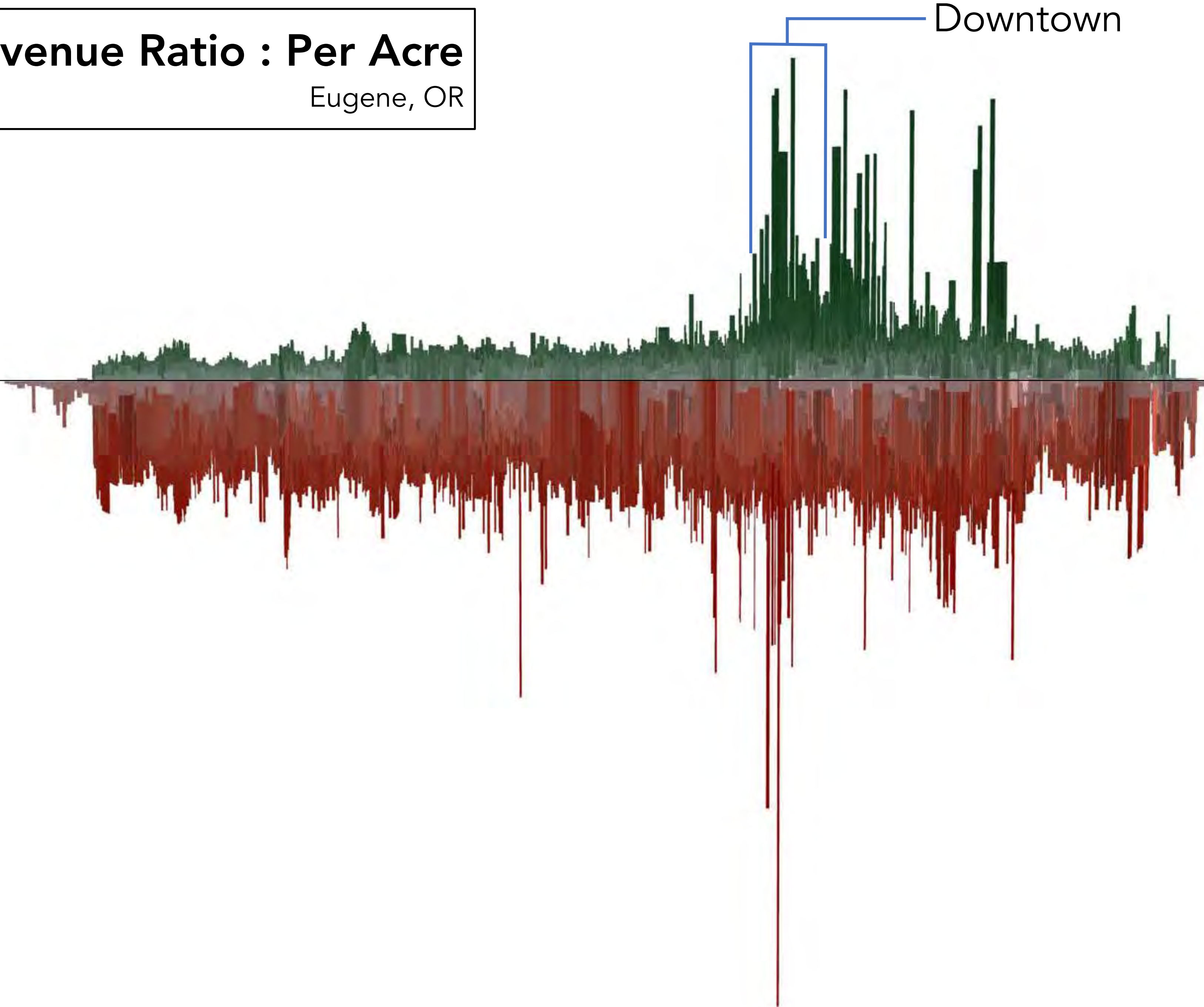


Source: City of Eugene
Data Year: 2017



Expense and Revenue Ratio : Per Acre

Eugene, OR

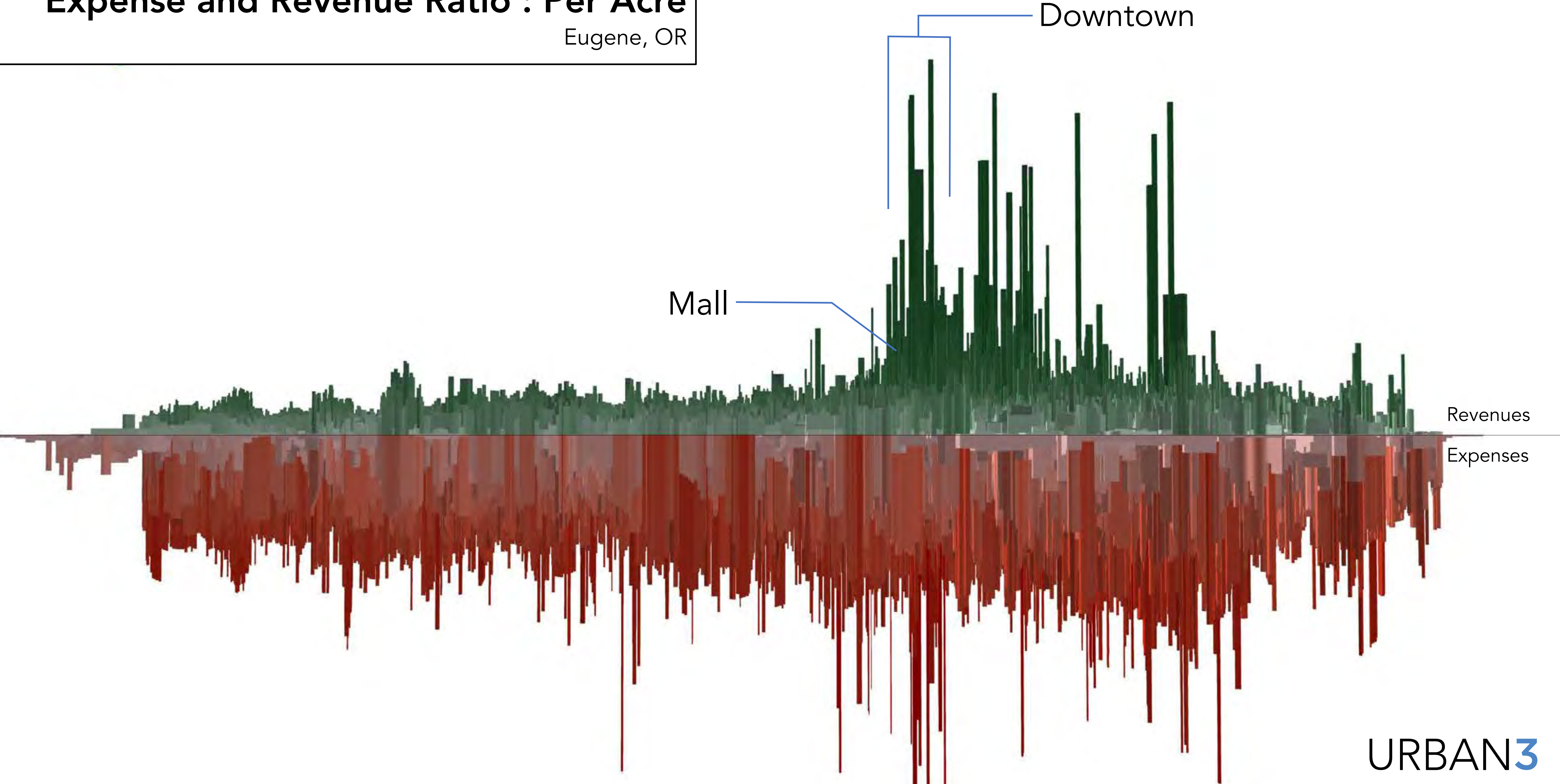


Revenues

Expenses

Expense and Revenue Ratio : Per Acre

Eugene, OR

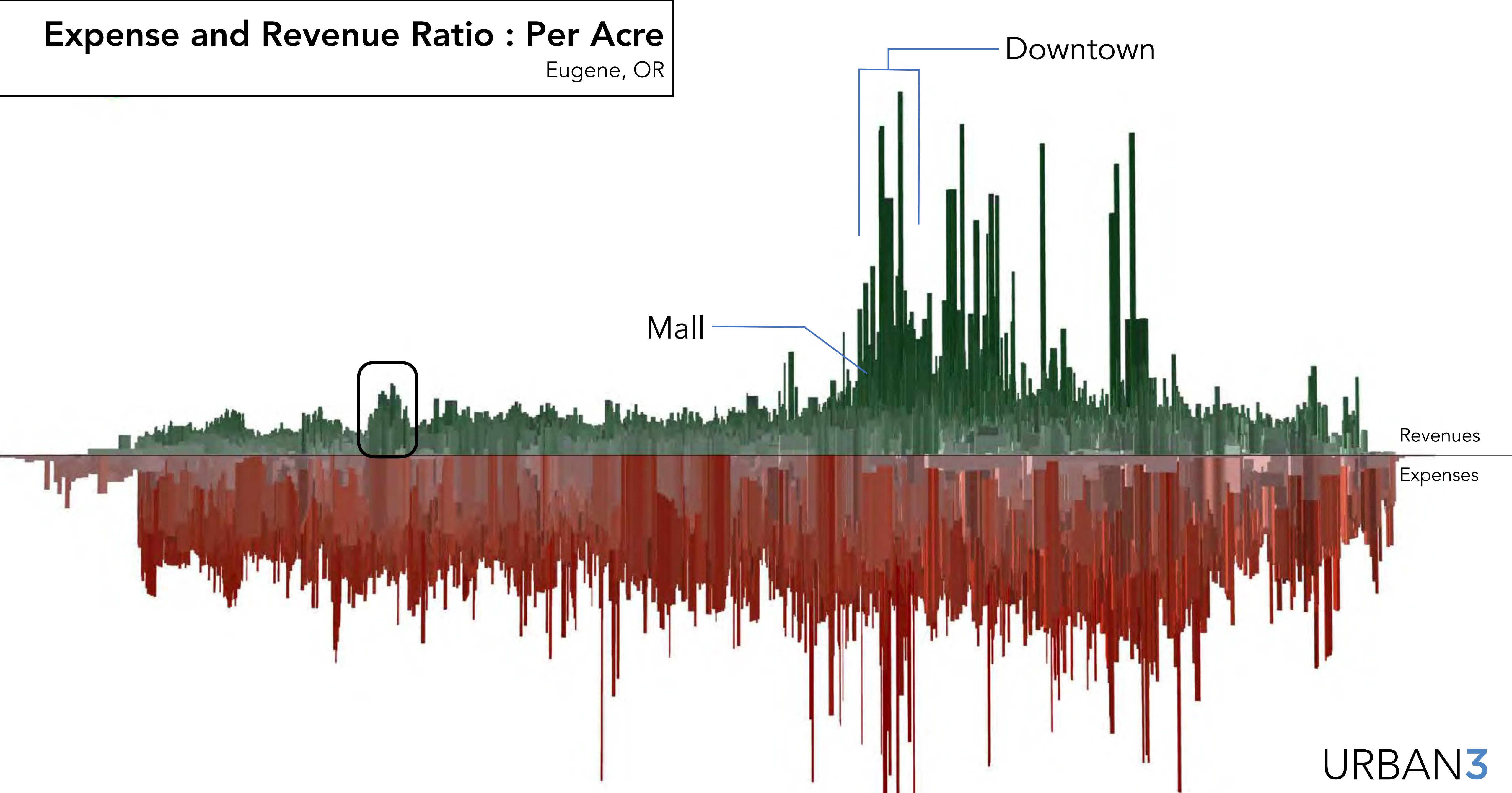


Revenues

Expenses

Expense and Revenue Ratio : Per Acre

Eugene, OR

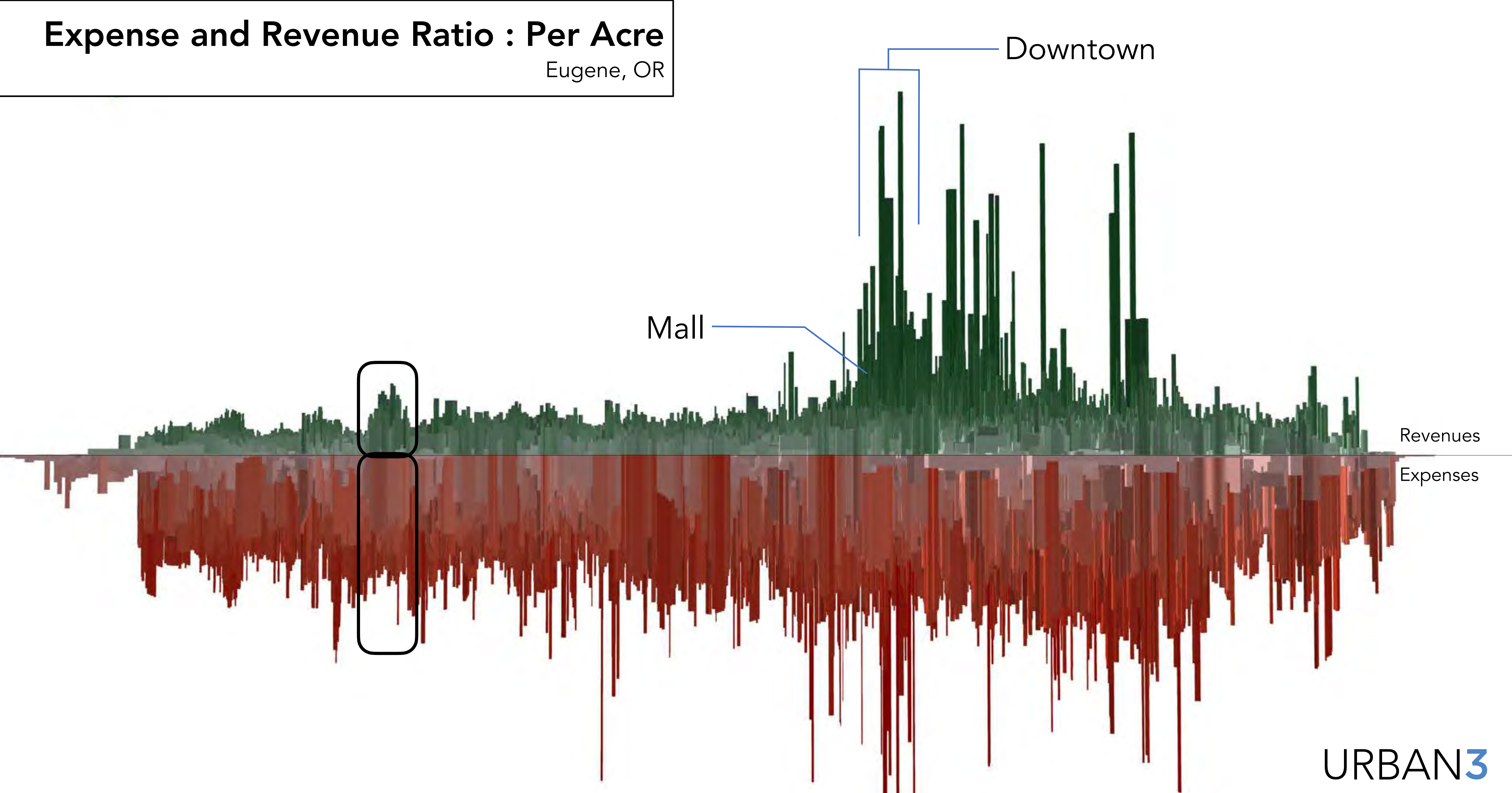


Revenues

Expenses

Expense and Revenue Ratio : Per Acre

Eugene, OR

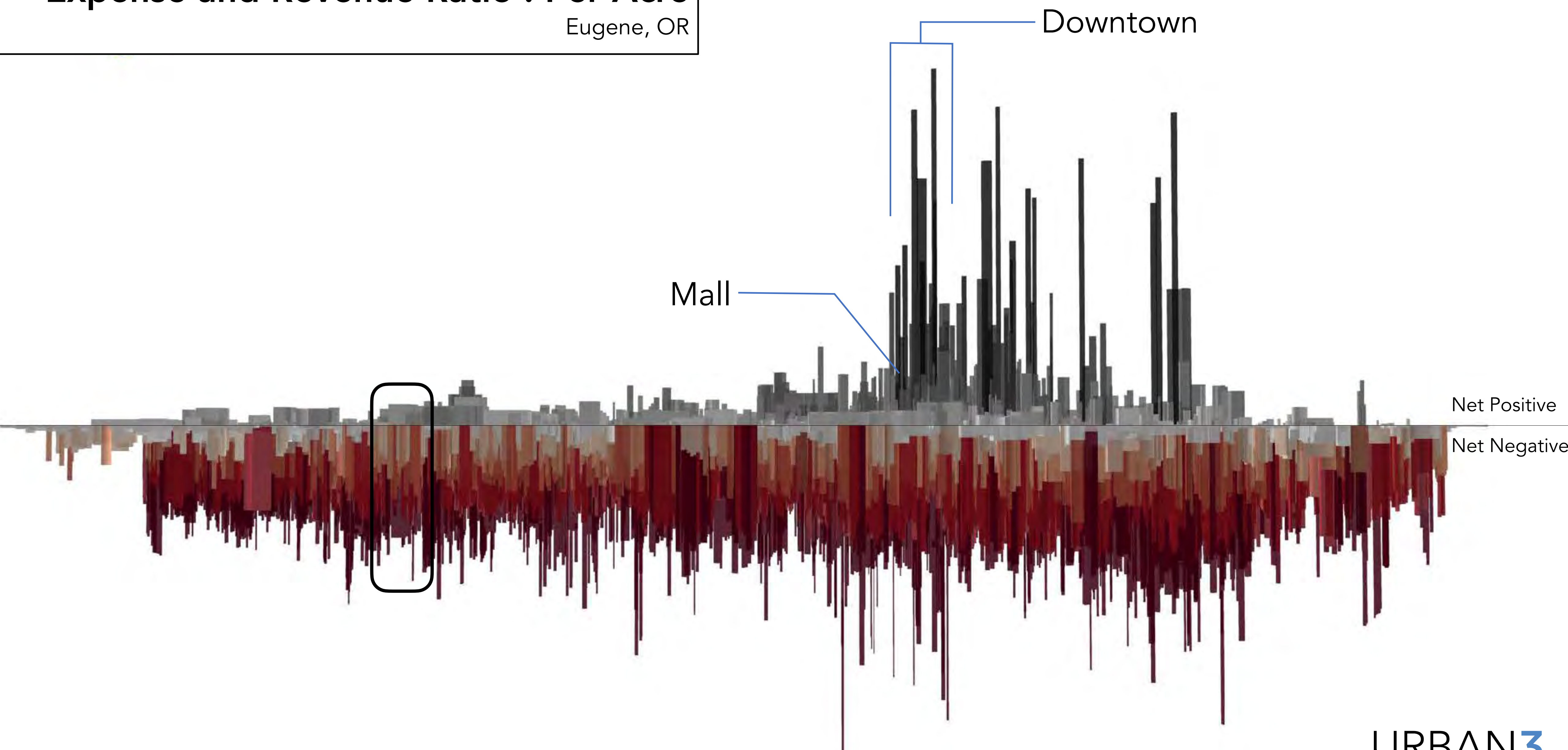


Revenues

Expenses

Expense and Revenue Ratio : Per Acre

Eugene, OR



Downtown

Mall

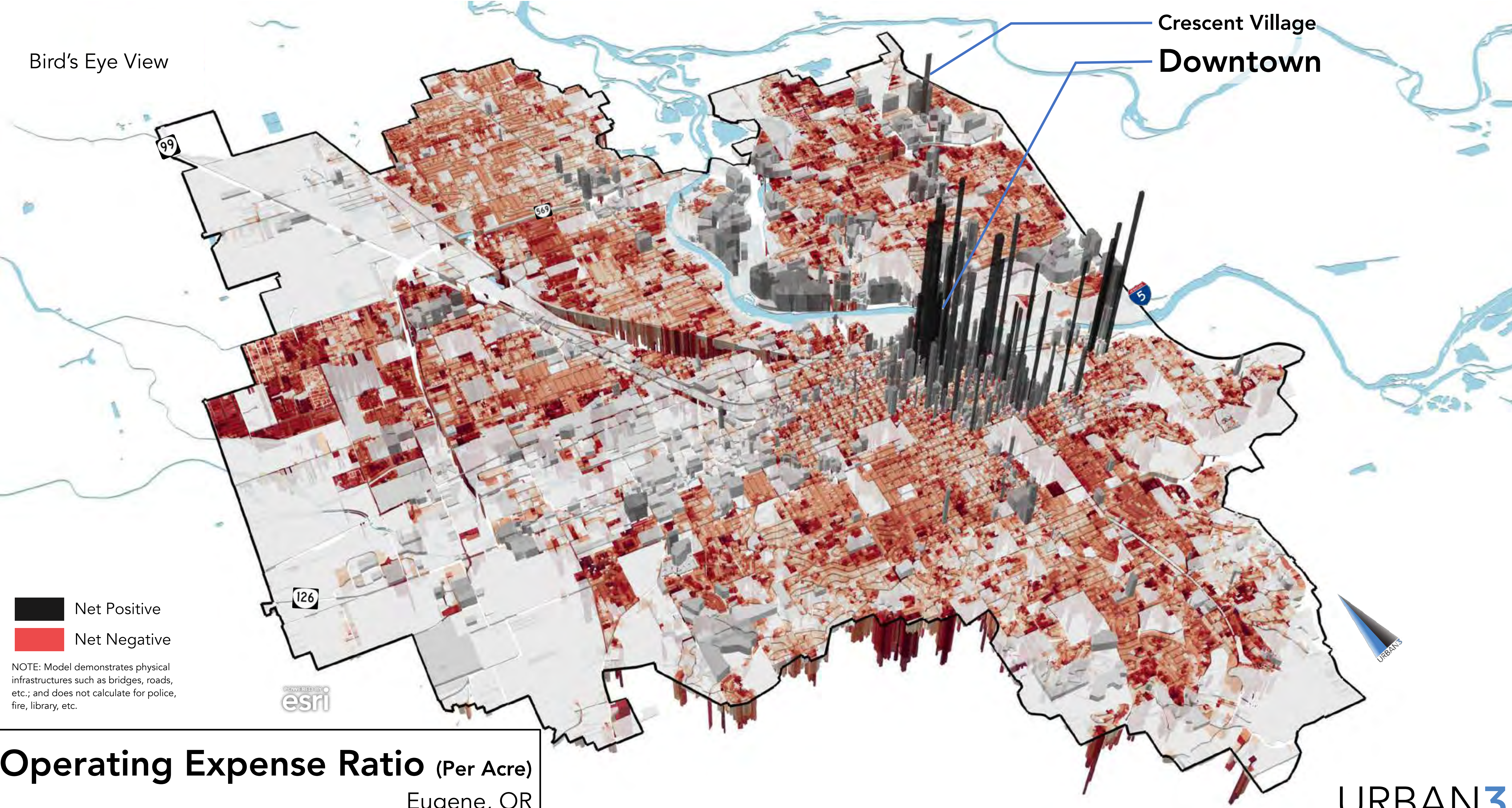
Net Positive

Net Negative

Bird's Eye View

Crescent Village

Downtown



- Net Positive
- Net Negative

NOTE: Model demonstrates physical infrastructures such as bridges, roads, etc.; and does not calculate for police, fire, library, etc.

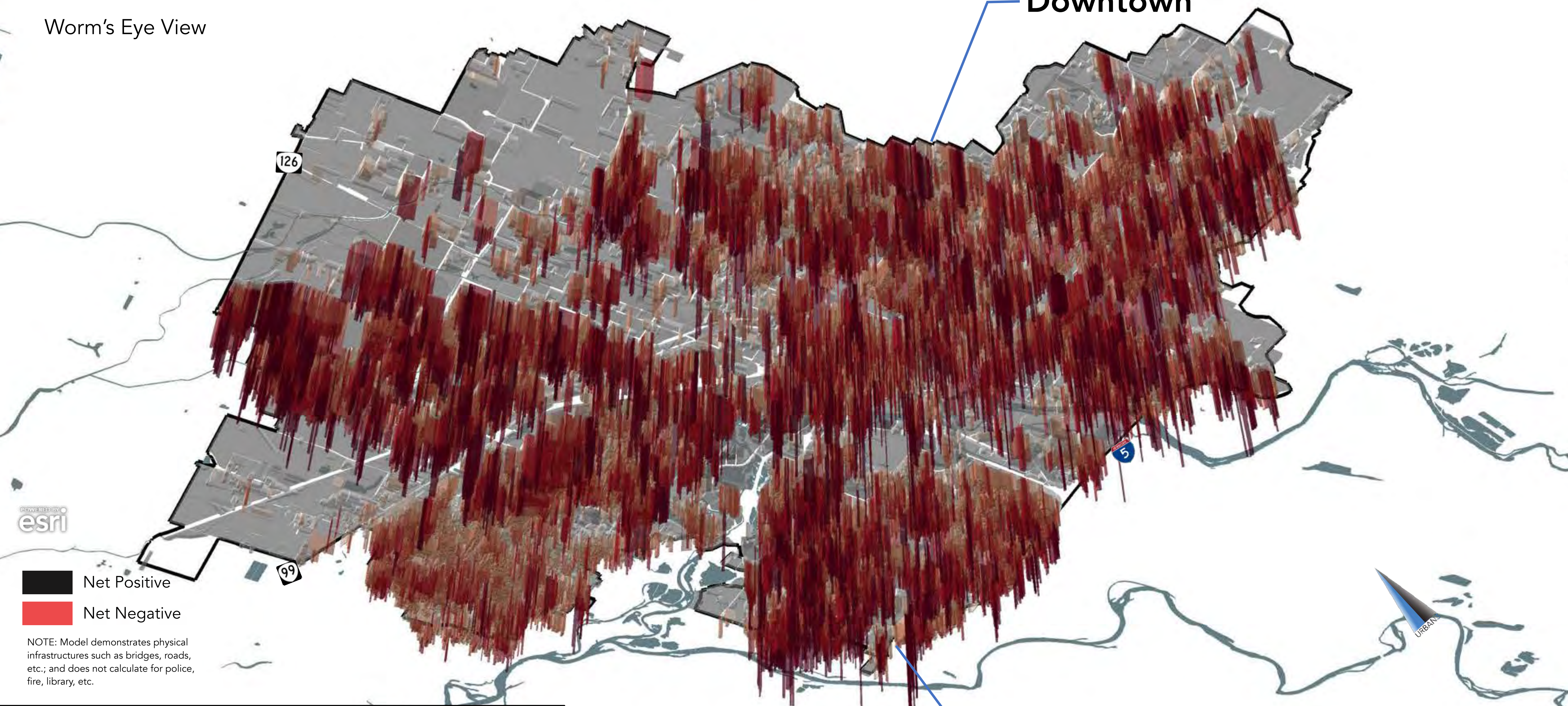
Operating Expense Ratio (Per Acre)

Eugene, OR

URBAN3

Worm's Eye View

Downtown



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Net Positive

Net Negative

NOTE: Model demonstrates physical infrastructures such as bridges, roads, etc.; and does not calculate for police, fire, library, etc.

Crescent Village

Operating Expense Ratio (Per Acre)

Eugene, OR

URBAN3

Breakdown of Revenue by Building Type

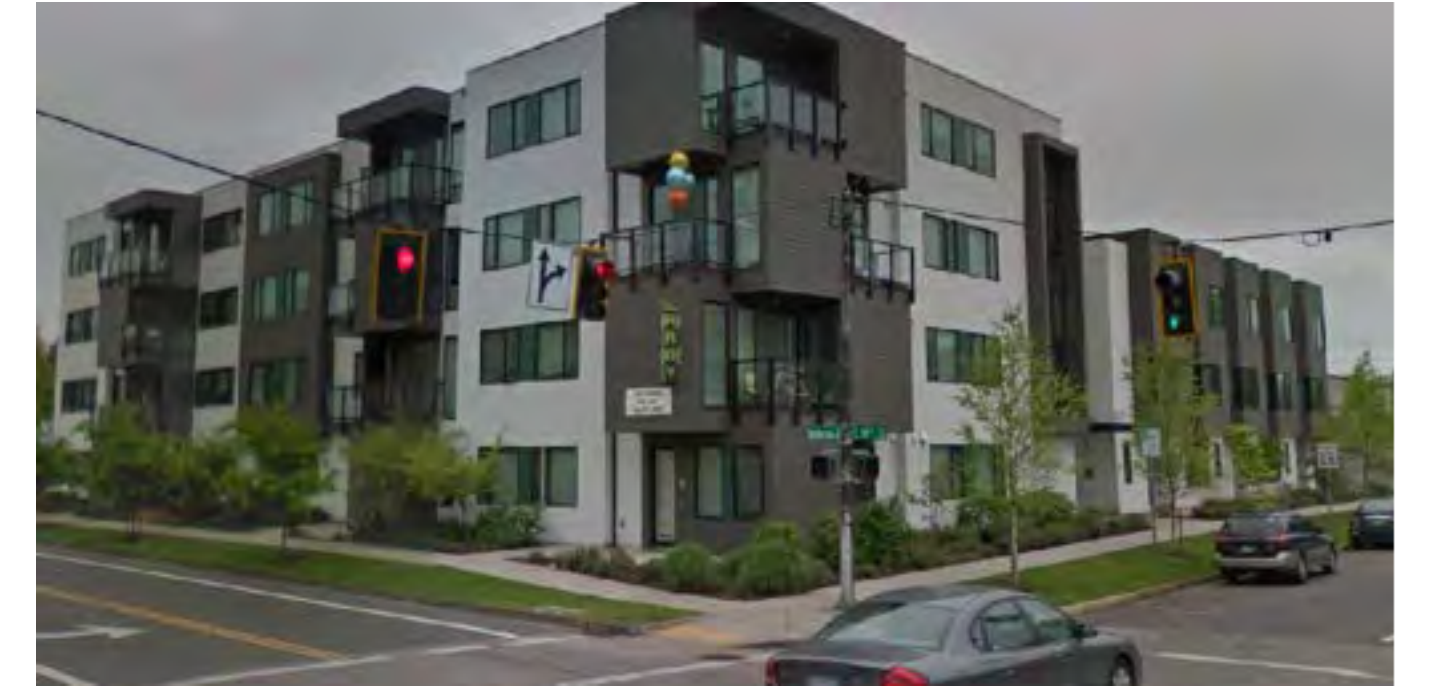
URBAN3
Study Year: 2019

LOW DENSITY

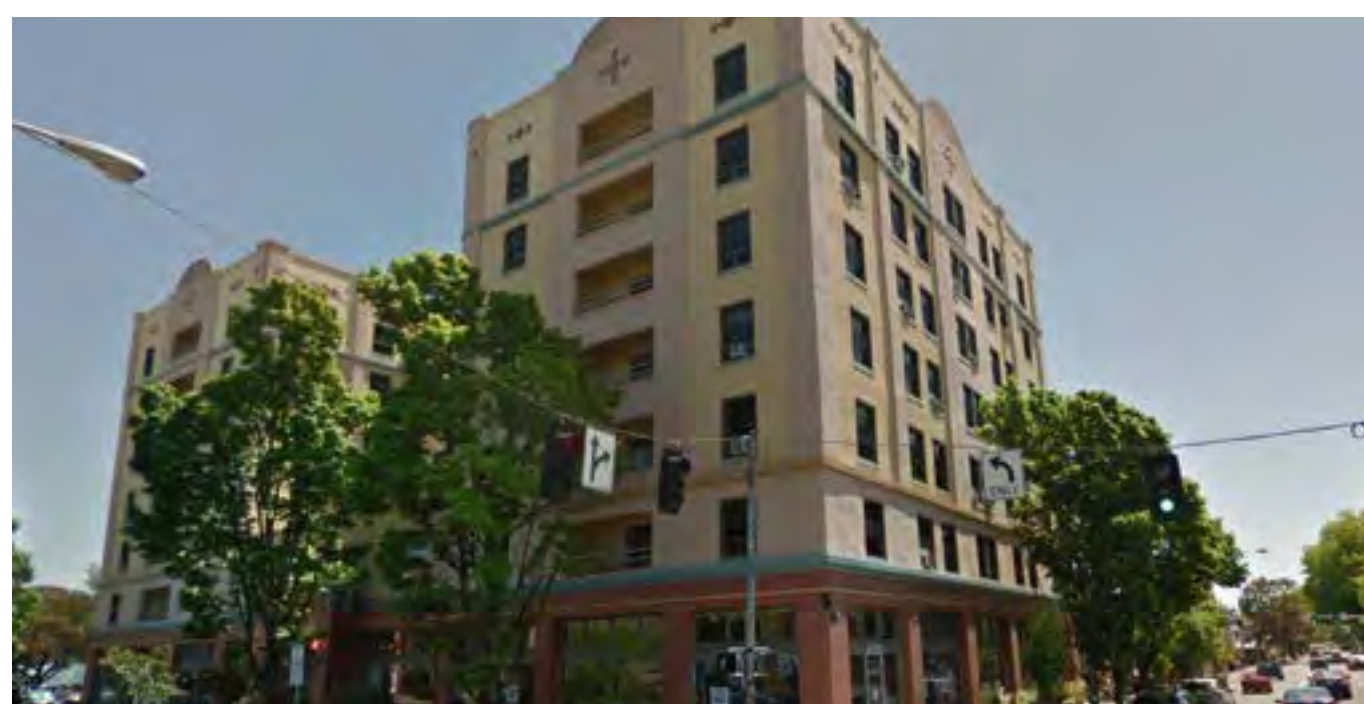
MEDIUM DENSITY

HIGH DENSITY

RESIDENTIAL





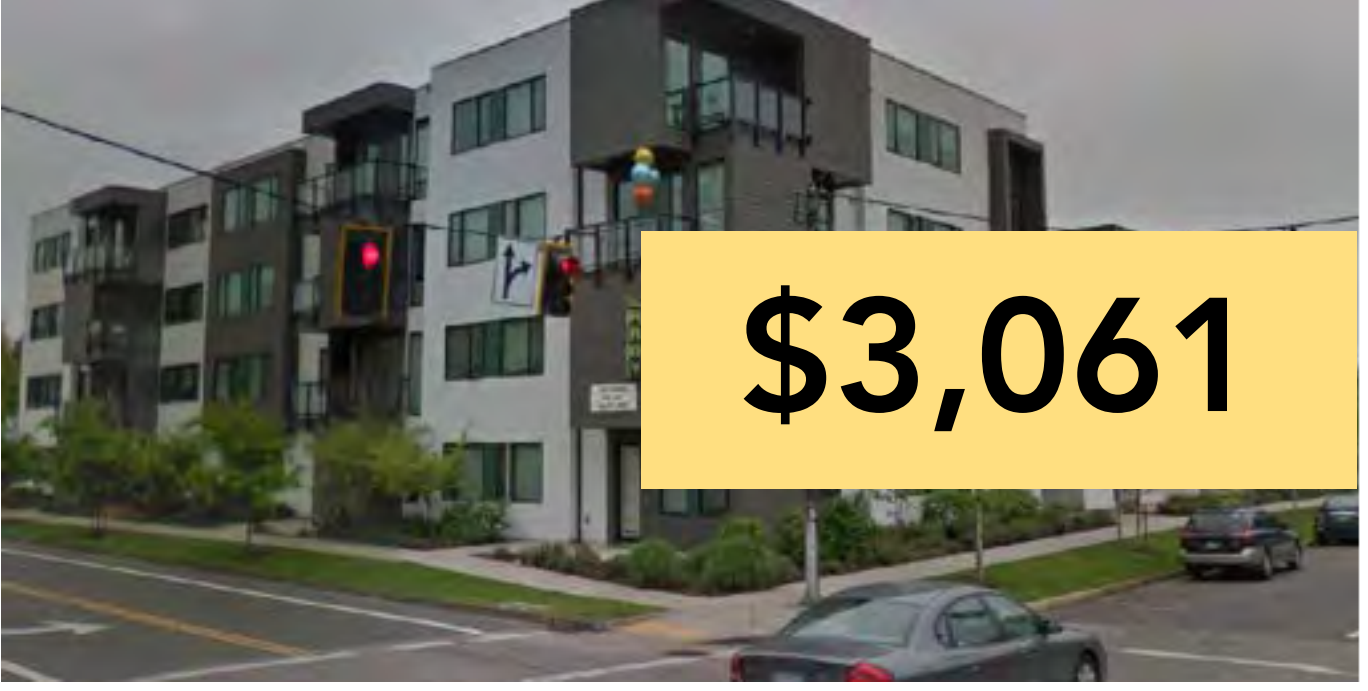
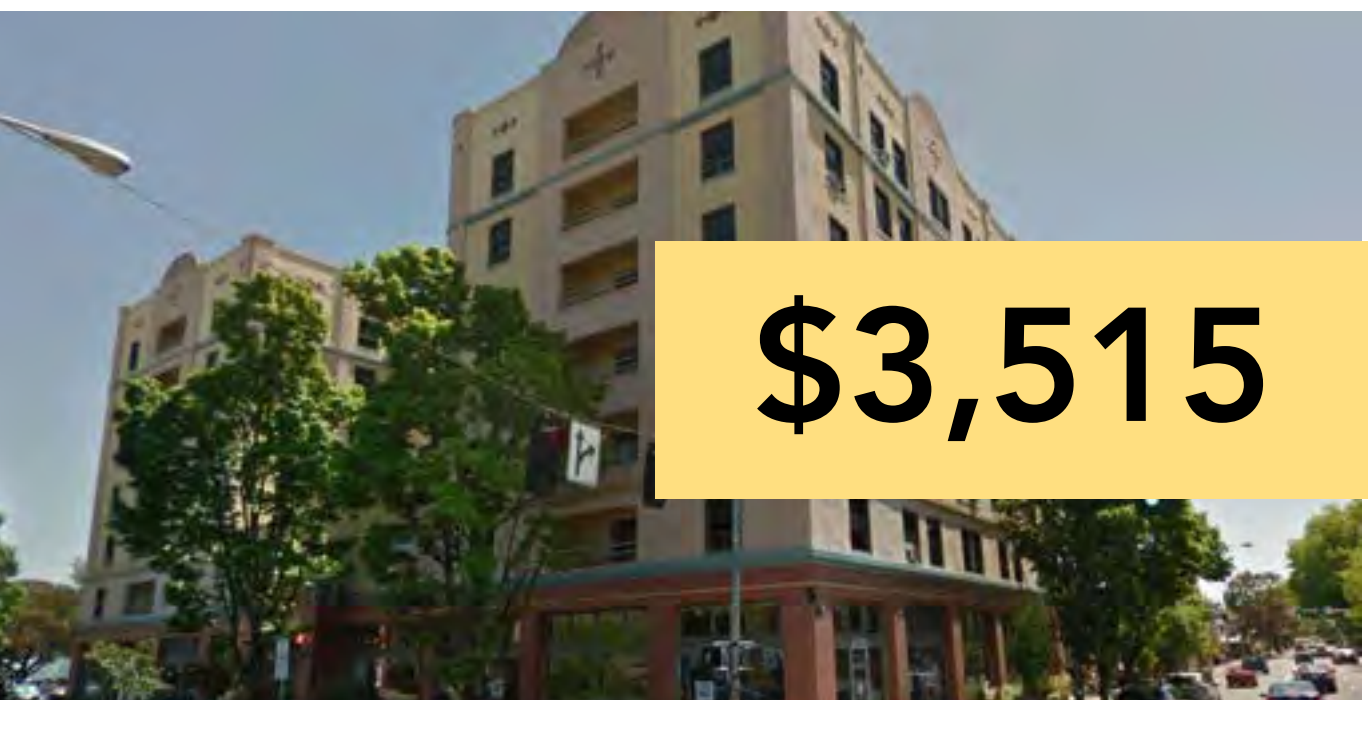
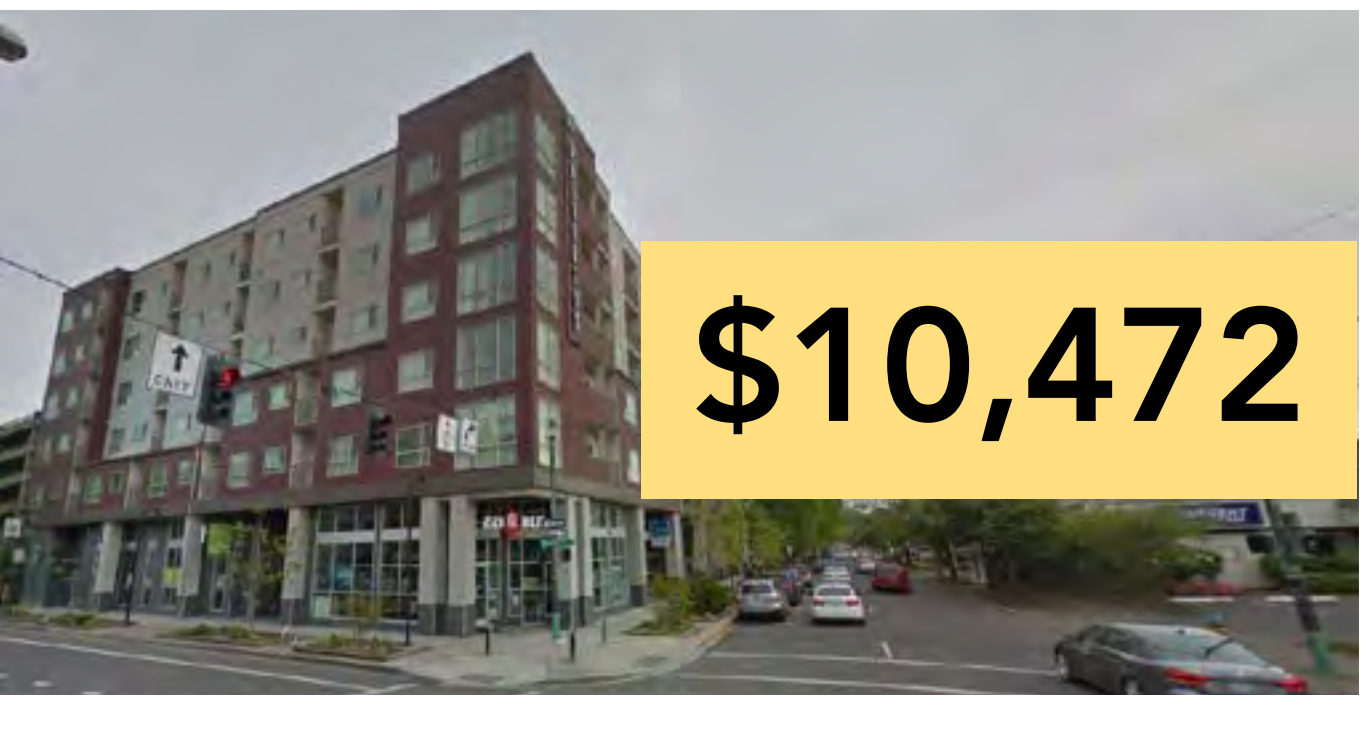


MIXED-USE



COMMERCIAL



Breakdown of Revenue by Building Type

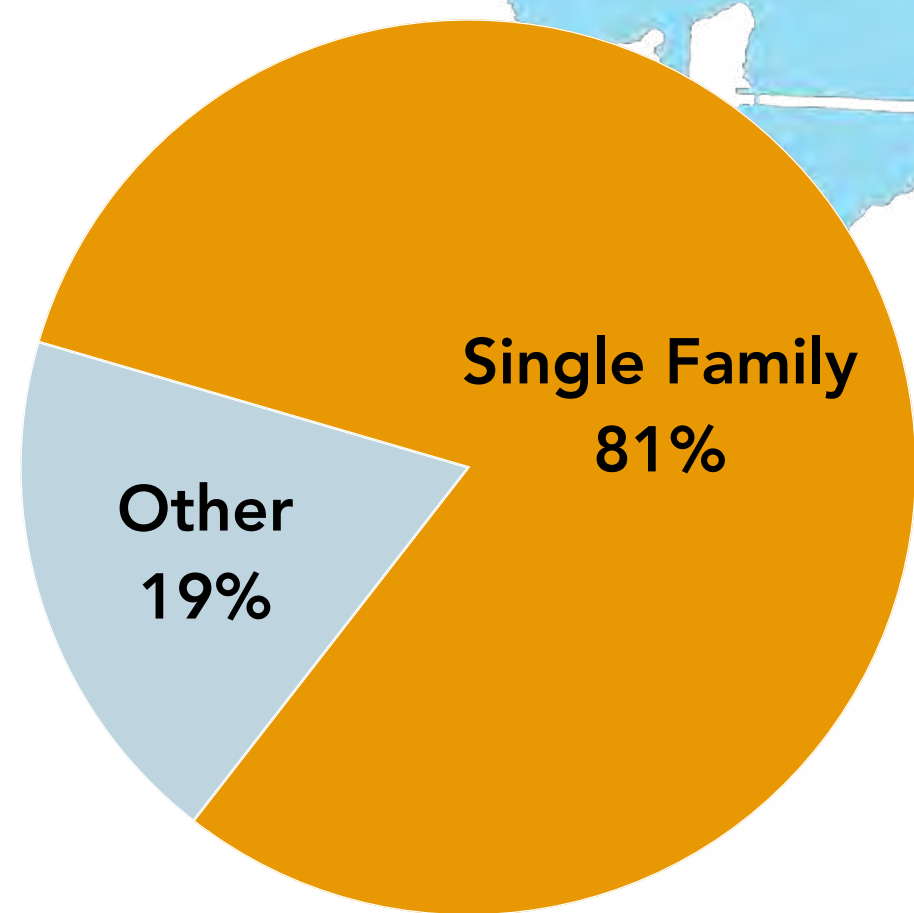
	LOW DENSITY	MEDIUM DENSITY	HIGH DENSITY
RESIDENTIAL	 <p>-\$1,381</p>	 <p>\$1,498</p>	 <p>\$3,061</p>
MIXED-USE	 <p>\$2,540</p>	 <p>\$3,515</p>	 <p>\$10,472</p>
COMMERCIAL	 <p>\$551</p>	 <p>\$9,614</p>	 <p>\$12,051</p>

Question:

But, I want a House

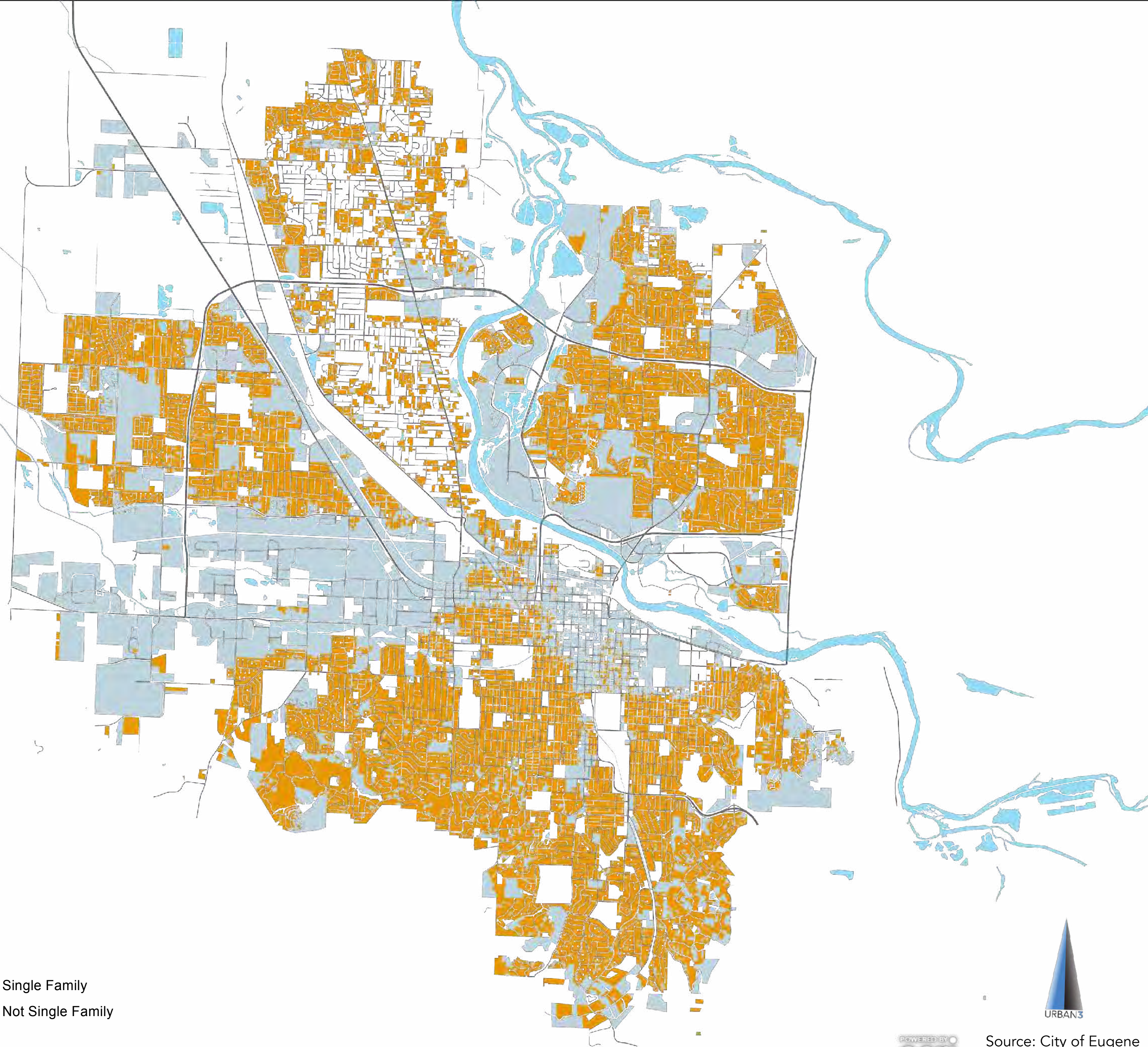
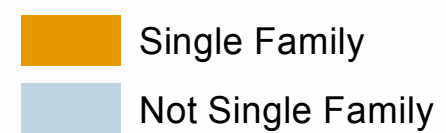
Single Family Land Use Analysis

Eugene, OR

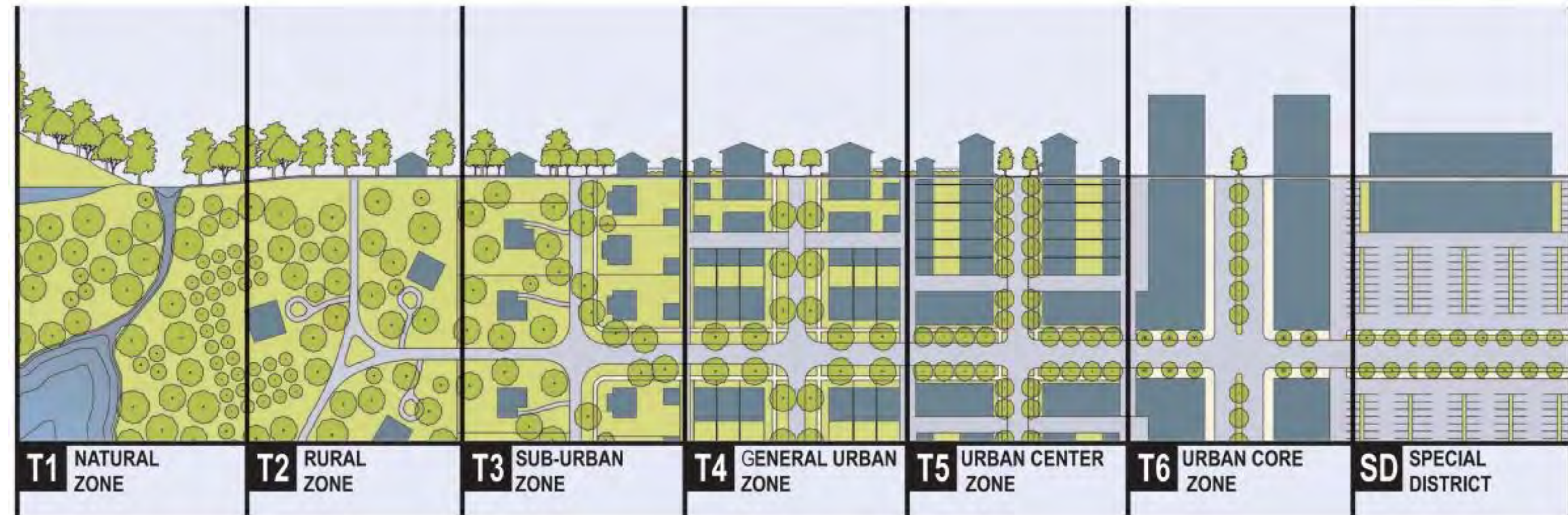


Land Use

Approximately 81% of properties are Single Family (40k/50k)



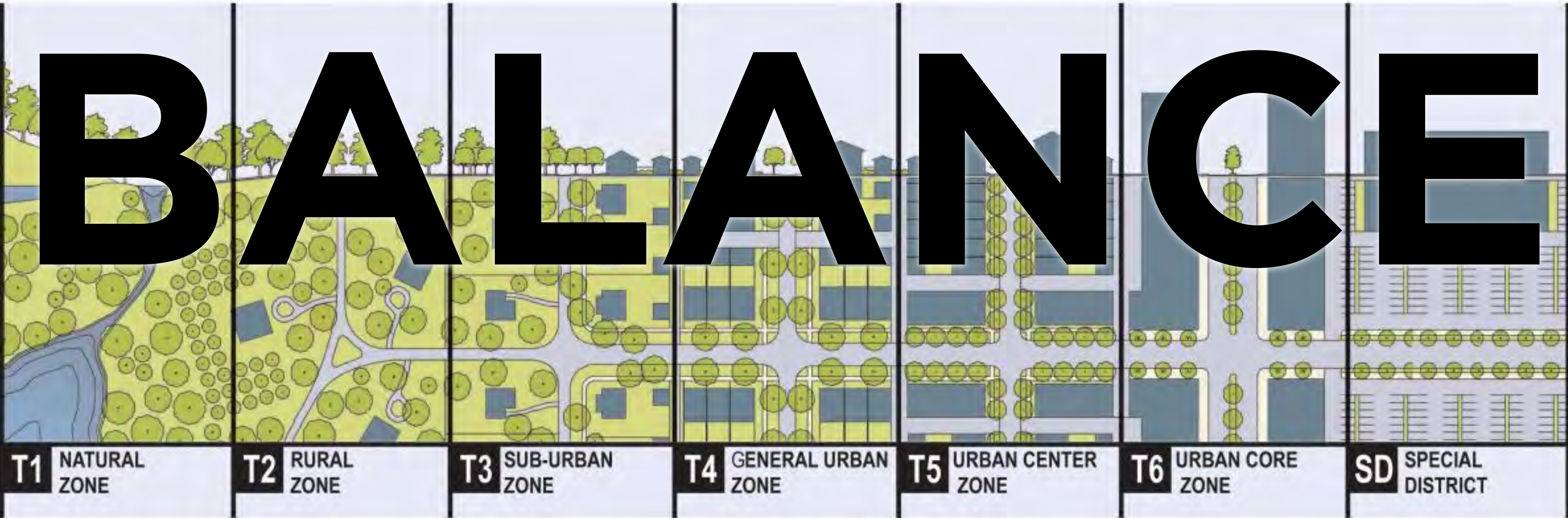
The Transect



By Duany Plater-Zyberk

The Transect

B A L L A N C E



By Duany Plater-Zyberk

Percentage Distribution of Uses. Probably no city has been zoned completely in accordance with a preconceived pattern of use distribution. In University City, Mo., large areas were developed in conformity with a zoning plan,¹ but as a rule zoning has been applied almost entirely as a corrective measure to prevent undesirable changes and not as an agency in creative design. The same is also true to some extent where completely new cities have been developed, although the designs of such modern communities as Radburn in this country and Letchworth and Welwyn in England, have been based on predetermined use patterns and on principles affecting uses and densities of building.²

No definite standards of use allocation and distribution can be taken as a guide for all cities; but it will be of interest to set forth a rough approximation, based on study of conditions in existing communities, of what are reasonable percentages to allow in the zoning pattern of a predominantly residential community. The accompanying diagram (Fig. 15) takes a square mile of area and indicates proportions allotted to different uses as follows:

BUILDABLE AREAS	PERCENTAGE OF TOTAL AREA
Residential	42.5
Civic center and business districts	2.5
Light industrial and railroad property	5.0
Total	50.0
OPEN AREAS	
Local streets and places, and commercial open areas	25.0
Park and playground system	15.0
Main highways	10.0
Total	50.0

Any pattern based on these proportions would probably give a satisfactory result for a complete community; but as every town differs in its requirements, neither that which is theoretically ideal nor that which has proved to be practically sound in any one case can be taken as an unalterable basis for constructive zoning regulation. At the same time, such studies and speculations have their value for guidance in design.

A Skeleton Diagram. What is meant by a skeleton plan for a town is shown on the accompanying diagram (Fig. 16). This illustrates the four main elements to be considered in such a plan: the main distribution center, the general thoroughfare system, the general park

¹ See Harland Bartholomew's *Urban Land Uses*, frontispiece. ² See pp. 248, 252-254.

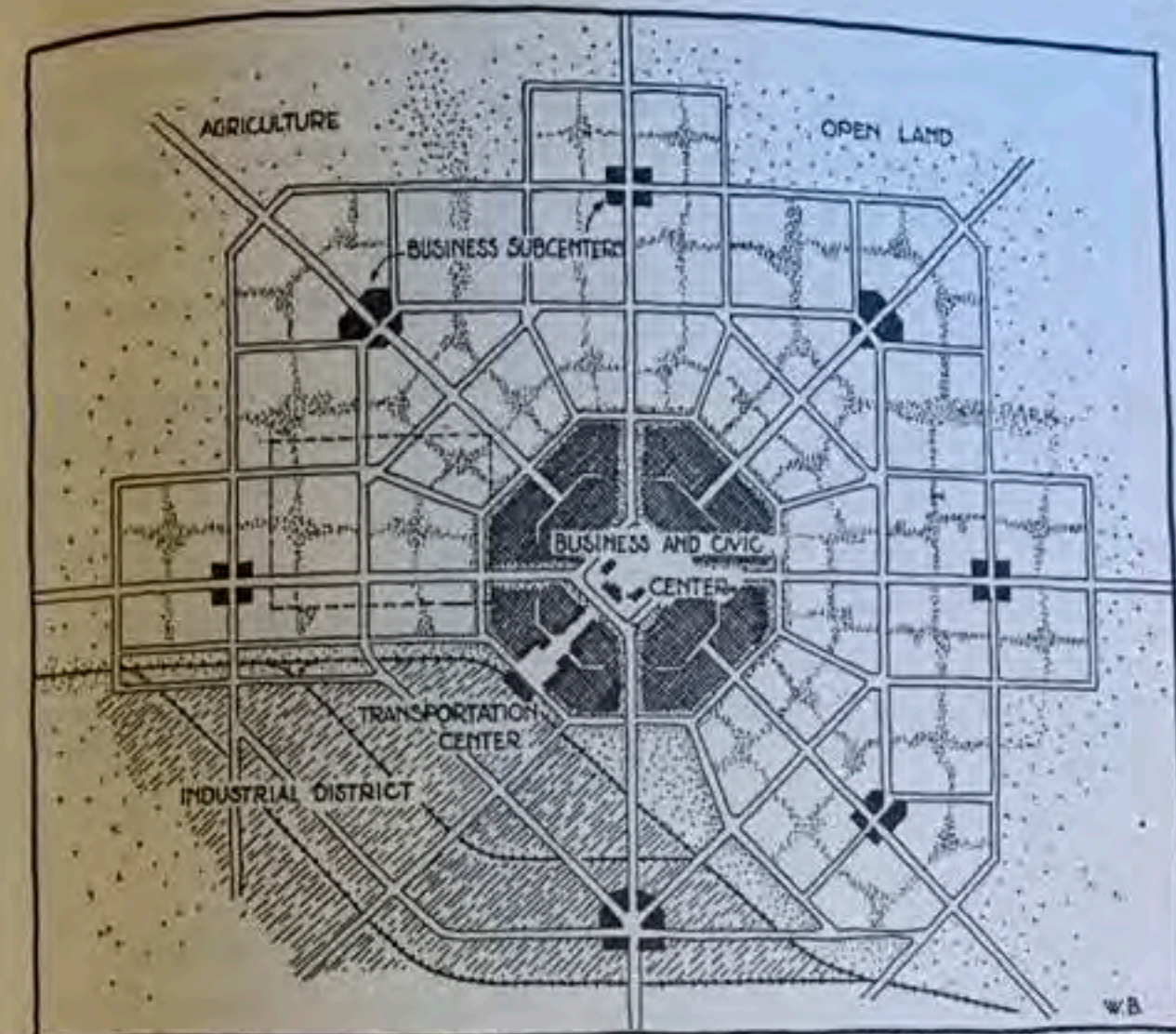


DIAGRAM OF IDEAL TOWN PATTERN OF NEIGHBORHOOD UNITS

FIGURE 16

system, and the principal community center and sub-centers. The sub-centers are located at the focal points of residential sections or neighborhoods. Seven diagonal thoroughfares connect the town center with the environs, and a broad avenue connects the transportation with the civic center, around which the main business district is developed.

Connecting roads are designed to cross the radial thoroughfares at right angles and make adequate provision for intercommunication between districts and by-passes for diversion of through traffic. The sectional areas between these main thoroughfares should comprise from 160 to 200 acres and be planned in detail, with secondary and minor streets carefully adjusted to topography and so designed as to discourage through traffic from using them.

The residential and main business parts of the town are shown on one side of the railroad and the industrial district on the other. Part of the

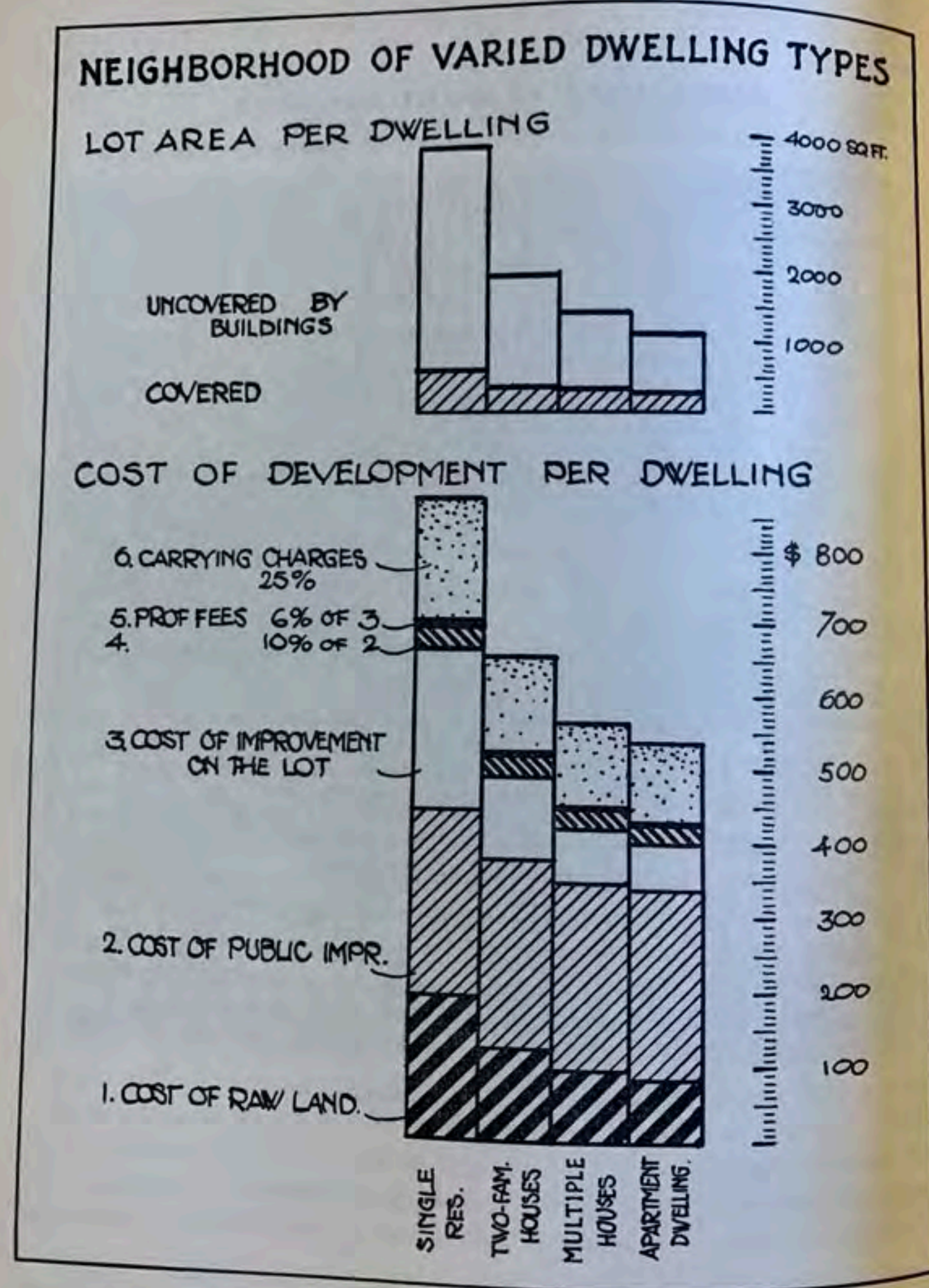


FIGURE 48

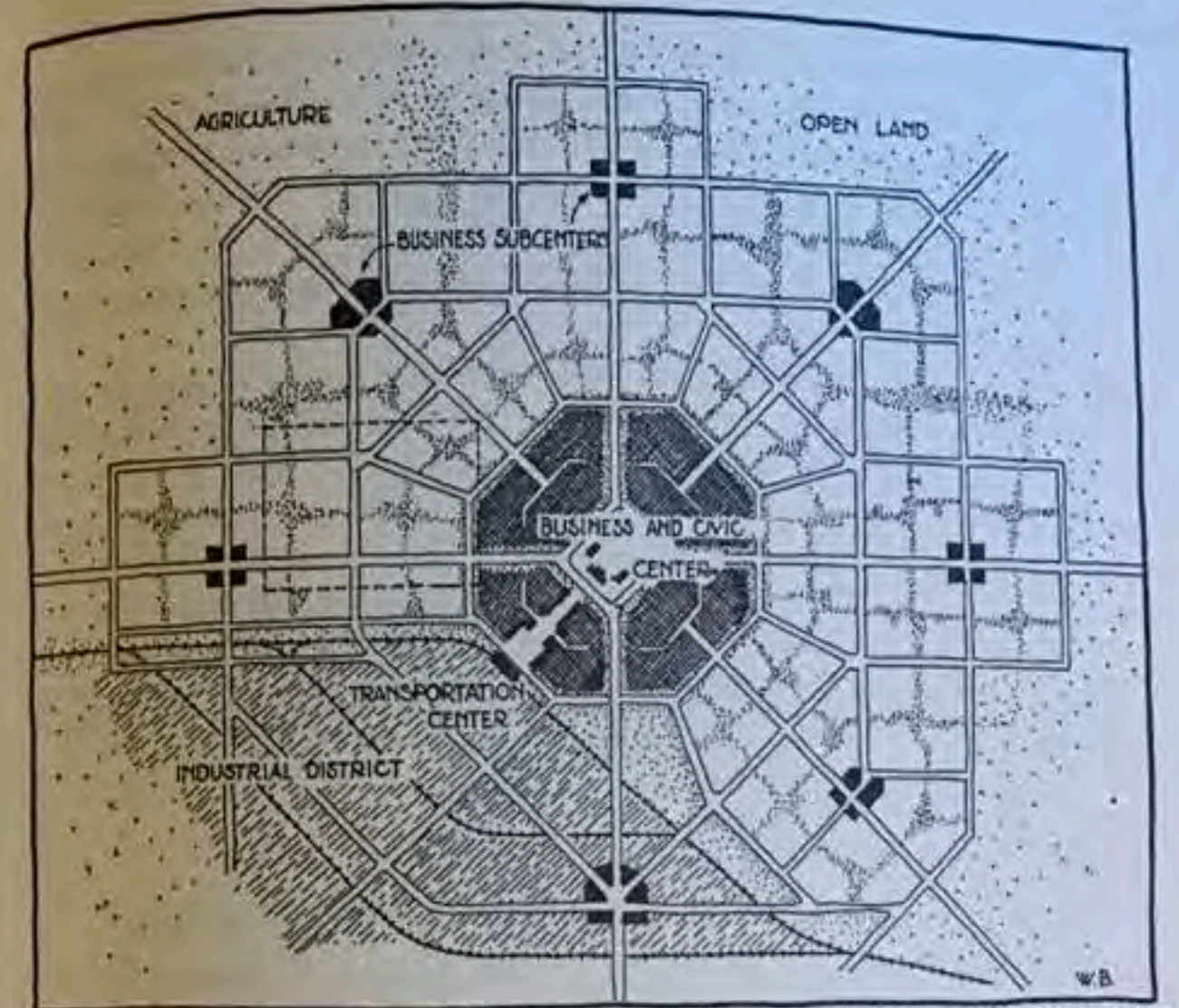


DIAGRAM OF IDEAL TOWN PATTERN OF NEIGHBORHOOD UNITS

FIGURE 16

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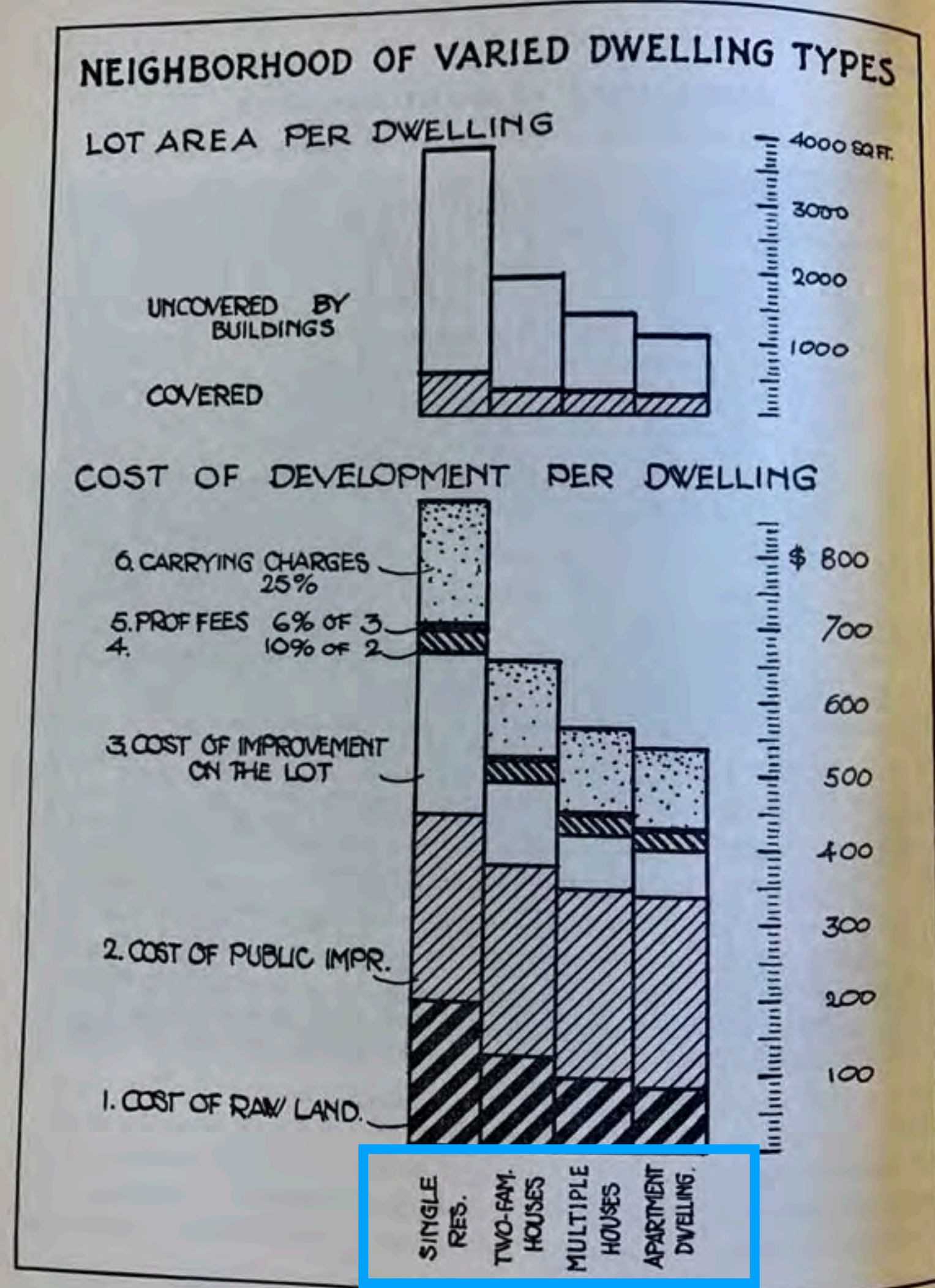


FIGURE 48

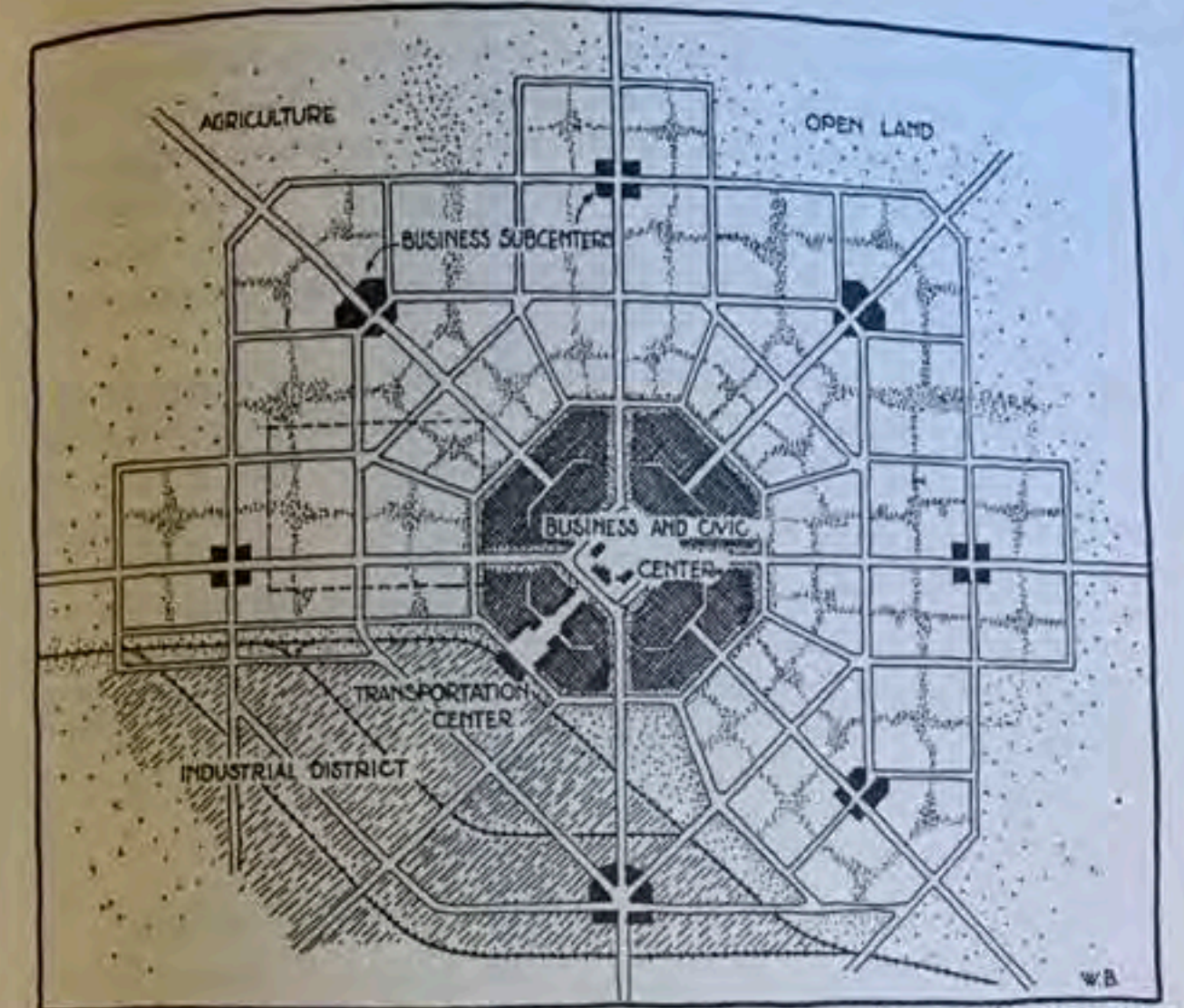


DIAGRAM OF IDEAL TOWN PATTERN OF NEIGHBORHOOD UNITS

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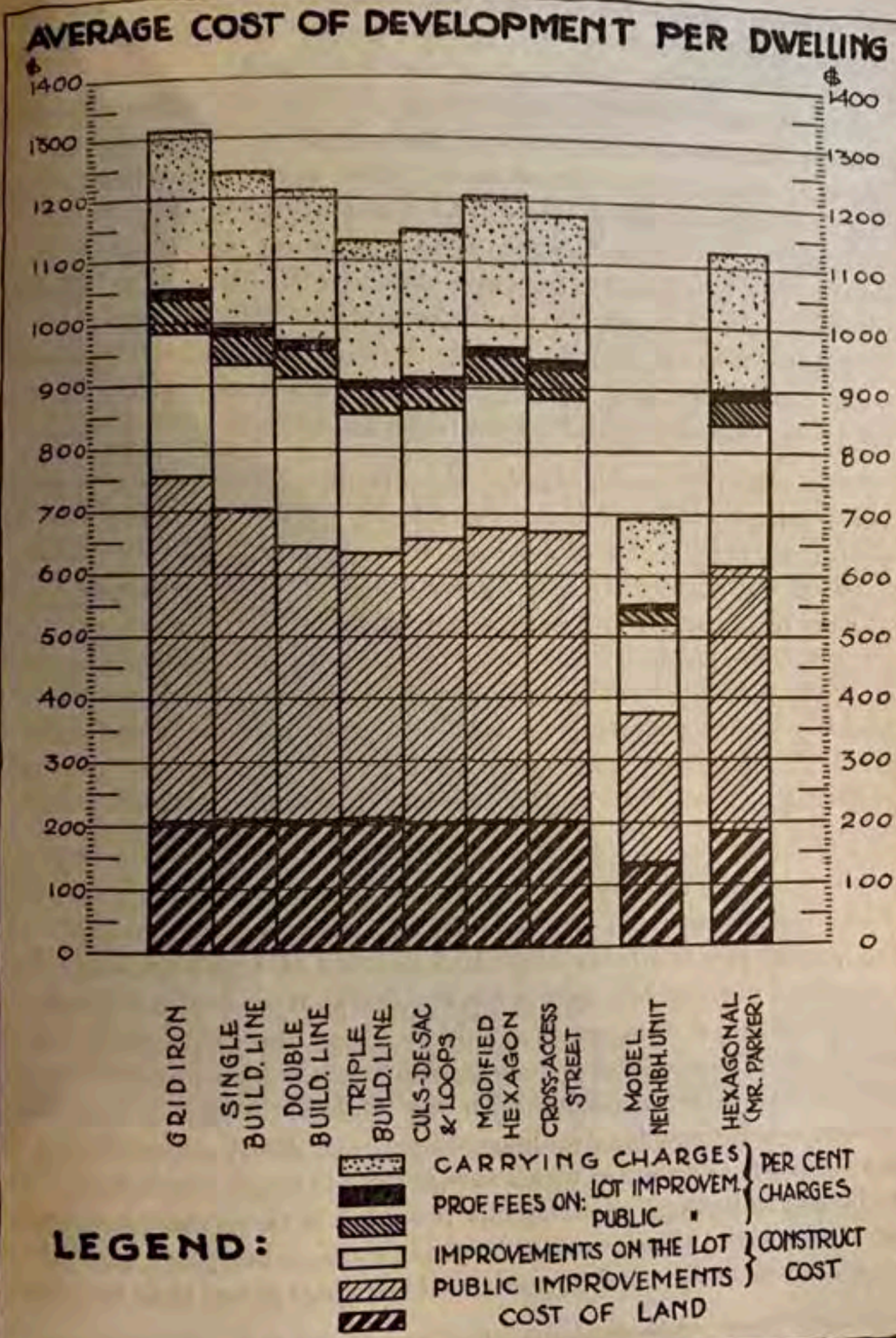


FIGURE 46

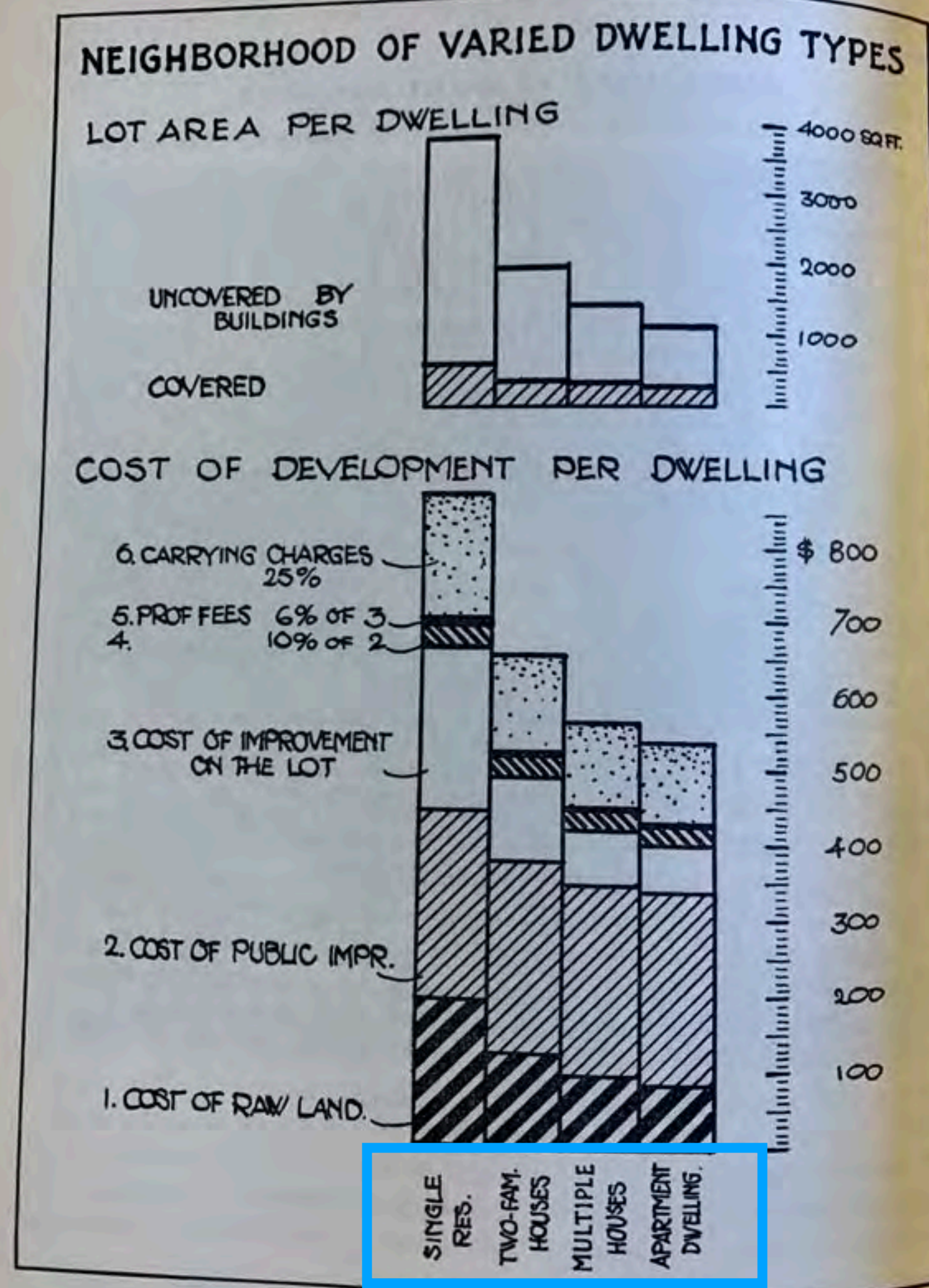


FIGURE 48

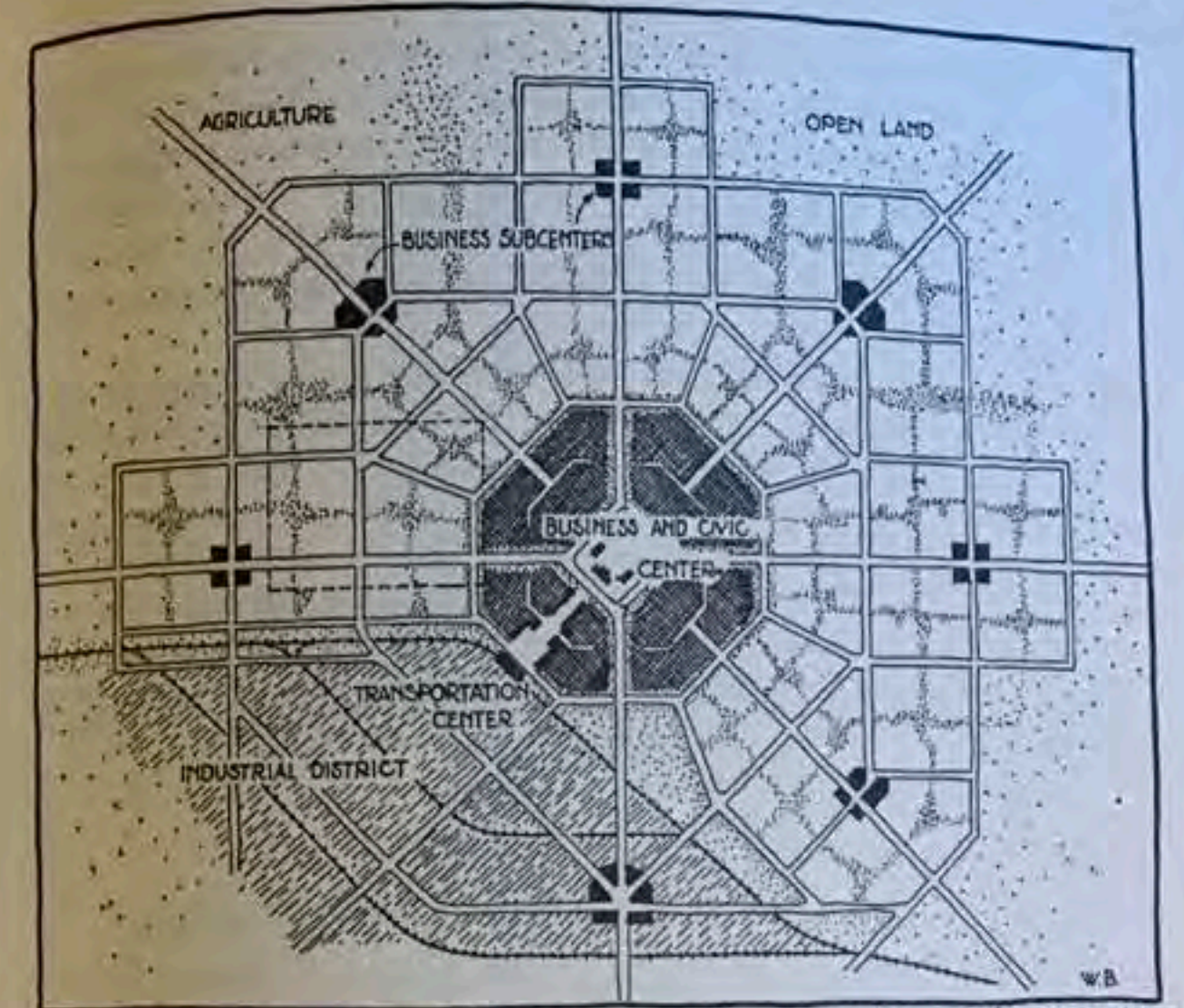


DIAGRAM OF IDEAL TOWN PATTERN OF NEIGHBORHOOD UNITS

FIGURE 16

system, and the principal community center and sub-centers. The sub-centers are located at the focal points of residential sections or neighborhoods. Seven diagonal thoroughfares connect the town center with the environs, and a broad avenue connects the transportation with the civic center, around which the main business district is developed.

Connecting roads are designed to cross the radial thoroughfares at right angles and make adequate provision for intercommunication between districts and by-passes for diversion of through traffic. The sectional areas between these main thoroughfares should comprise from 160 to 200 acres and be planned in detail, with secondary and minor streets carefully adjusted to topography and so designed as to discourage through traffic from using them.

The residential and main business parts of the town are shown on one side of the railroad and the industrial district on the other. Part of the

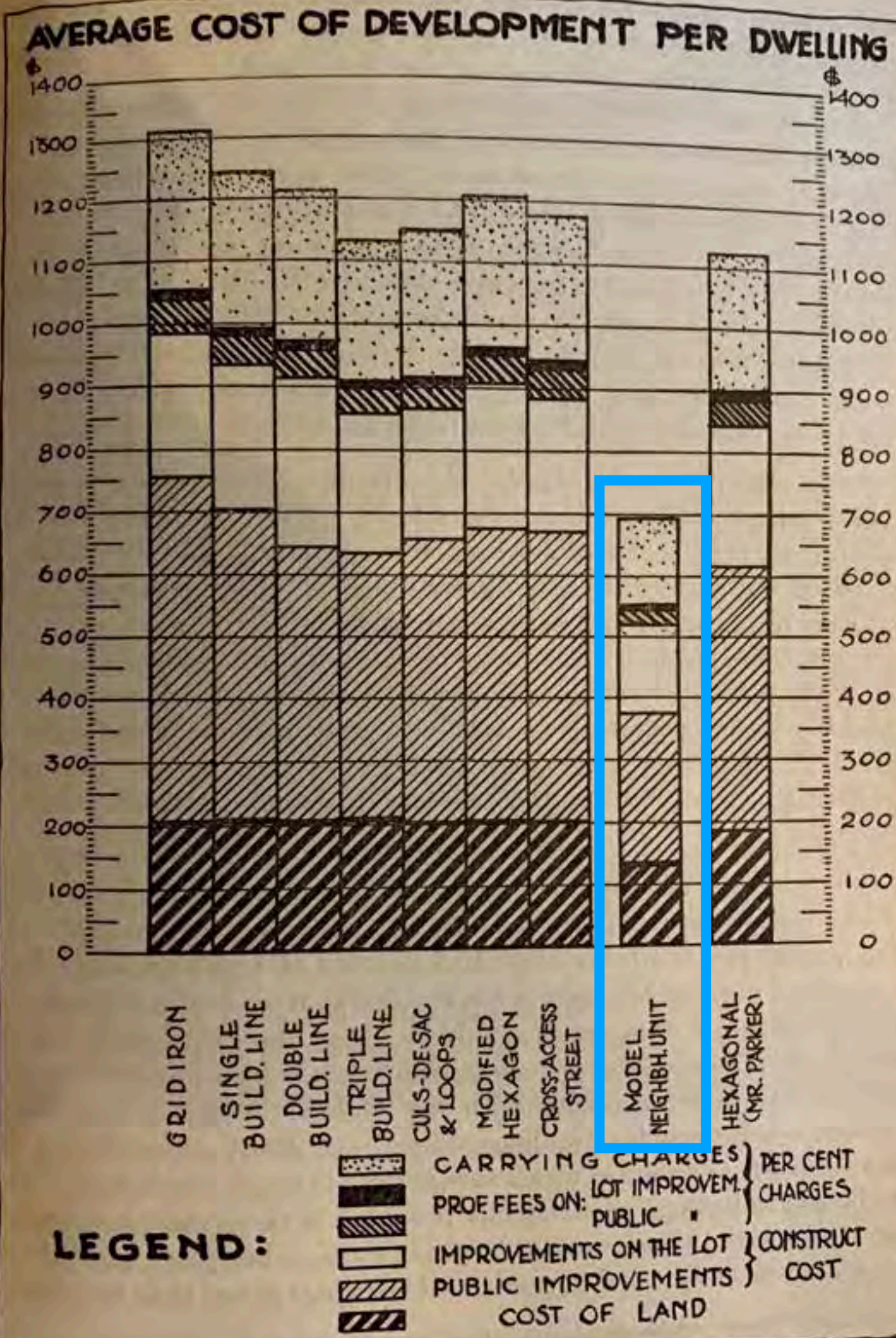


FIGURE 46

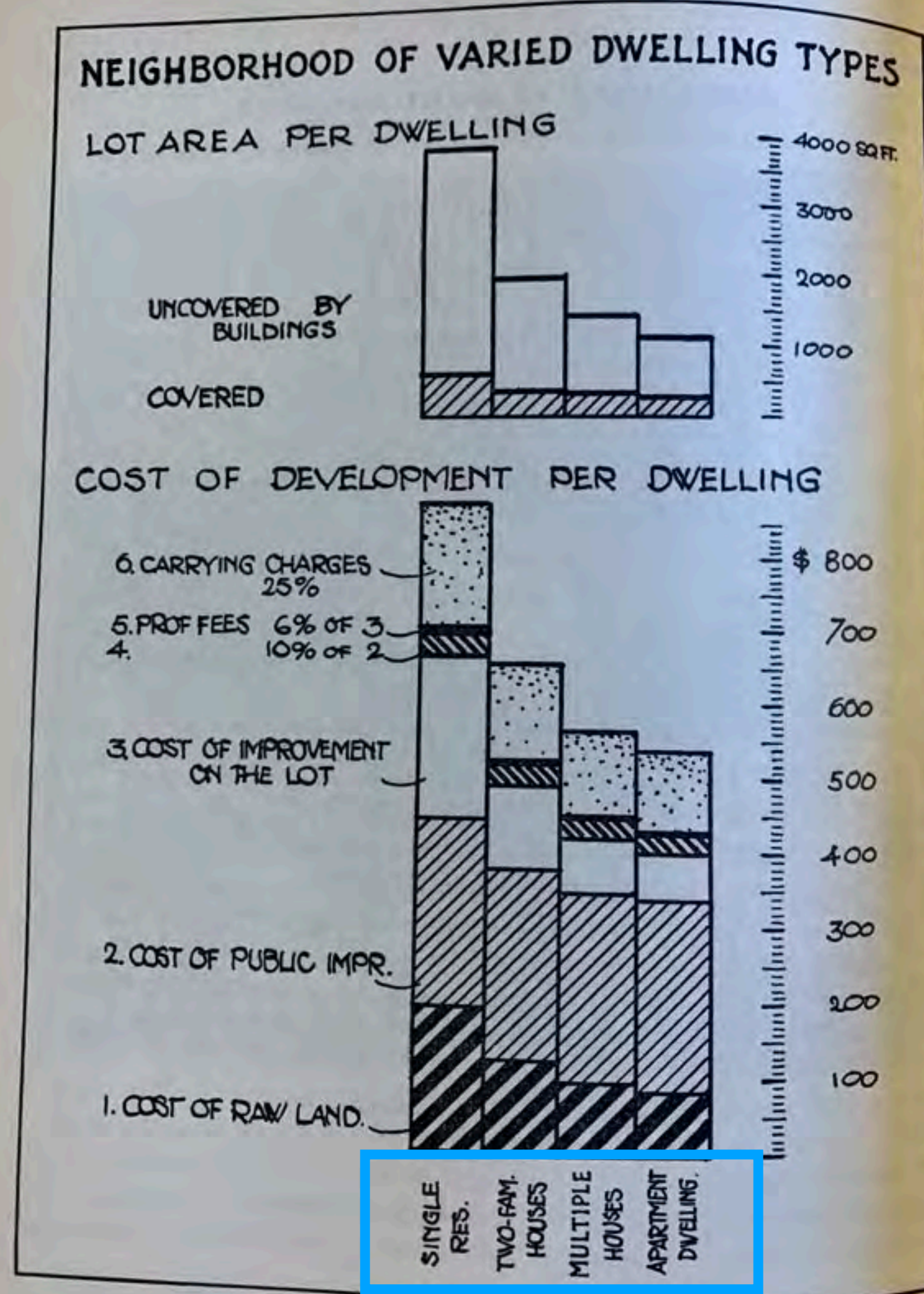


FIGURE 48

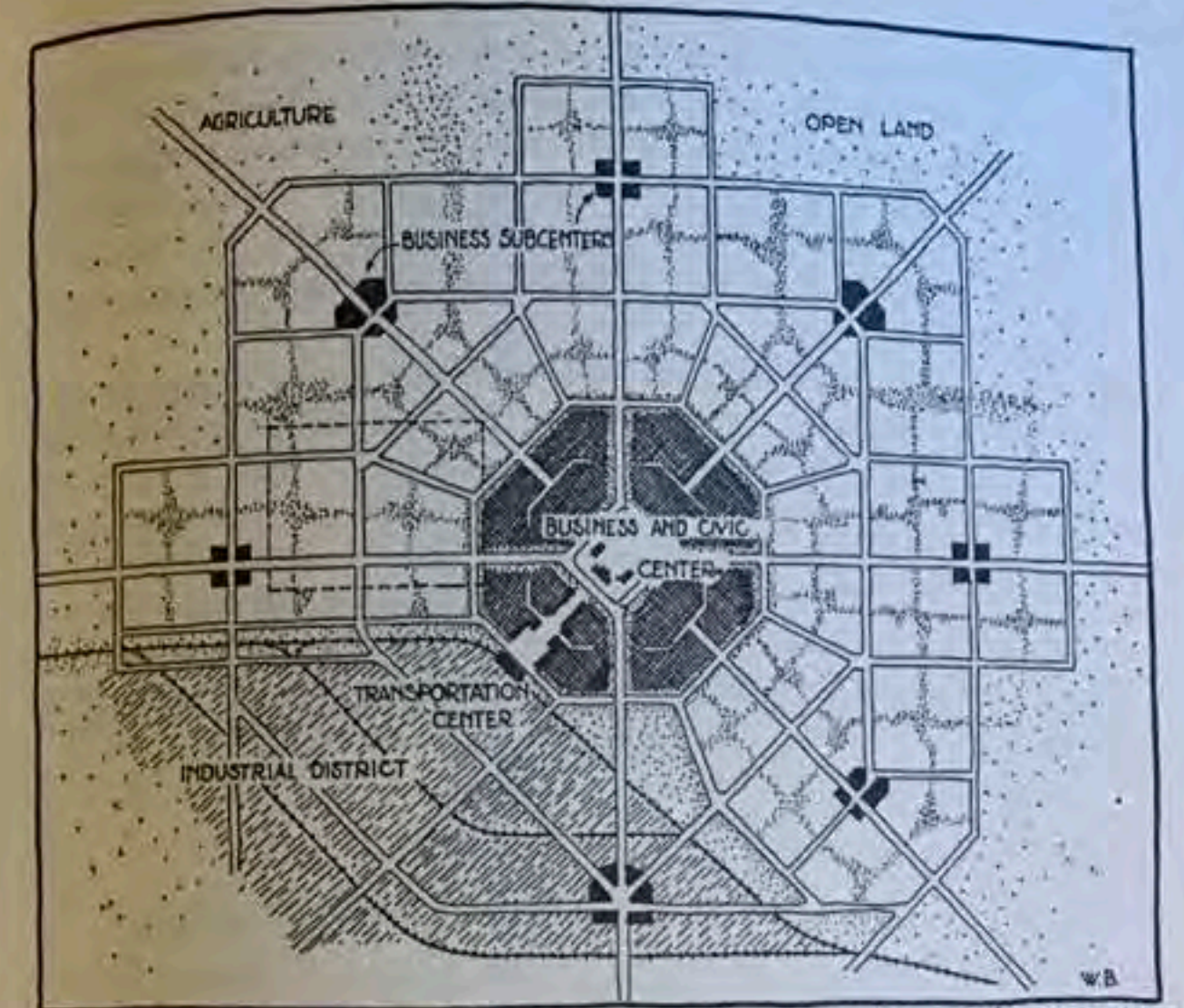


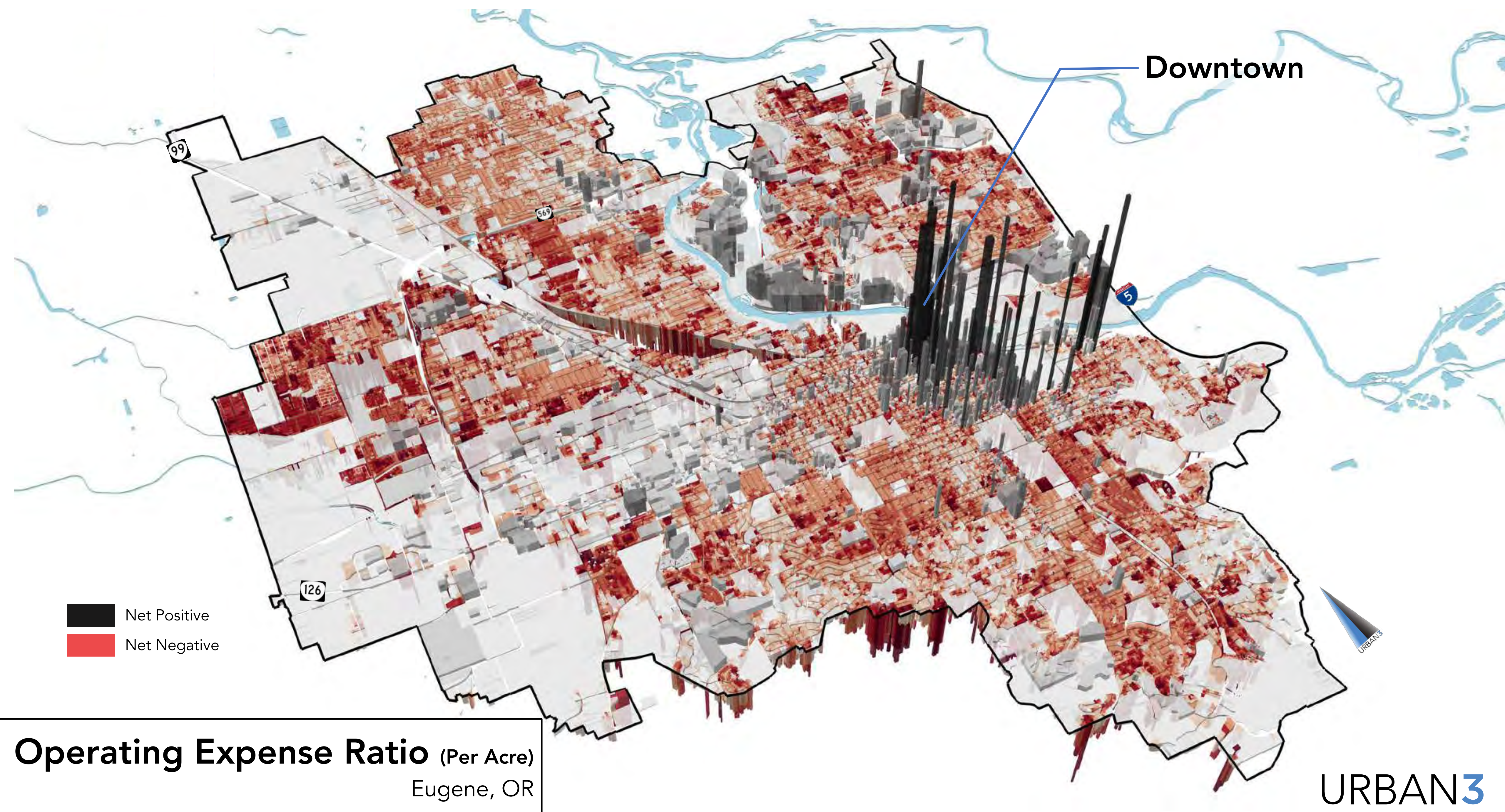
DIAGRAM OF IDEAL TOWN PATTERN OF NEIGHBORHOOD UNITS

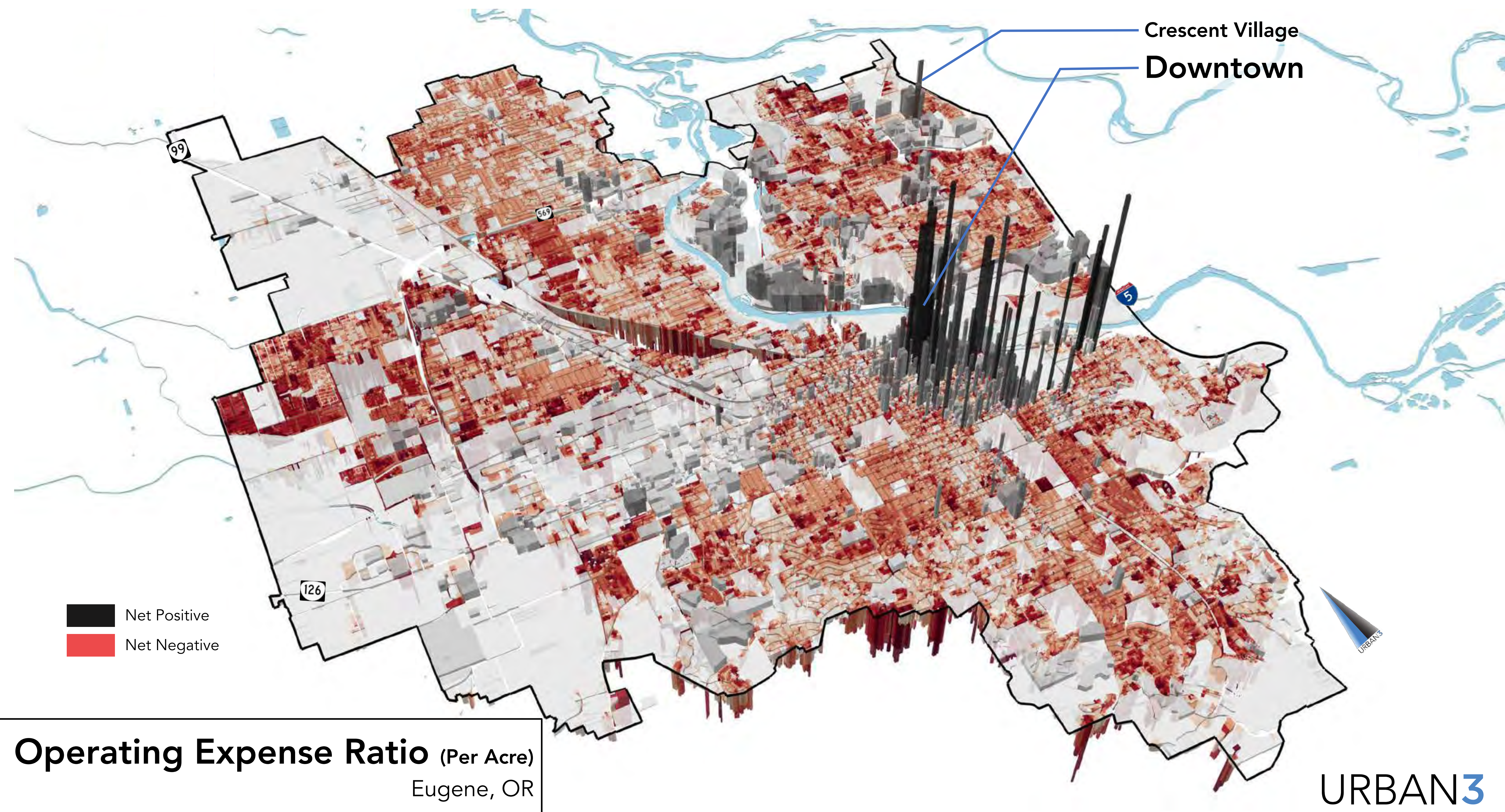
FIGURE 16

system, and the principal community center and sub-centers. The sub-centers are located at the focal points of residential sections or neighborhoods. Seven diagonal thoroughfares connect the town center with the environs, and a broad avenue connects the transportation with the civic center, around which the main business district is developed.

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The residential and main business parts of the town are shown on one side of the railroad and the industrial district on the other. Part of the

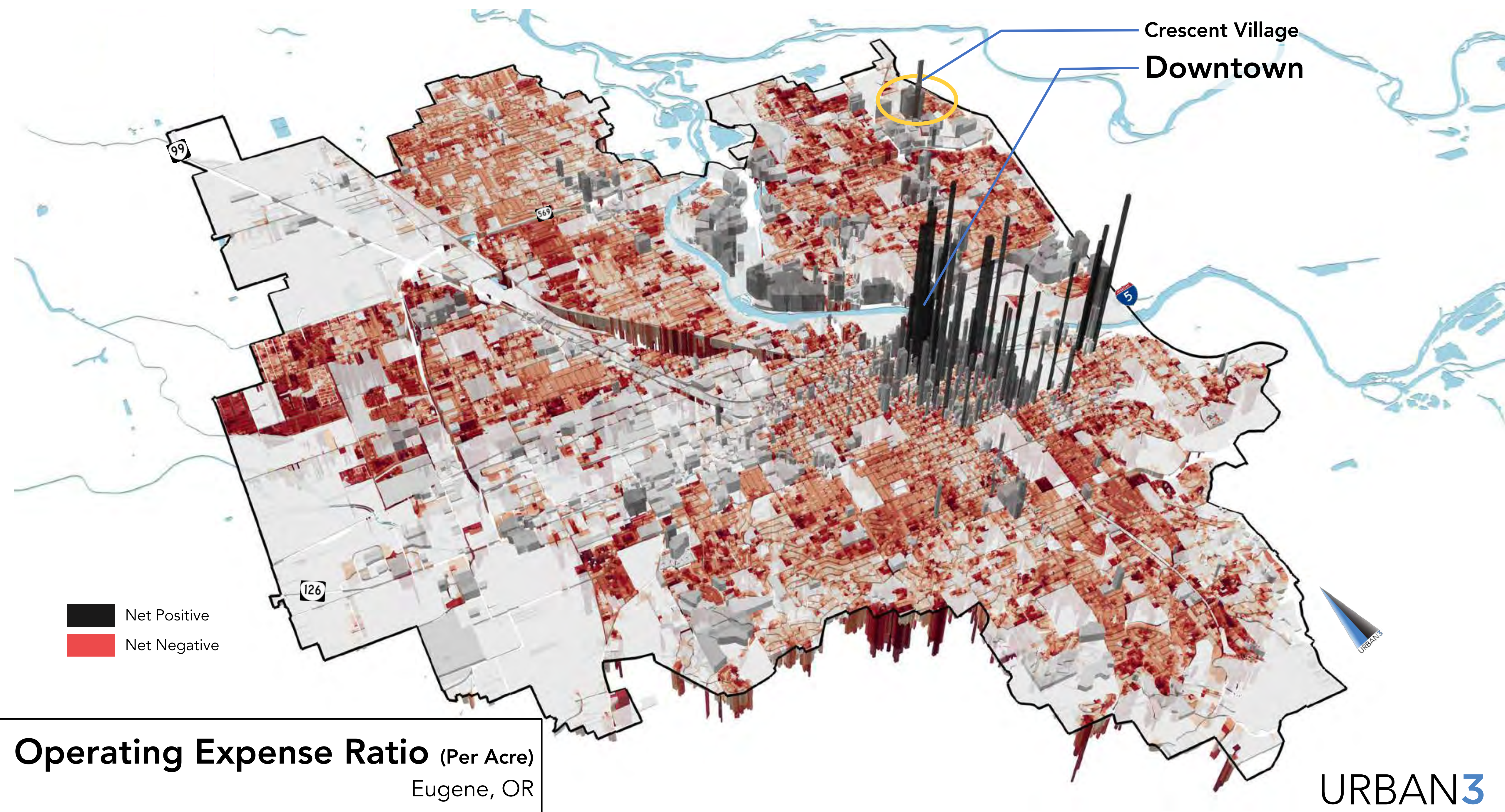




Crescent Village
Downtown

Net Positive
Net Negative

Operating Expense Ratio (Per Acre)
Eugene, OR

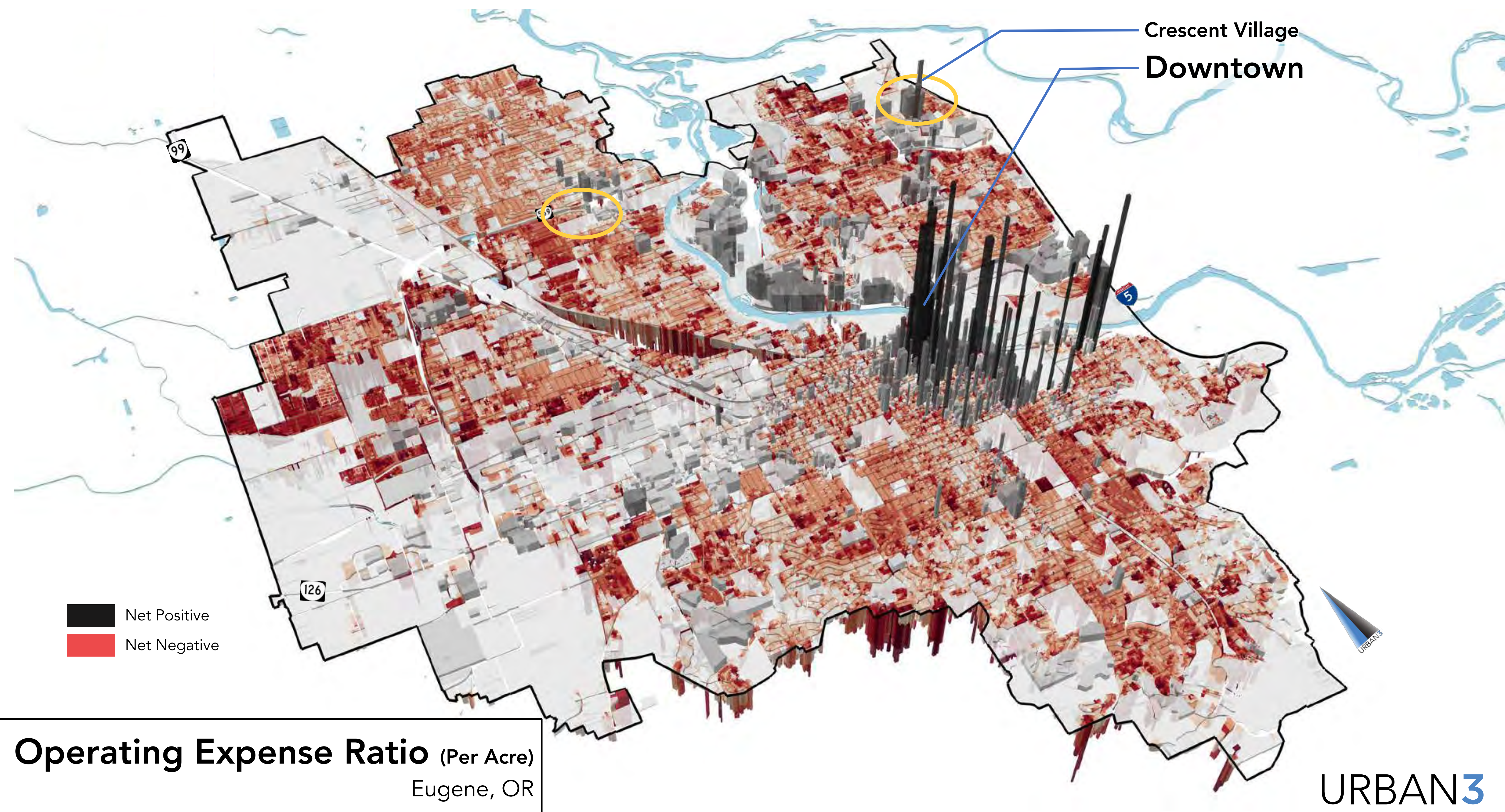


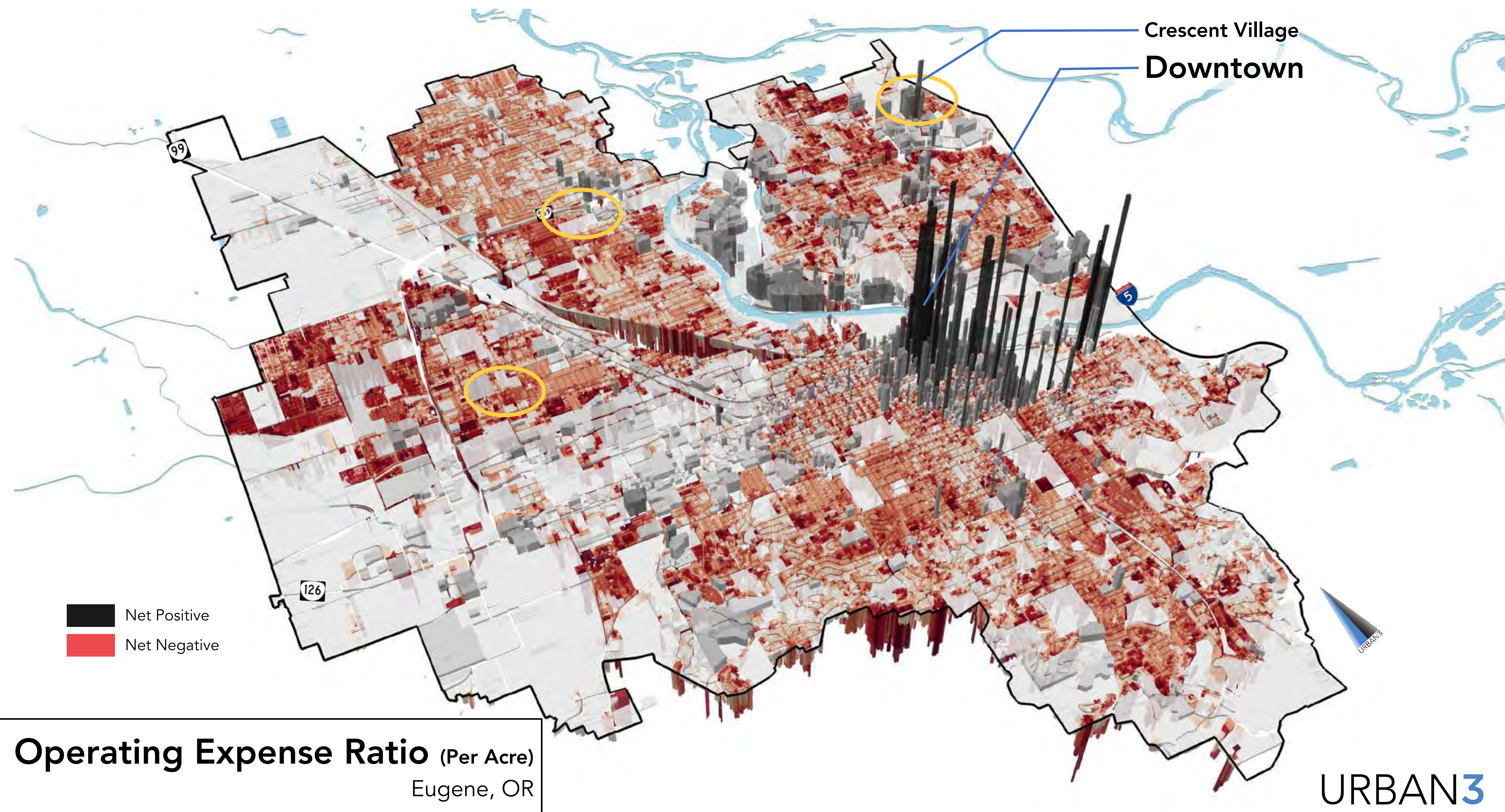
Crescent Village
Downtown

Net Positive
Net Negative

Operating Expense Ratio (Per Acre)
Eugene, OR

URBAN3

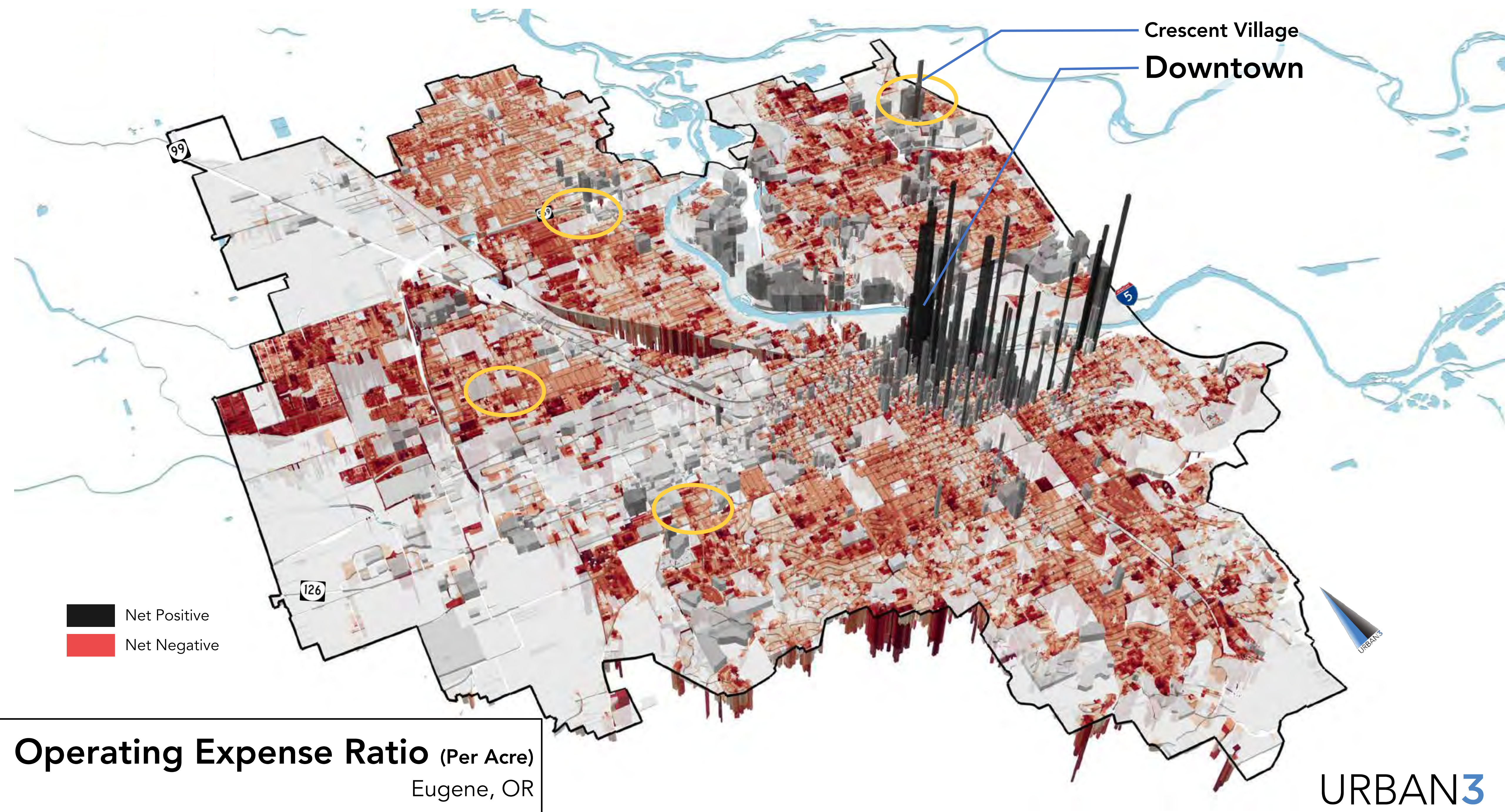


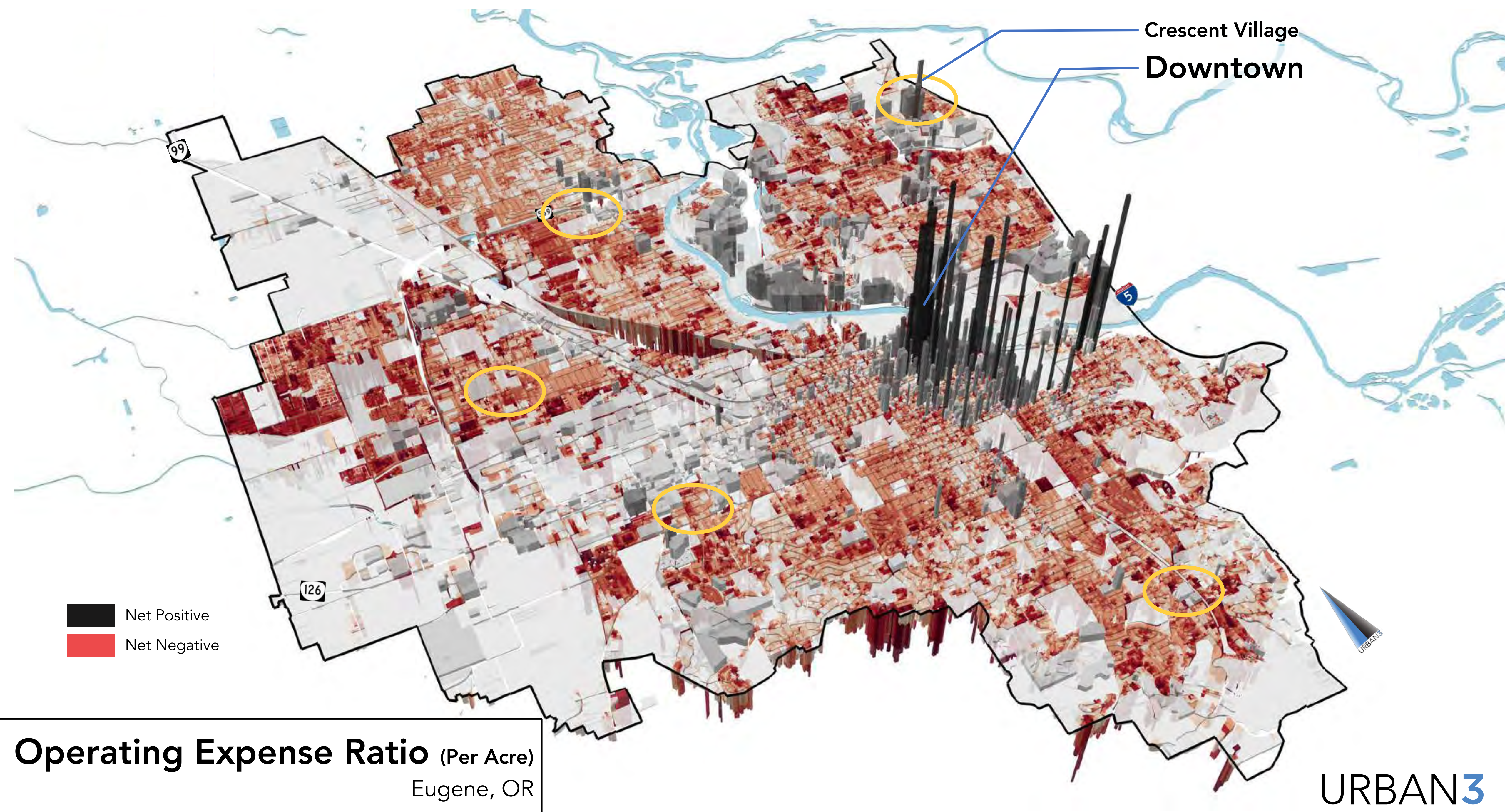


Crescent Village
Downtown

Net Positive
Net Negative

Operating Expense Ratio (Per Acre)
Eugene, OR





Observation:

The patterns matter!

Neighborhood Costs

South Bend, IN

Originally Built 1920s-1940s



Infrastructure

- Roads
- Water Pipe
- Combined Sewer
- Separated Sewer
- Storm Water

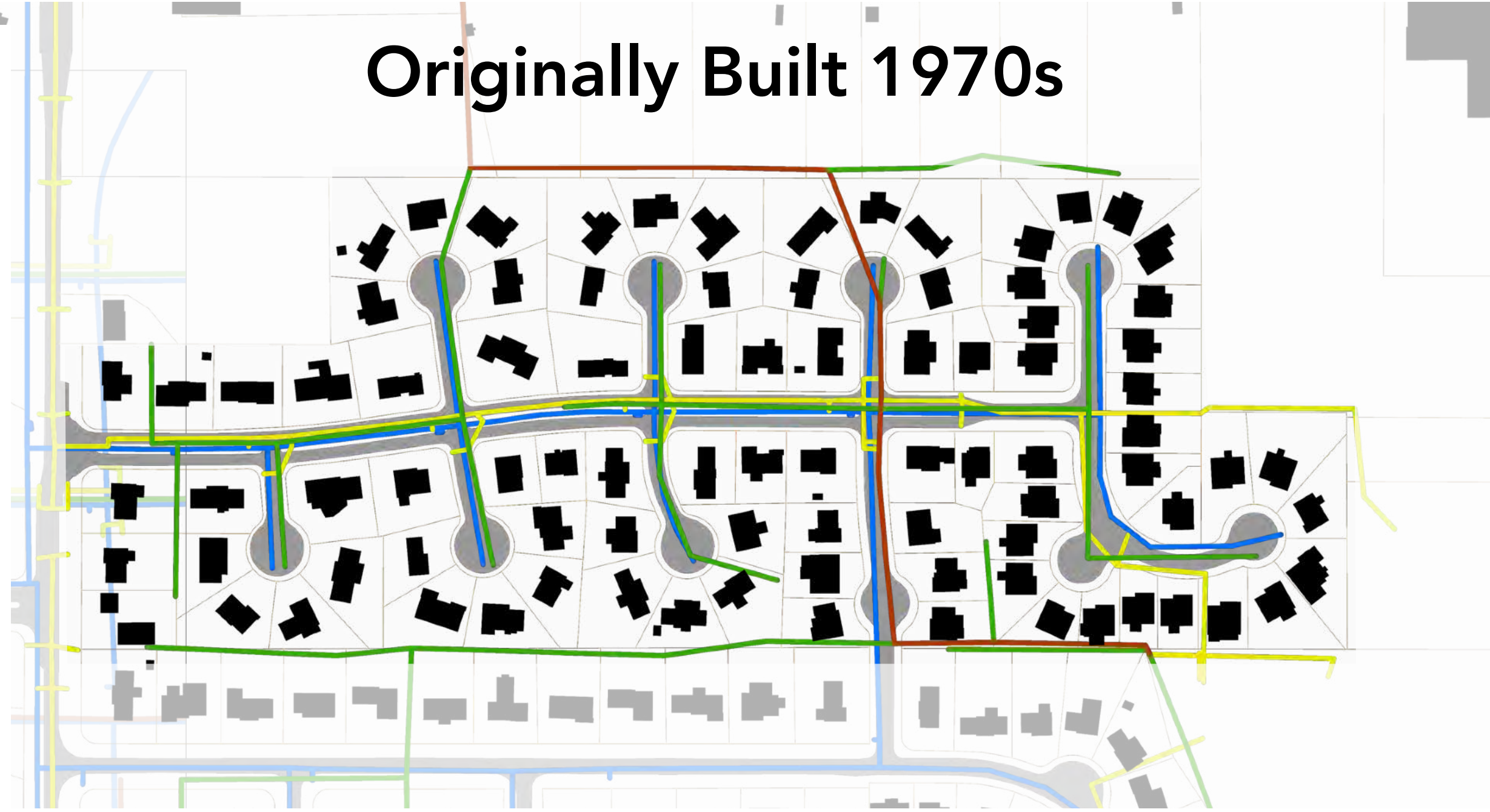
Neighborhood Costs

South Bend, IN

Originally Built 1920s-1940s



Originally Built 1970s



Infrastructure

- Roads
- Water Pipe
- Combined Sewer
- Seperated Sewer
- Storm Water

Neighborhood Costs

South Bend, IN

Originally Built 1970s



Neighborhood Costs

South Bend, IN

Originally Built 1970s



Neighborhood Costs

South Bend, IN

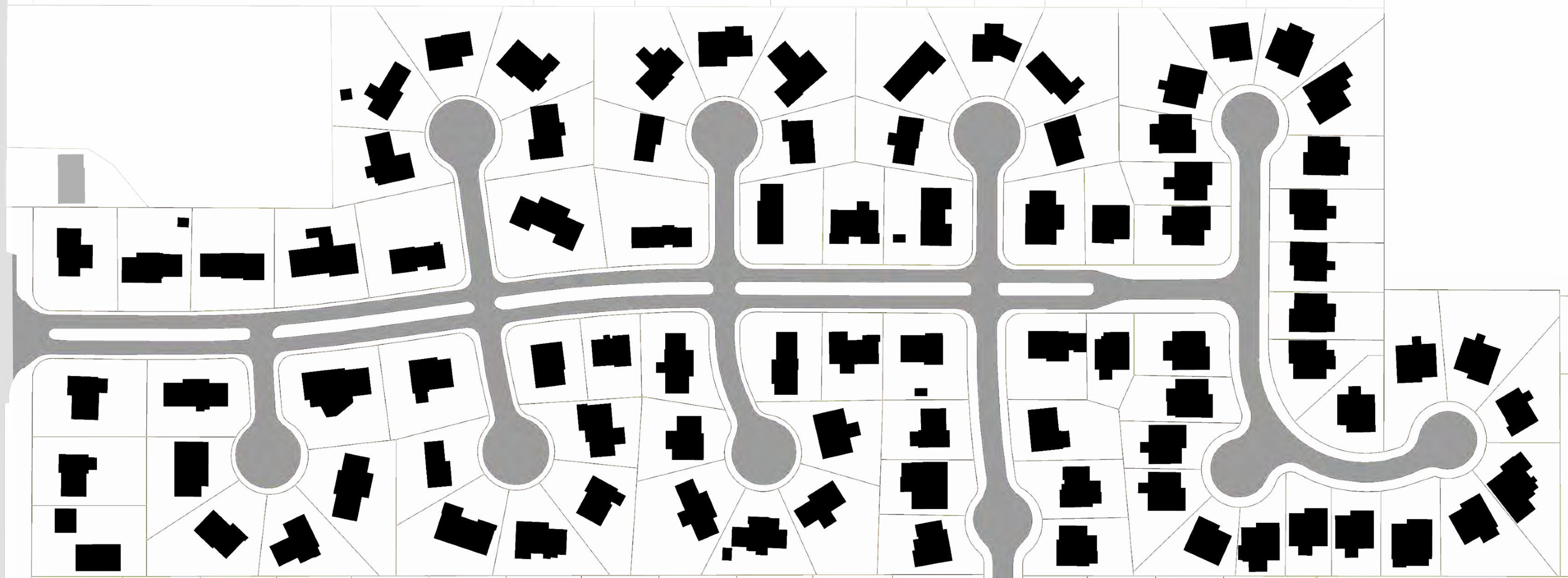
Originally Built 1970s



Neighborhood Costs

South Bend, IN

Originally Built 1970s



Infrastructure

- Roads
- Water Pipe
- Combined Sewer
- Seperated Sewer
- Storm Water



Neighborhood Yearly Costs \$75,161

Neighborhood Costs

South Bend, IN

Originally Built 1970s



Infrastructure

- Roads
- Water Pipe
- Combined Sewer
- Seperated Sewer
- Storm Water



Neighborhood
Yearly Costs

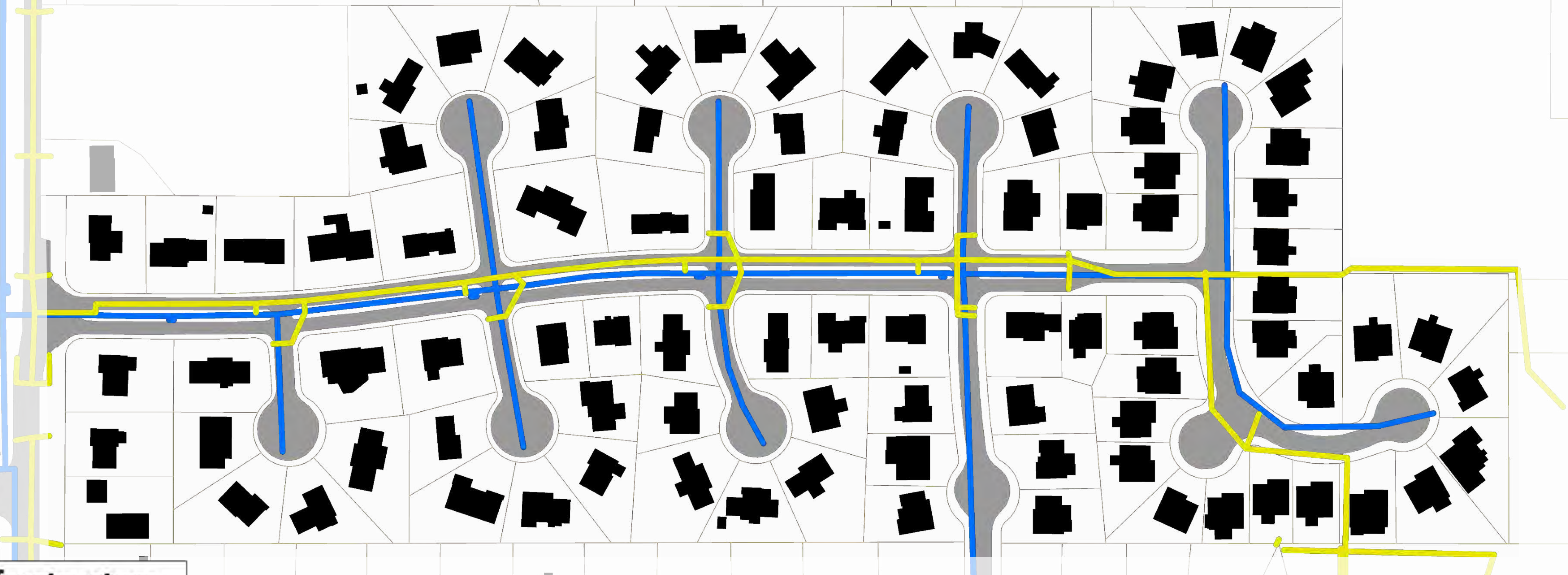
\$75,161

\$11,675

Neighborhood Costs

South Bend, IN

Originally Built 1970s



Infrastructure

- Roads
- Water Pipe
- Combined Sewer
- Seperated Sewer
- Storm Water

	Roads	Water Pipes	Storm & Sewer Pipes
Neighborhood Yearly Costs	\$75,161	\$11,675	\$35,176

Neighborhood Costs

South Bend, IN

Originally Built 1970s



Infrastructure

- Roads
- Water Pipe
- Combined Sewer
- Seperated Sewer
- Storm Water

Neighborhood	Roads	Water Pipes	Storm & Sewer Pipes
--------------	-------	-------------	---------------------

Yearly Costs	\$75,161	\$11,675	\$35,176
--------------	----------	----------	----------

Neighborhood Costs

South Bend, IN

Originally Built 1970s



Infrastructure

- Roads
- Water Pipe
- Combined Sewer
- Seperated Sewer
- Storm Water

	Roads	Water Pipes	Storm & Sewer Pipes	Annual Total
Neighborhood Yearly Costs	\$75,161	\$11,675	\$35,176	\$122,012

Neighborhood Costs

South Bend, IN

Originally Built 1970s

10% of Annual Neighborhood Property Taxes: \$21,079



Infrastructure

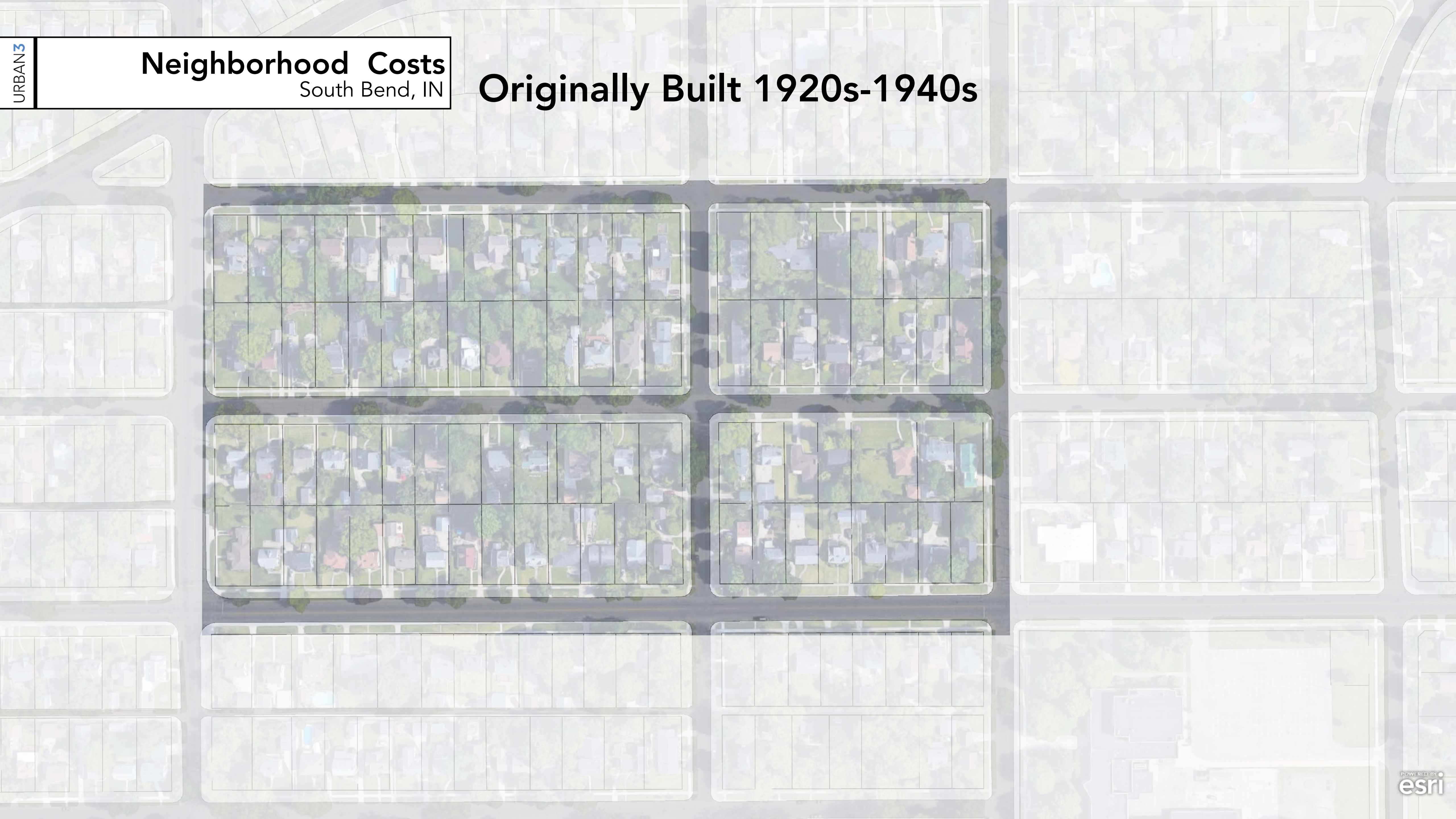
- Roads
- Water Pipe
- Combined Sewer
- Seperated Sewer
- Storm Water

	Roads	Water Pipes	Storm & Sewer Pipes	Annual Total
Neighborhood Yearly Costs	\$75,161	\$11,675	\$35,176	\$122,012

Neighborhood Costs

South Bend, IN

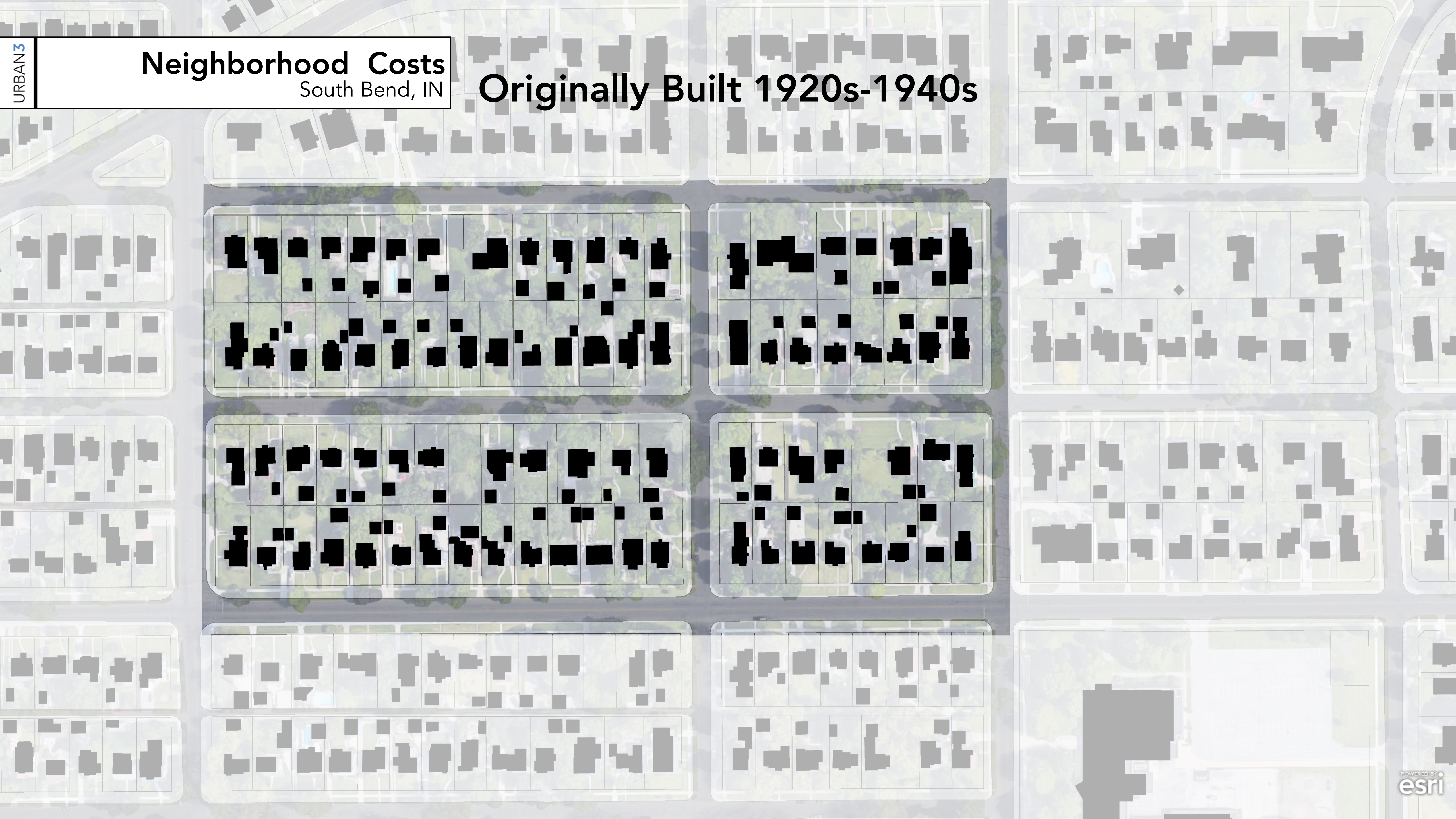
Originally Built 1920s-1940s



Neighborhood Costs

South Bend, IN

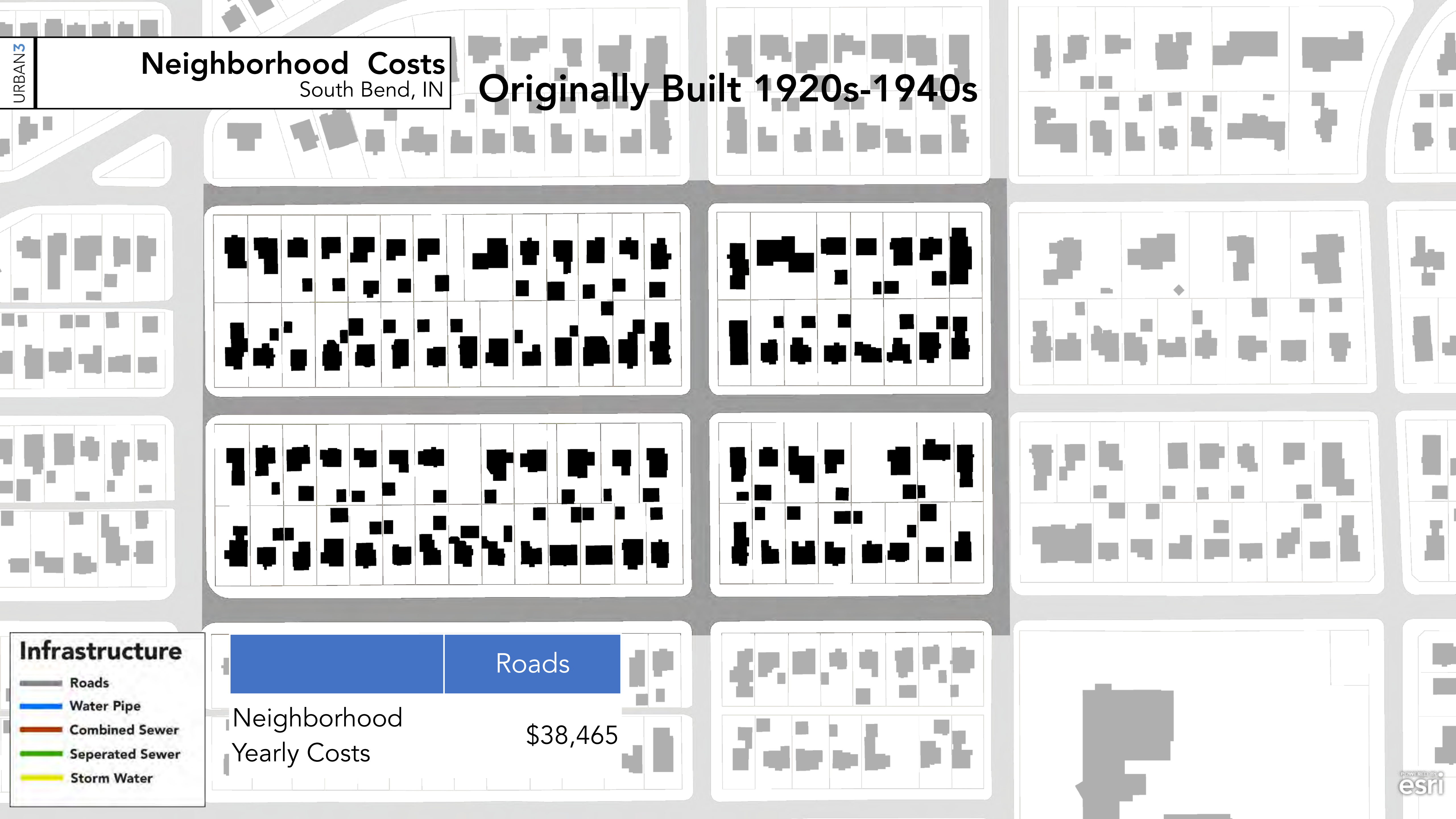
Originally Built 1920s-1940s



Neighborhood Costs

South Bend, IN

Originally Built 1920s-1940s



Infrastructure

- Roads
- Water Pipe
- Combined Sewer
- Seperated Sewer
- Storm Water

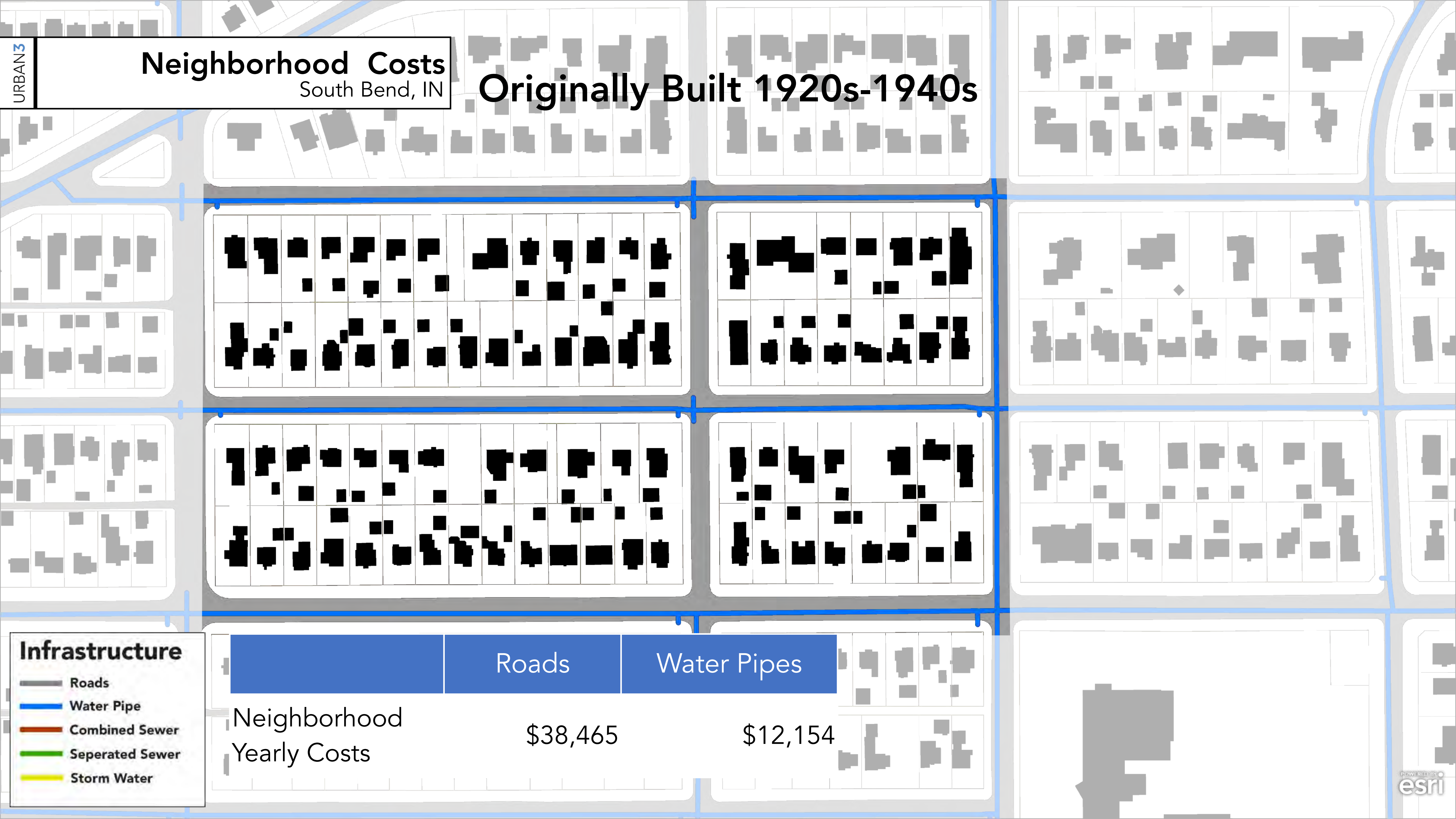


Neighborhood Yearly Costs \$38,465

Neighborhood Costs

South Bend, IN

Originally Built 1920s-1940s



Infrastructure

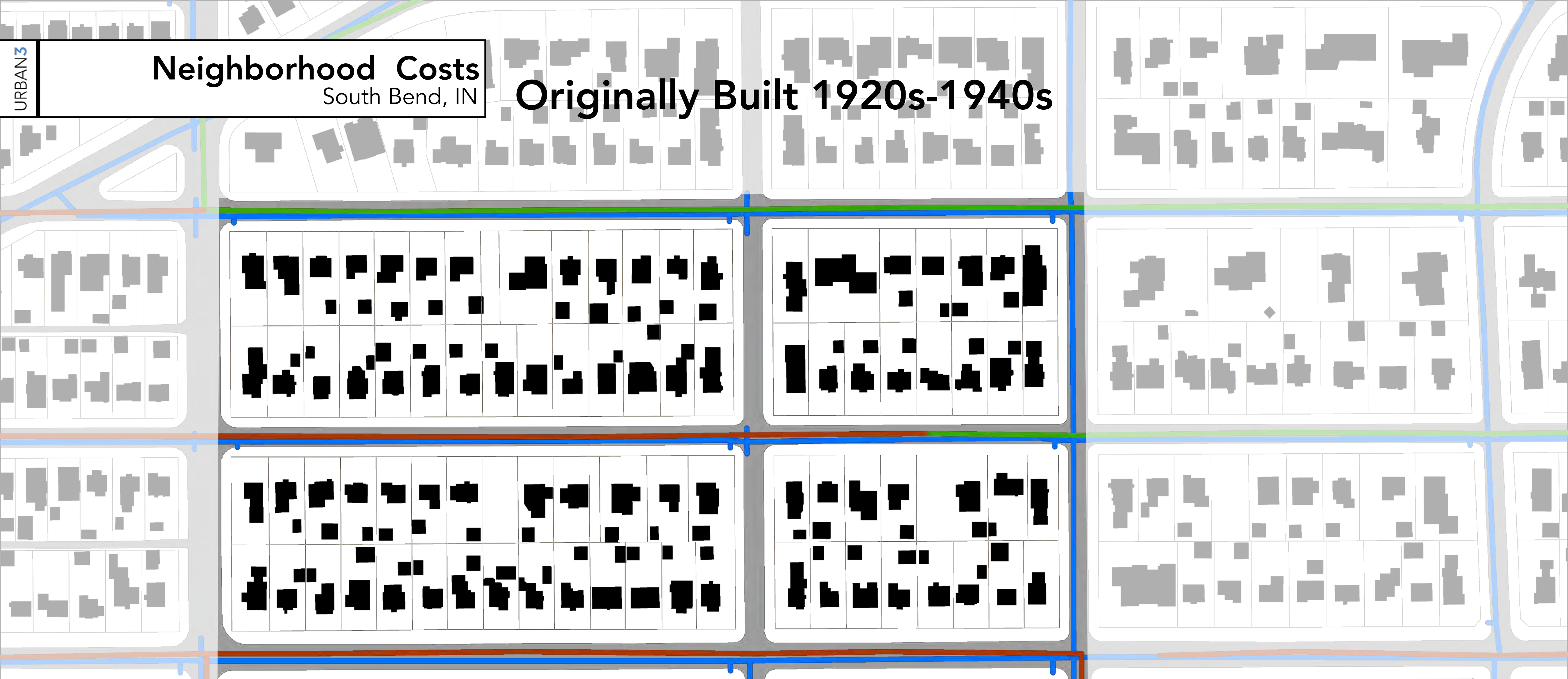
- Roads
- Water Pipe
- Combined Sewer
- Seperated Sewer
- Storm Water

	Roads	Water Pipes
Neighborhood Yearly Costs	\$38,465	\$12,154

Neighborhood Costs

South Bend, IN

Originally Built 1920s-1940s



Infrastructure

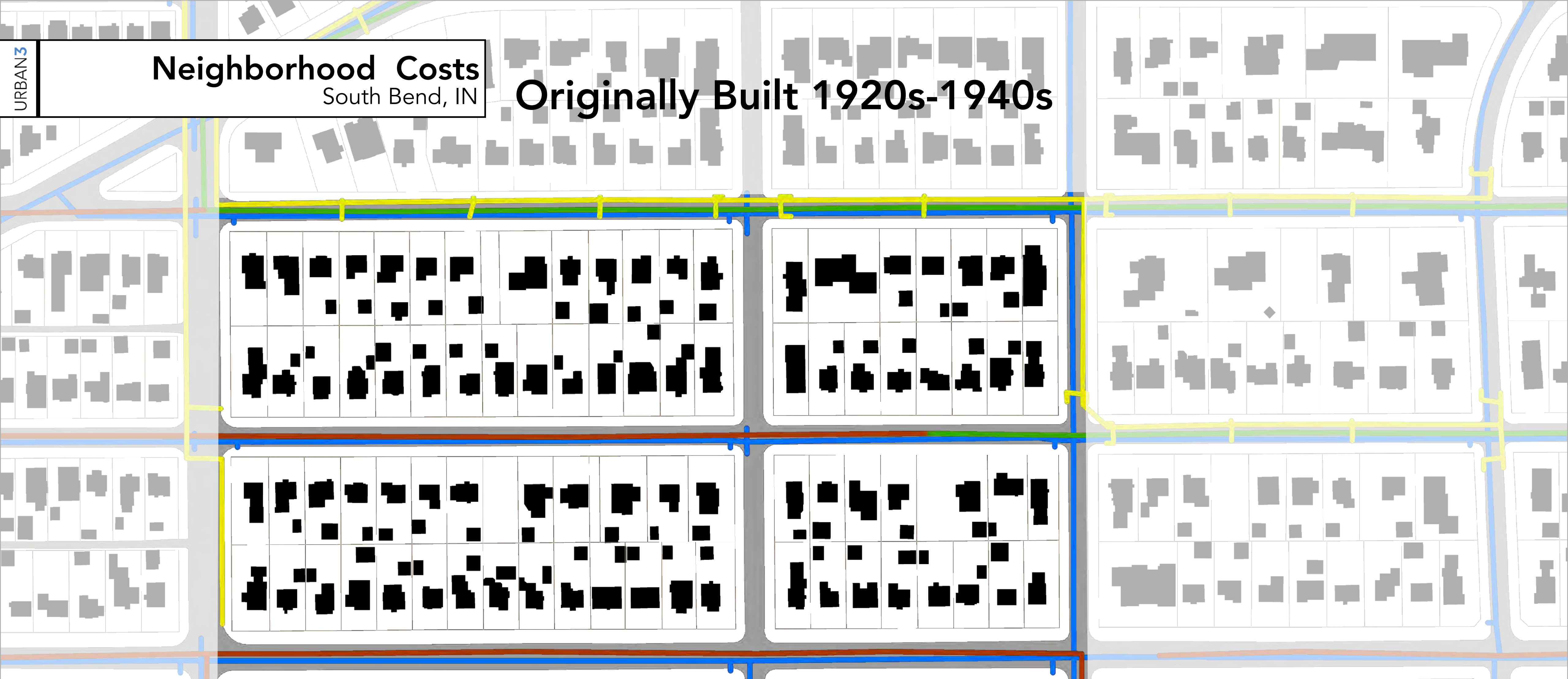
- Roads
- Water Pipe
- Combined Sewer
- Seperated Sewer
- Storm Water

	Roads	Water Pipes	Storm & Sewer Pipes
Neighborhood Yearly Costs	\$38,465	\$12,154	\$28,362

Neighborhood Costs

South Bend, IN

Originally Built 1920s-1940s



Infrastructure

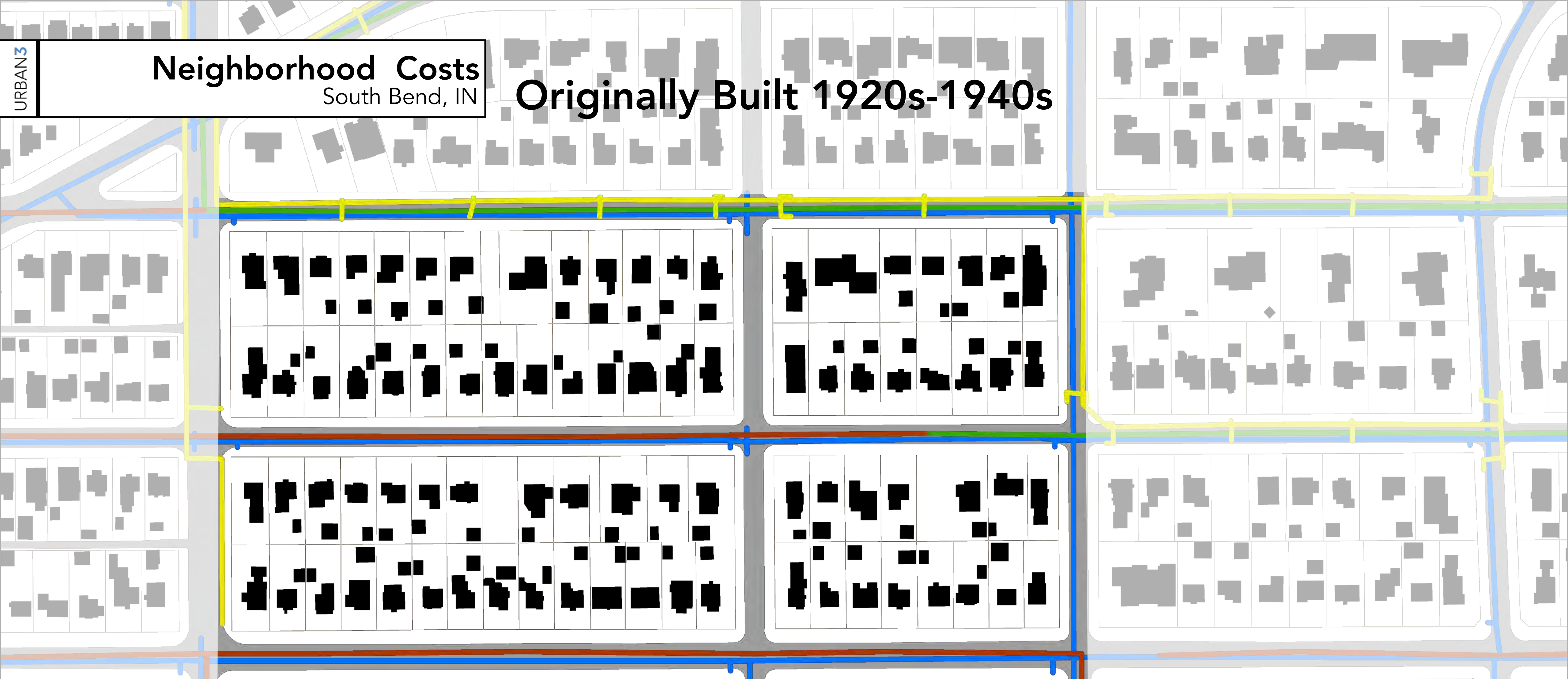
- Roads
- Water Pipe
- Combined Sewer
- Seperated Sewer
- Storm Water

	Roads	Water Pipes	Storm & Sewer Pipes
Neighborhood Yearly Costs	\$38,465	\$12,154	\$28,362

Neighborhood Costs

South Bend, IN

Originally Built 1920s-1940s



Infrastructure

- Roads
- Water Pipe
- Combined Sewer
- Seperated Sewer
- Storm Water

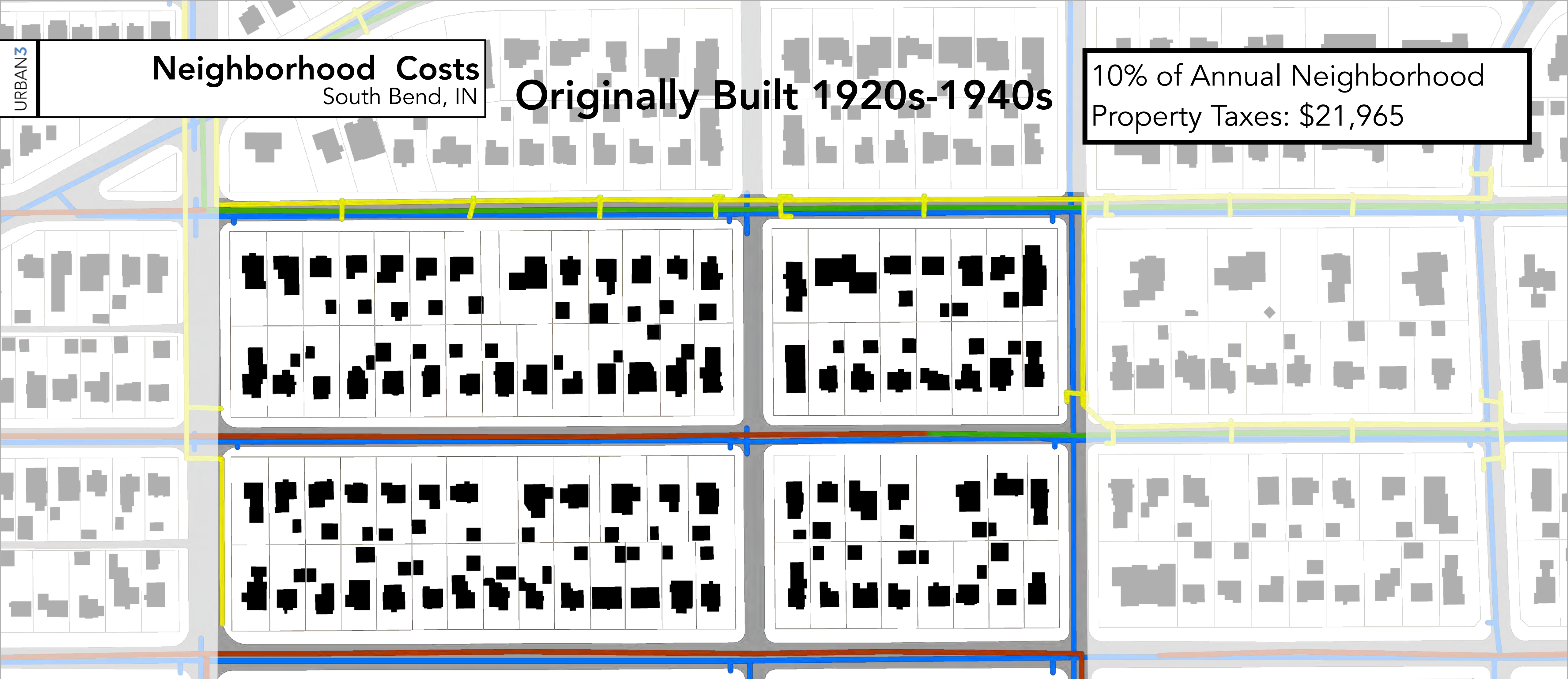
	Roads	Water Pipes	Storm & Sewer Pipes	Annual Total
Neighborhood Yearly Costs	\$38,465	\$12,154	\$28,362	\$78,981

Neighborhood Costs

South Bend, IN

Originally Built 1920s-1940s

10% of Annual Neighborhood Property Taxes: \$21,965



Infrastructure

- Roads
- Water Pipe
- Combined Sewer
- Separated Sewer
- Storm Water

	Roads	Water Pipes	Storm & Sewer Pipes	Annual Total
Neighborhood Yearly Costs	\$38,465	\$12,154	\$28,362	\$78,981

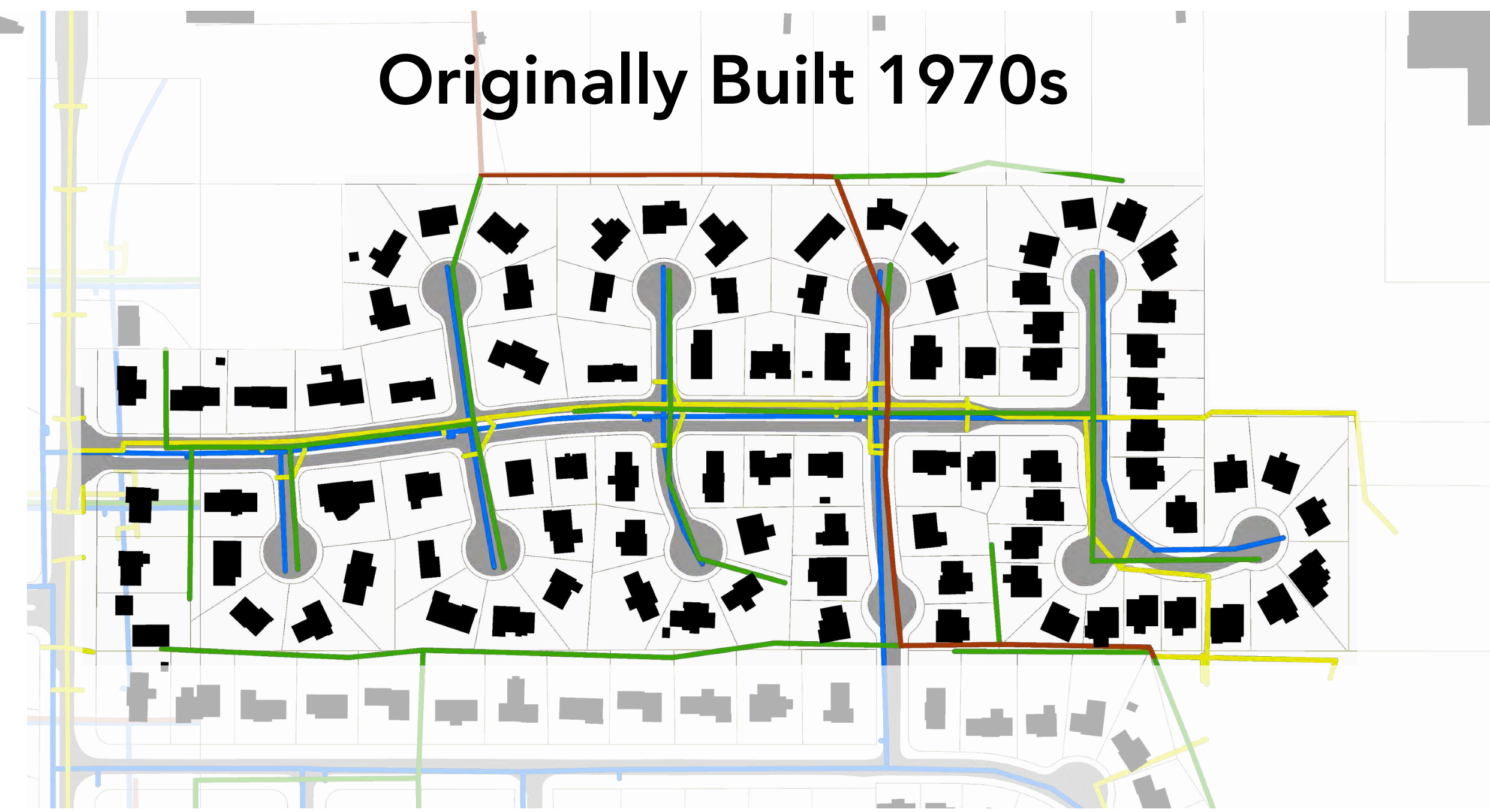
Neighborhood Costs

South Bend, IN

Originally Built 1920s-1940s



Originally Built 1970s



	1920-1940s	1970s	Difference
Lots	88	88	0
Road Cost	\$38,465	\$75,161	2x
Water Pipes	\$12,154	\$11,675	-0.96x
Storm & Sewer Pipes	\$28,382	\$35,176	1.2x
Annual Total Costs	\$78,981	\$122,012	1.5x
10% Property Taxes	\$21,965	\$21,079	-0.96x
Deficit	-\$57,016	-\$100,933	1.8x

Infrastructure

- Roads
- Water Pipe
- Combined Sewer
- Seperated Sewer
- Storm Water

Question:

**Are you providing the
wrong incentive?**



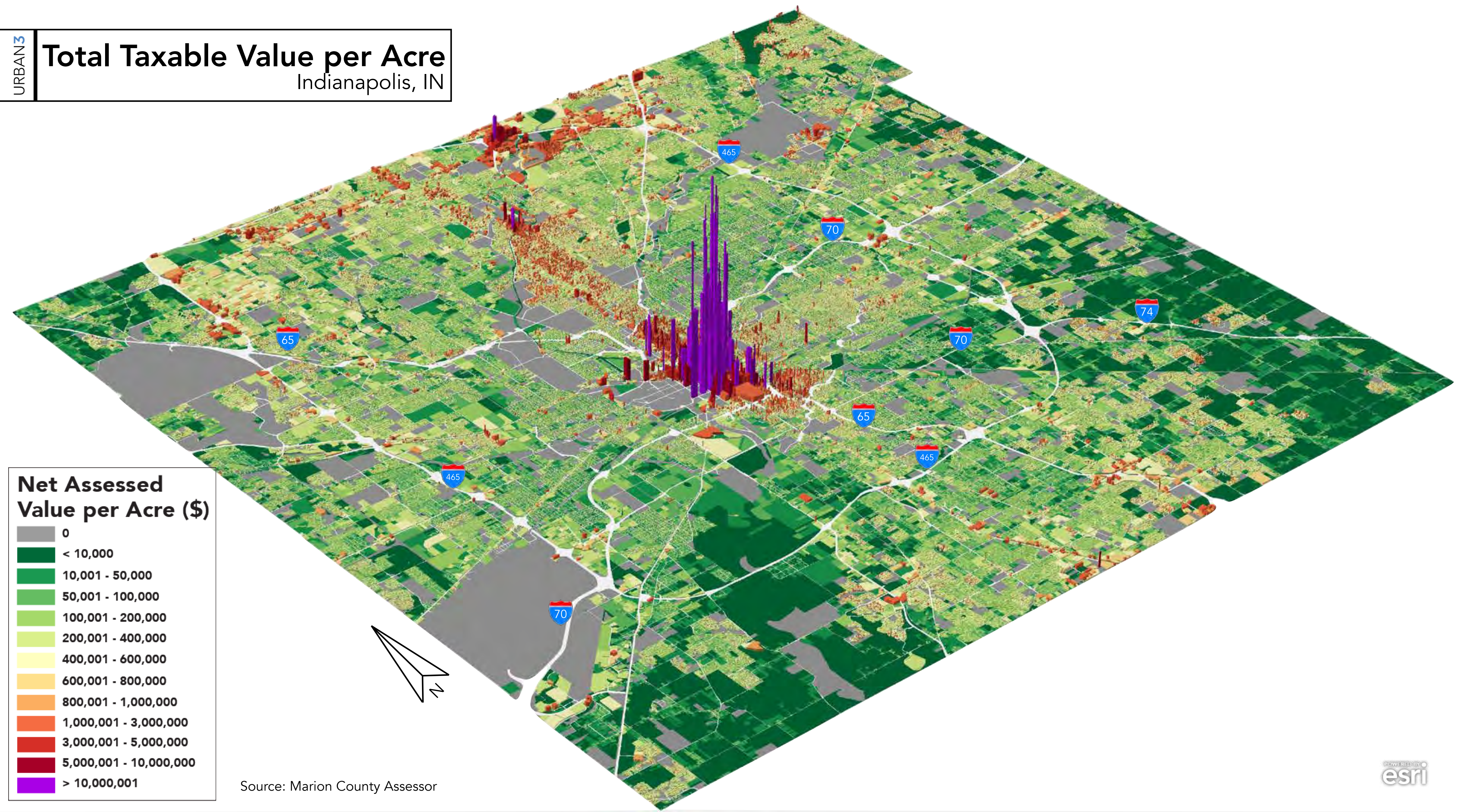
Case Study: Economic MRI®
2019

Indianapolis, Indiana

URBAN3

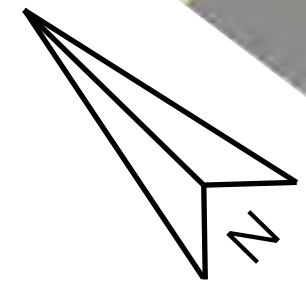
Total Taxable Value per Acre

Indianapolis, IN



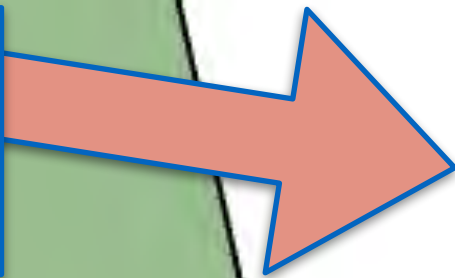
Net Assessed Value per Acre (\$)

0
< 10,000
10,001 - 50,000
50,001 - 100,000
100,001 - 200,000
200,001 - 400,000
400,001 - 600,000
600,001 - 800,000
800,001 - 1,000,000
1,000,001 - 3,000,000
3,000,001 - 5,000,000
5,000,001 - 10,000,000
> 10,000,001



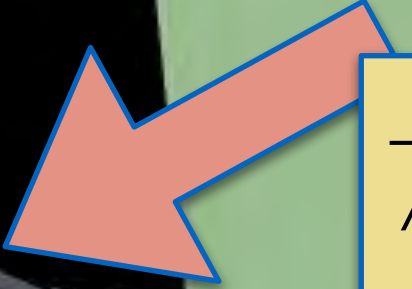
Source: Marion County Assessor

1,196 SF



Buildings

759 SF

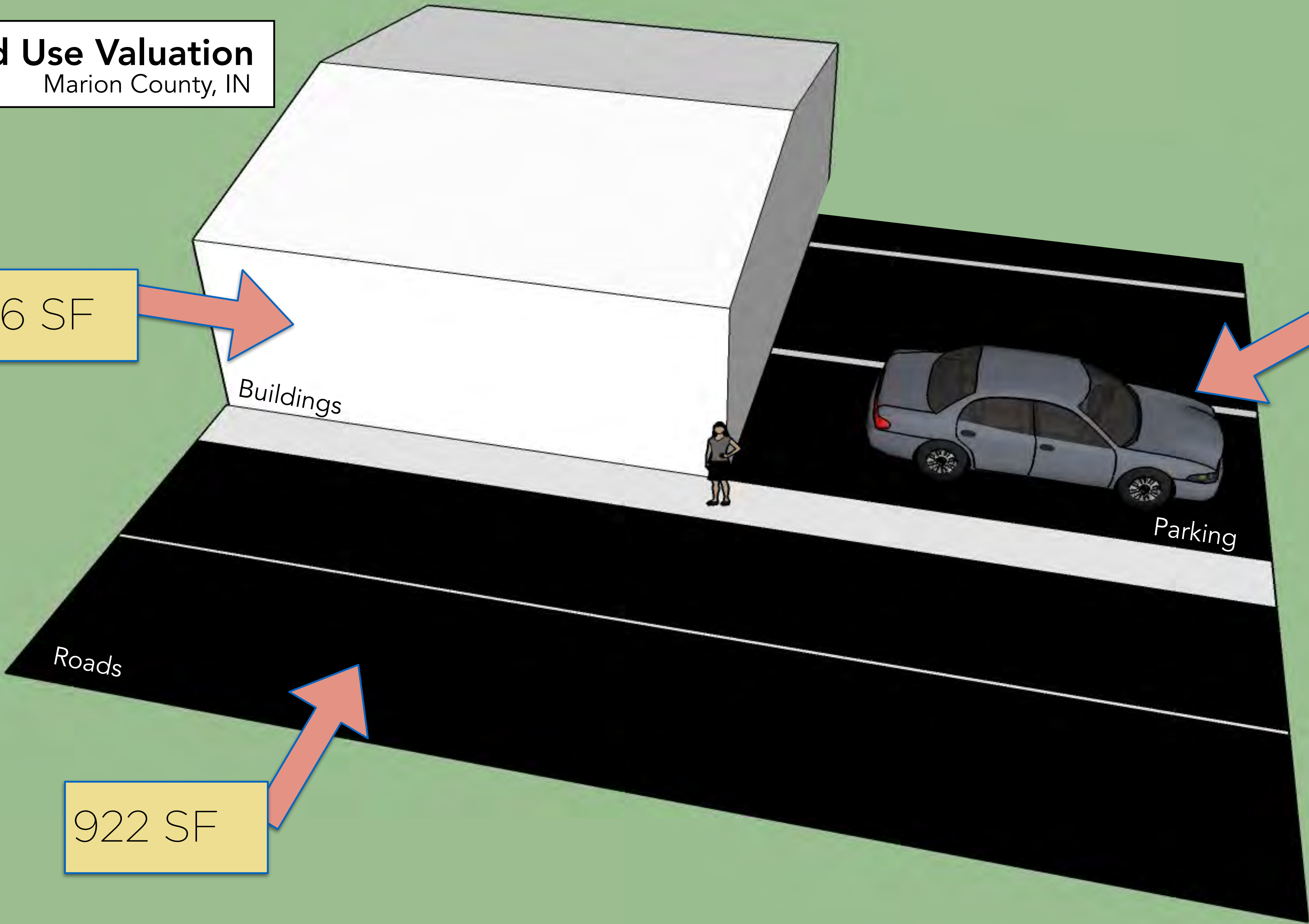


Parking

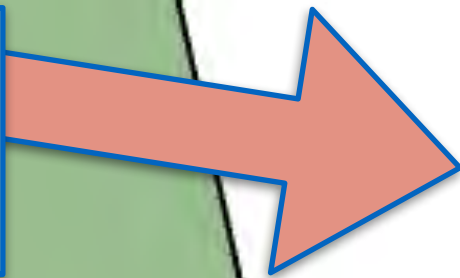
922 SF



Roads

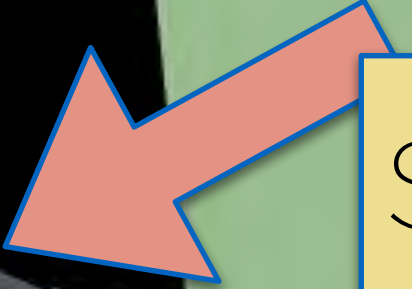


\$52/SF



Buildings

\$.73/SF



Parking

71x Difference

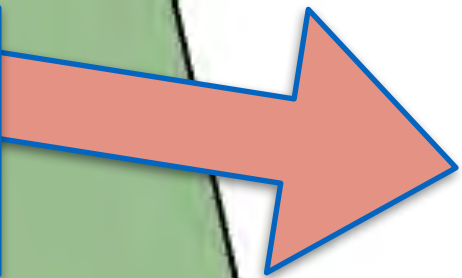
\$22/SF*



Roads

*Source: Urban3 Estimate

\$52/SF



Buildings

\$.73/SF



Parking

71x Difference

\$22/SF*



Roads

\$22/SF*

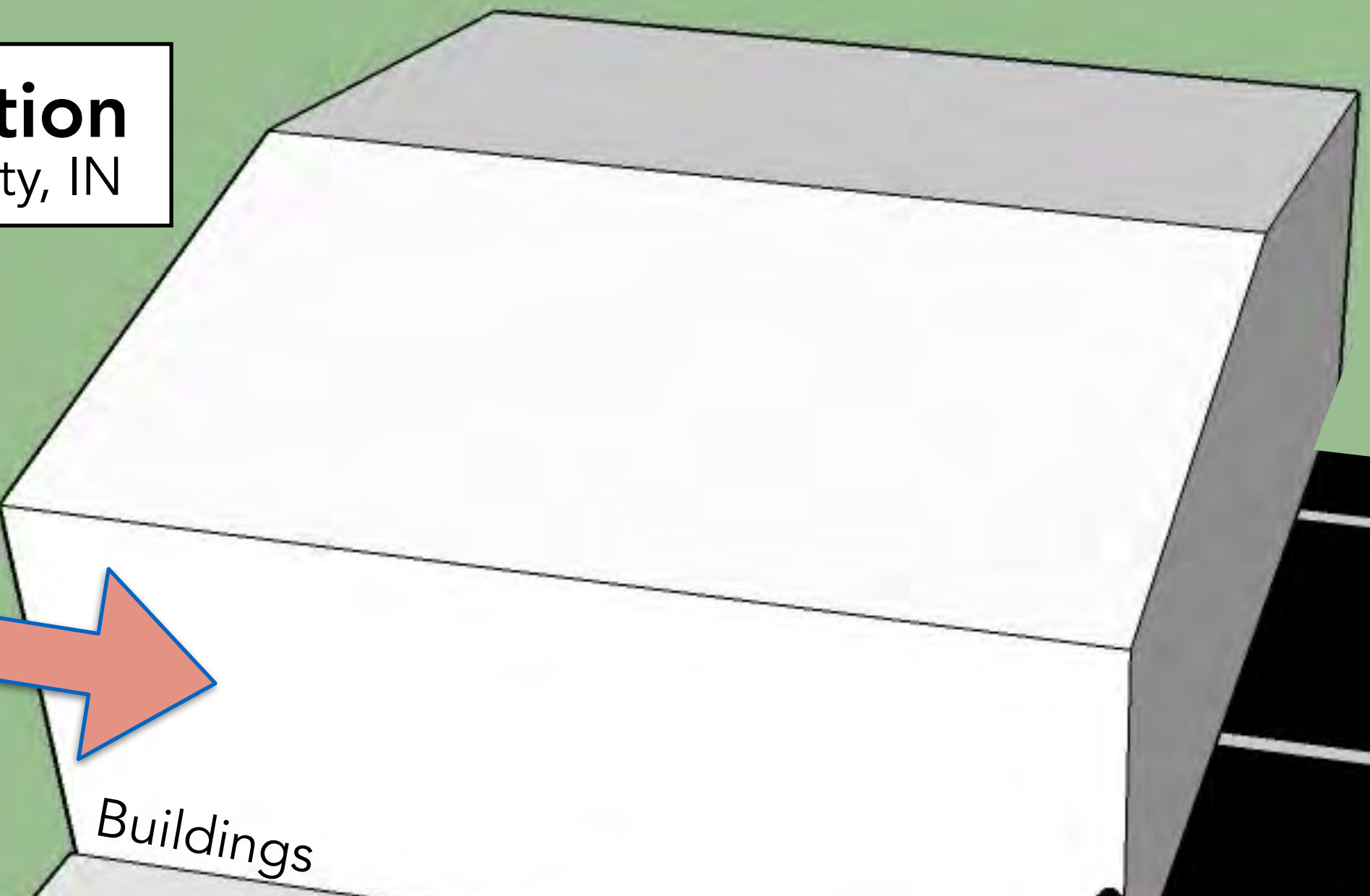


*Source: Urban3 Estimate

Years to recoup \$22/s.f. road cost from 1% Property Taxes

\$52/SF

42 years



Buildings



Parking

\$.73/SF

71x Difference

3,014 years

\$22/SF*

\$22/SF*

*Source: Urban3 Estimate

Indy Maintained Roads

Indianapolis, IN

URBAN3

Anchorage



Gulf of Alaska

CANADA

Hudson Bay

Edmonton

Calgary

Two Lanes
3,950 Miles

Vancouver

Seattle

Montreal
Ottawa

Toronto

Chicago

Detroit

Boston

New York
Philadelphia

UNITED STATES

Denver

St Louis

Washington

Indianapolis

San Francisco

Los Angeles

Dallas

Atlanta



Indy Maintained Roads

Indianapolis, IN

URBAN3

Anchorage



Gulf of Alaska

CANADA

Hudson Bay

Edmonton

Calgary

Two Lanes
3,950 Miles

Vancouver

Seattle

Montreal
Ottawa

Eau Claire, WI

Toronto

Chicago

Detroit

Boston

UNITED STATES

Denver

New York
Philadelphia

Washington

St Louis

Indianapolis

San Francisco

Los Angeles

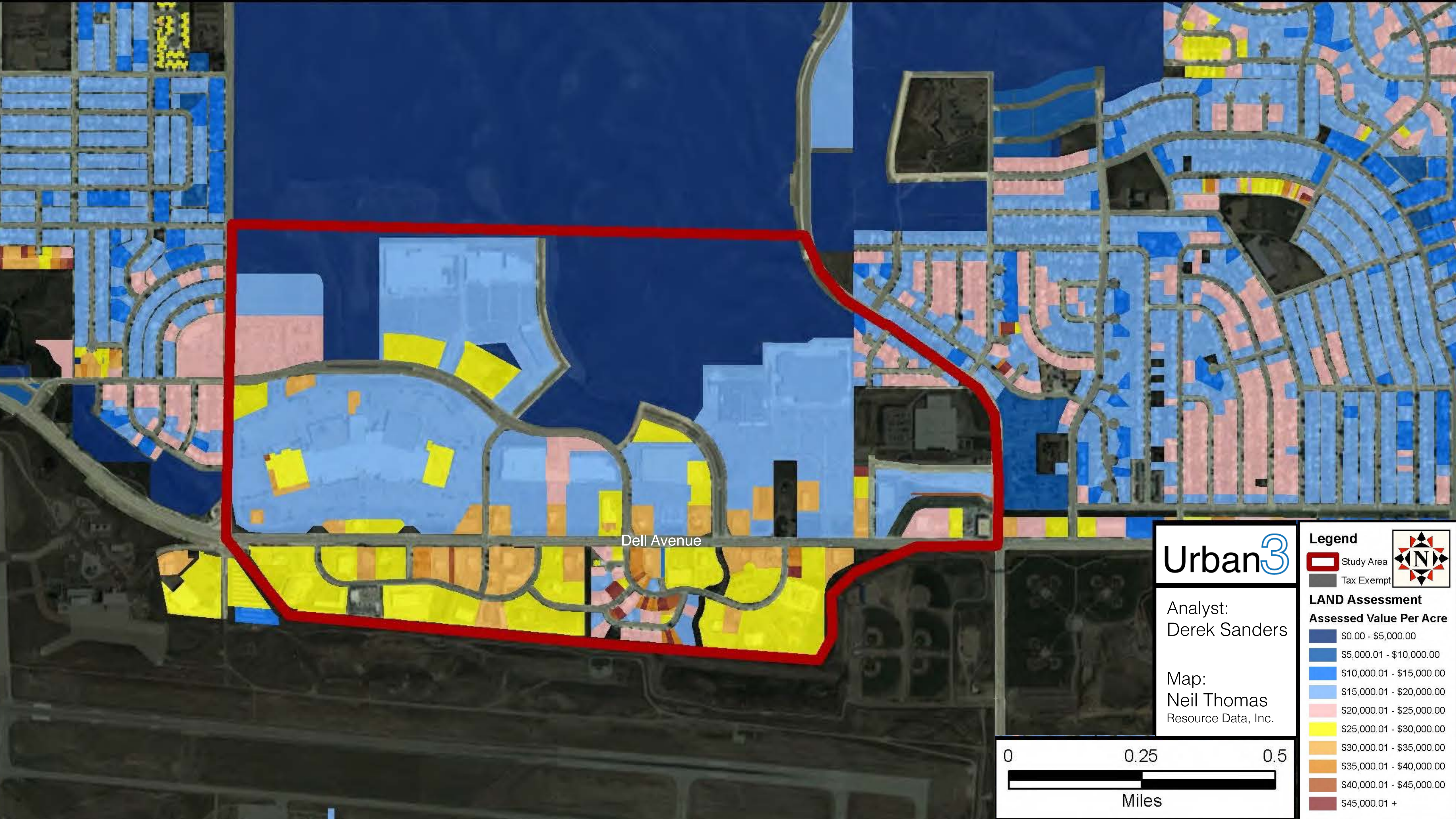
Dallas

Atlanta



Observation:

**Policy applications should
be questioned.**



Dell Avenue

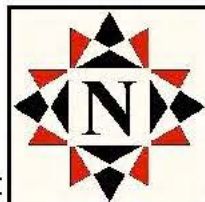
Urban3

Analyst:
Derek Sanders

Map:
Neil Thomas
Resource Data, Inc.

Legend

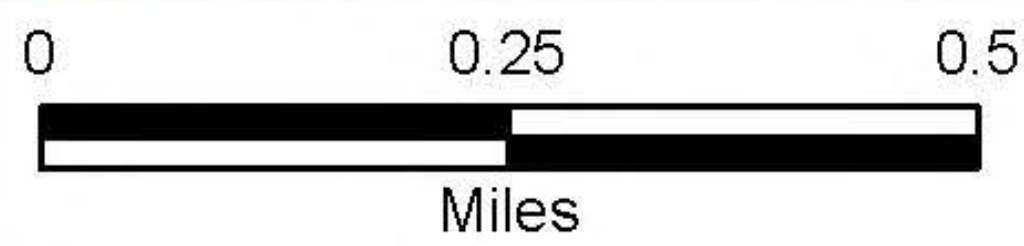
-  Study Area
-  Tax Exempt



LAND Assessment

Assessed Value Per Acre

-  \$0.00 - \$5,000.00
-  \$5,000.01 - \$10,000.00
-  \$10,000.01 - \$15,000.00
-  \$15,000.01 - \$20,000.00
-  \$20,000.01 - \$25,000.00
-  \$25,000.01 - \$30,000.00
-  \$30,000.01 - \$35,000.00
-  \$35,000.01 - \$40,000.00
-  \$40,000.01 - \$45,000.00
-  \$45,000.01 +





Dell Avenue

FAIR+EQUITABLE
AUGUST 2019 | VOLUME 17 | NUMBER 7
A publication of IAAD on appraisal and approval management, within the property assessment industry.

DON'T CUT ME OFF!
 USING POST-VALUATION DATE EVIDENCE IN APPRAISALS | **8**

INSIDE
IAAO CONFERENCE SESSION HIGHLIGHTS
 Available session topics are vast and wide for 2019. | **17**

HIGHEST AND BEST USE
 TEGoVA extends Highest and Best Use value to encompass Hope Value | **28**


Legend

- Study Area
- Tax Exempt

LAND Assessment
Assessed Value Per Acre

- \$0.00 - \$5,000.00
- \$5,000.01 - \$10,000.00
- \$10,000.01 - \$15,000.00
- \$15,000.01 - \$20,000.00
- \$20,000.01 - \$25,000.00
- \$25,000.01 - \$30,000.00
- \$30,000.01 - \$35,000.00
- \$35,000.01 - \$40,000.00
- \$40,000.01 - \$45,000.00
- \$45,000.01 +

0 **0.5**
 Miles



**Tax
Code**

44444444

44444444

44444444
44444444



MARKET FORCES



Geoaccounting™

I bought a boat



**Just put
your happy
little numbers
on a map.**

**Don't
worry
about
mistakes.**





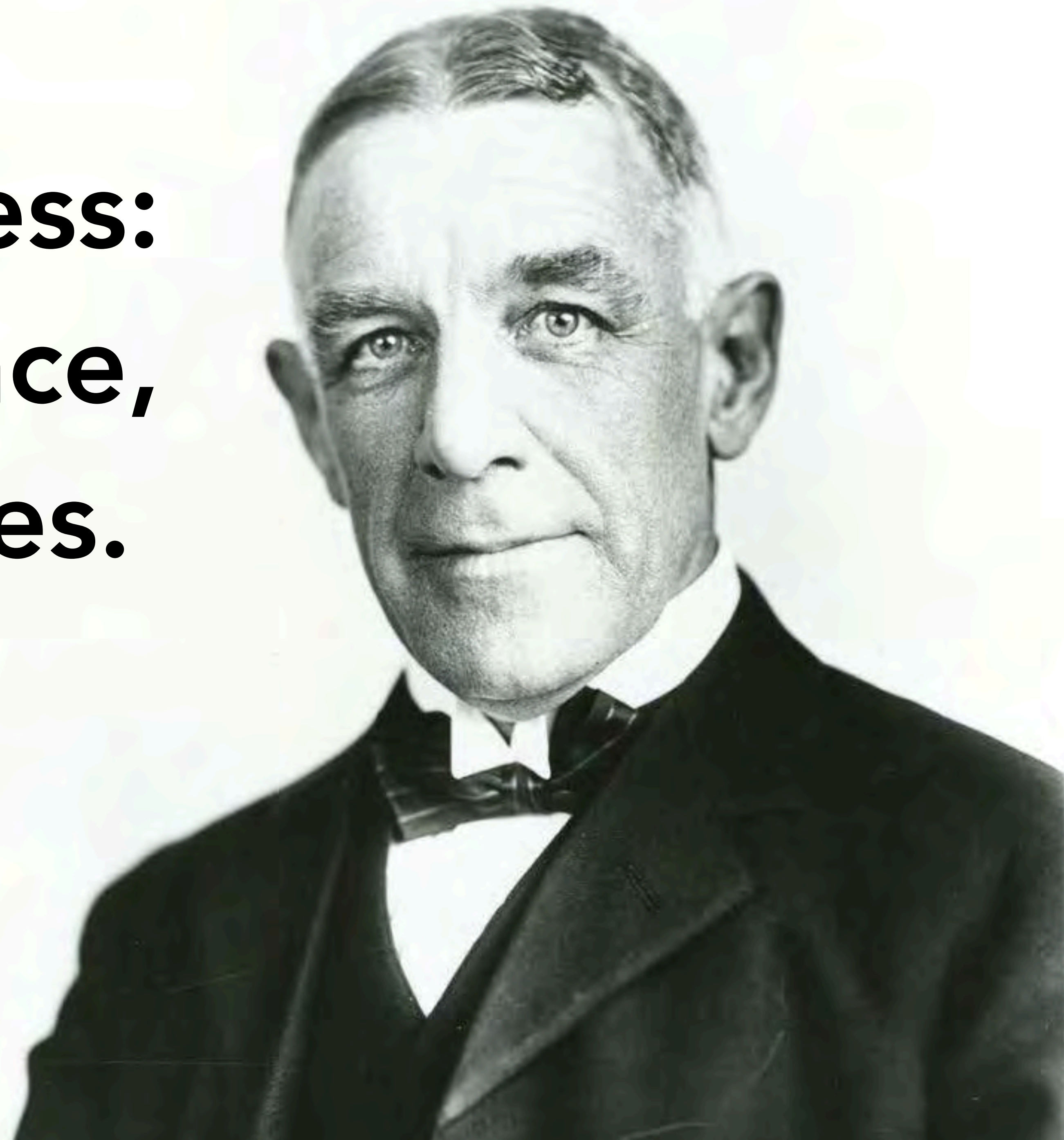
You are not fragmented, you are a common wealth!



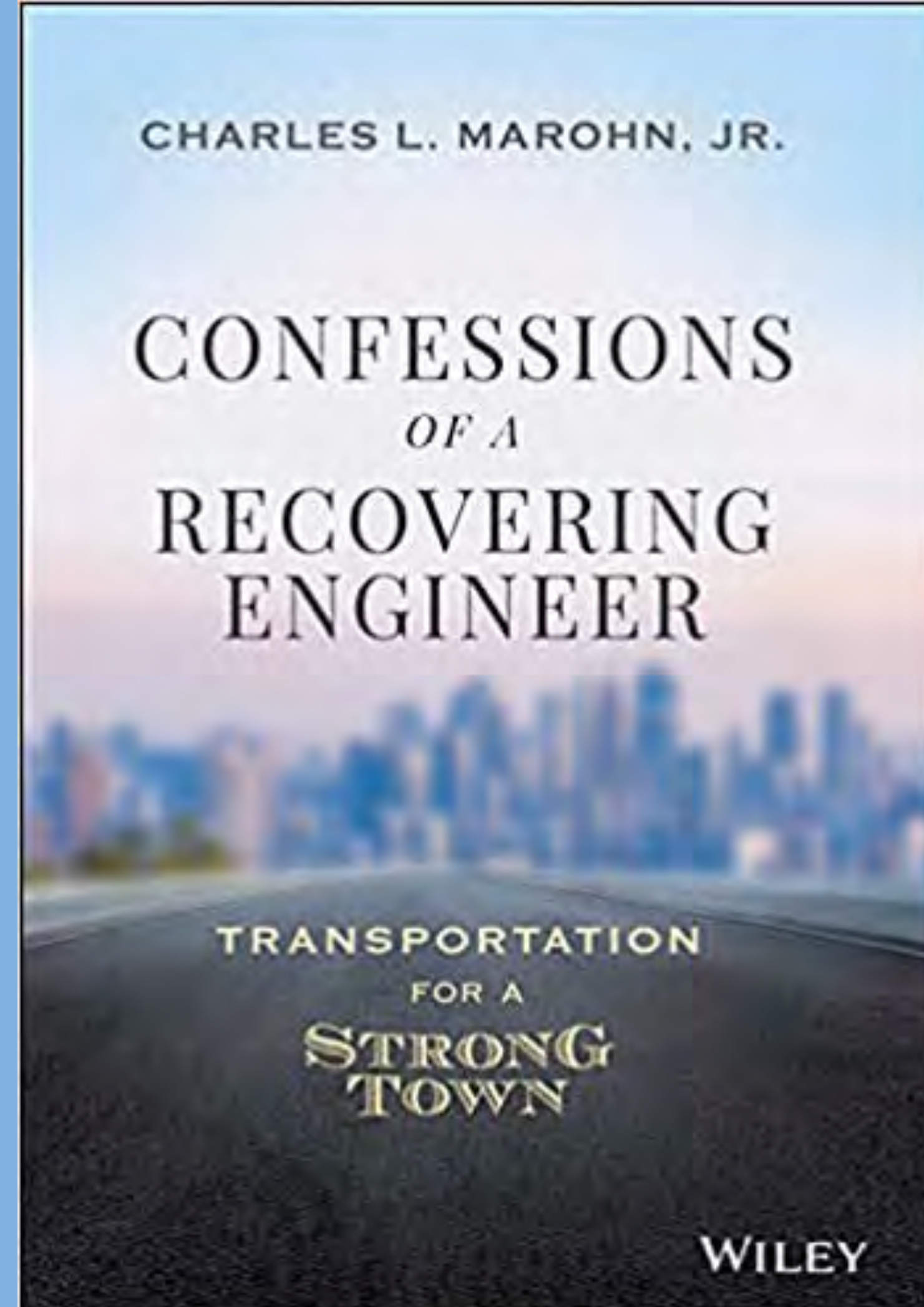
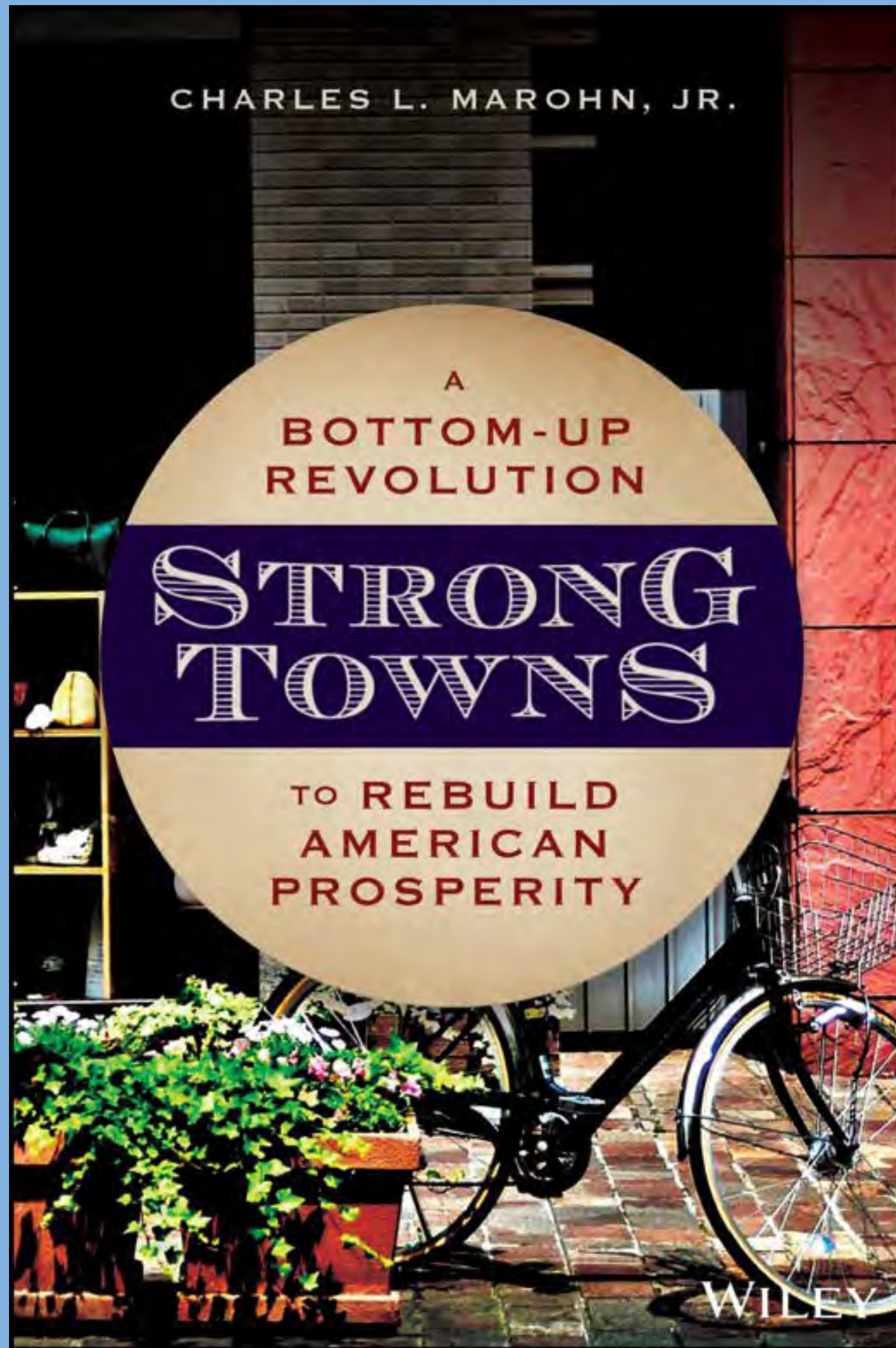
You are not fragmented, you are a common wealth!

**The price of success:
hard work, patience,
and a few sacrifices.**

Edward Bok



Read the books!



DO THE MATH

