

30 years of Change

2020 Census Blocks and Demographics

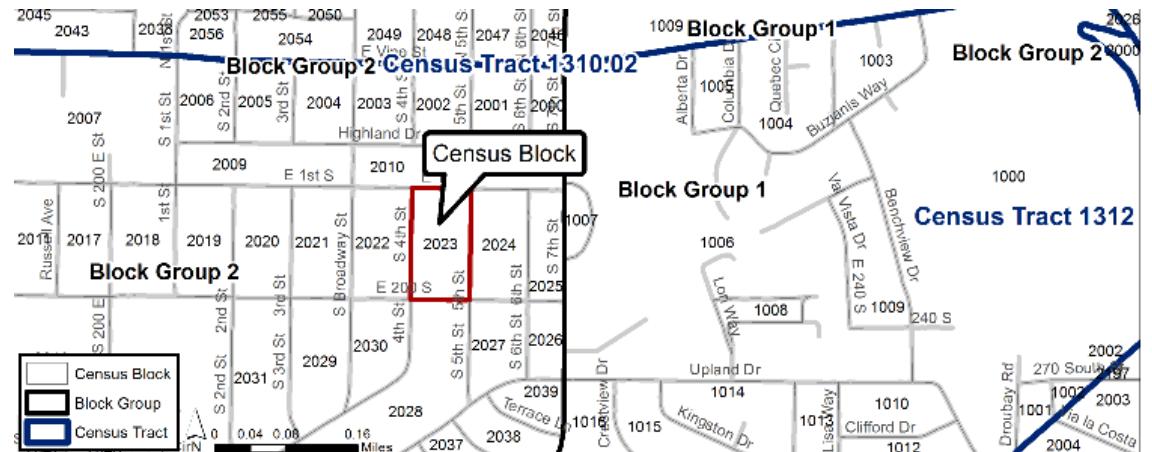
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Why Analyze Census Blocks?

- Census blocks provide the smallest unit for geography for analysis of decennial data.
- Through comparison across decades, block level analysis can identify long-term changes to the population characteristics of a region.
- Visualizations through time reveal intricate patterns of growth and change.

Defining Census Blocks

- The smallest geographic areas that the Census Bureau uses to tabulate decennial data.
- Statistical areas bounded by **visible features**, such as streets, roads, streams, and railroad tracks, and by **nonvisible boundaries**, such as selected property lines and city, township, school district, and county limits.
- Generally small in area; for example, a block in a city bounded on all sides by streets. In rural areas, may be hundreds of square miles



Defining Census Blocks

- cover the entire territory of the United States
- nest within all other tabulated census geographic entities and are the basis for all tabulated data.
- are defined once a decade and data are available only from the decennial census 100% data (age, sex, race, Hispanic/Latino origin, relationship to householder, and own/rent house).

Number of Census Blocks by Decade

Geography	1980	1990	2000	2010	2020
CO	38,227	118,289	141,040	201,062	140,345
Mean Area (sq miles)		0.8800	0.7381	0.5177	0.7417
Standard Dev		6.5792	4.8994	3.7738	4.6055
TX	184,315	521,737	675,062	914,231	668,757
Mean Area		0.5153	0.3983	0.2941	0.4020
Standard Dev		5.1898	2.2668	1.7455	2.0610
USA	N/A	7,020,924	8,262,363	11,155,486	8,174,955

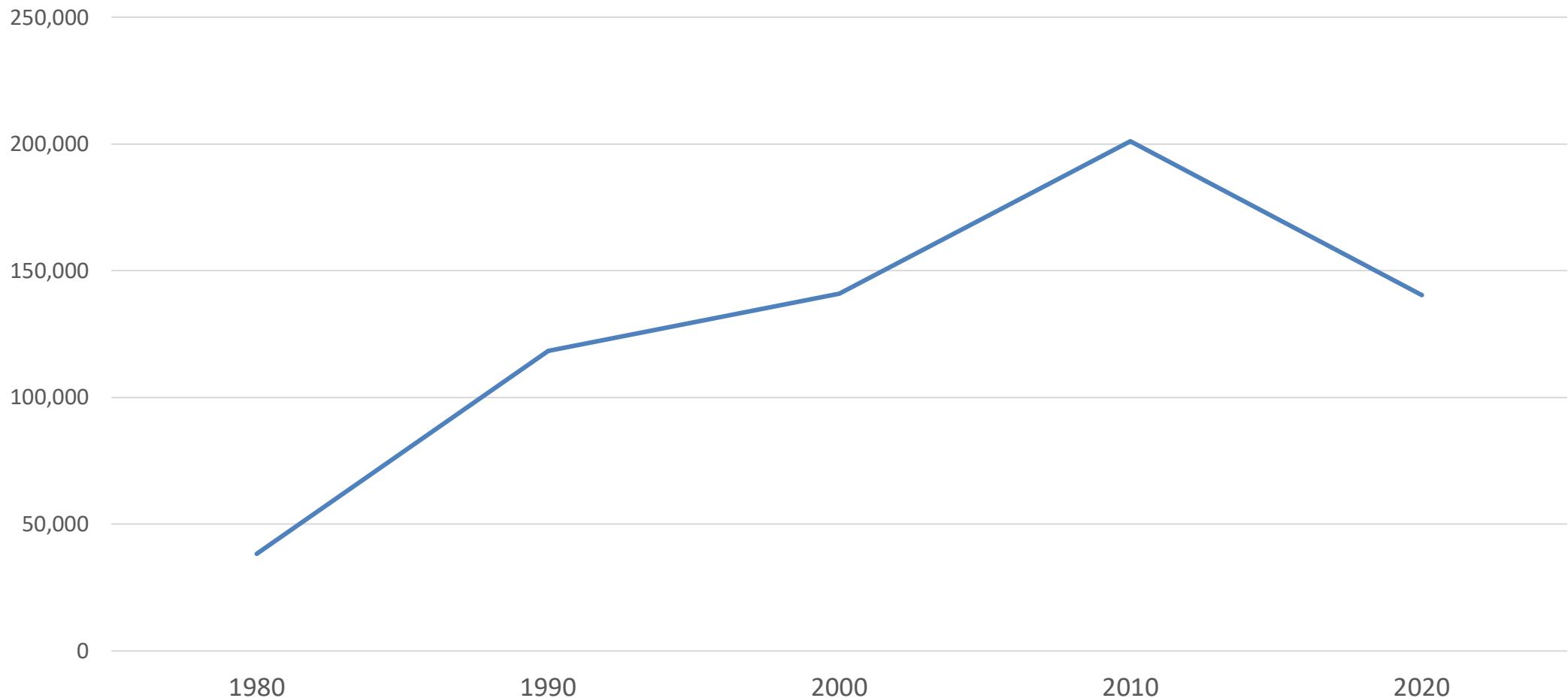
Top Ten Positive Growth States

RANK	2000-2010	2010-2020
1	Texas 4,293,741	Texas 3,999,944
2	California 3,382,308	Florida 2,736,877
3	Florida 2,818,932	California 2,284,267
4	Georgia 1,501,200	Georgia 1,024,255
5	North Carolina 1,486,170	Washington 980,741
6	Arizona 1,261,385	North Carolina 903,905
7	Virginia 922,509	New York 823,147
8	Washington 830,419	Arizona 759,485
9	Colorado 727,935	Colorado 744,518
10	Nevada 702,294	Virginia 630,369

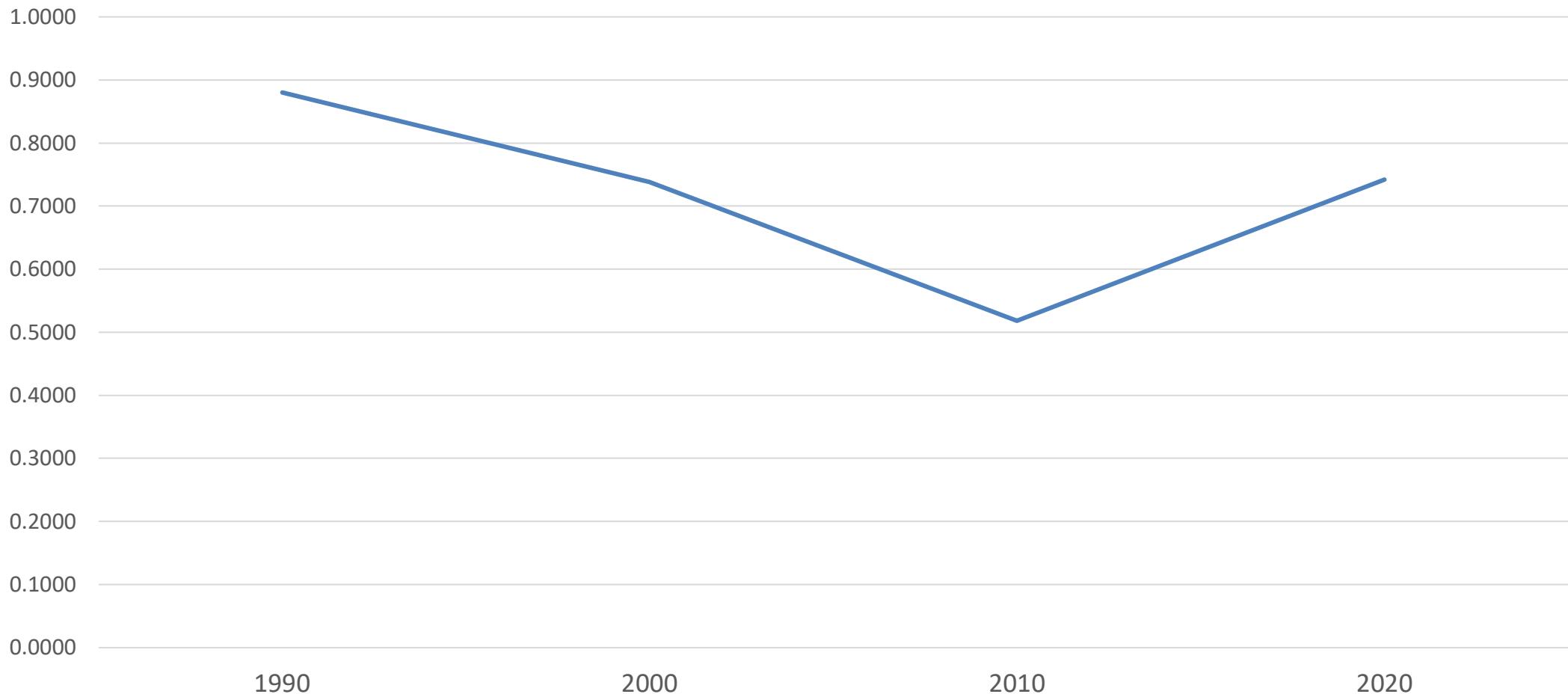
Source: William H. Frey

State of Colorado

Number of Blocks



State of Colorado Mean Block Area



How are Census Blocks Delineated?

- Census Bureau Algorithm Applied Nationally
- Challenge: Visible features and nonvisible boundaries (potential block boundaries) are not evenly distributed nationwide
- How do you create a “one size fits all” algorithm?

How are Census Tabulation Blocks Delineated?

1. Generate the base block layer of physical features (Hydro and Non-Hydro)
 - (Roads (primary, secondary, neighborhood, alleys, service drives, private roads, dirt 4WD vehicular trails, railroads, streams/rivers, canals, power lines, pipelines)
 - Geographic area boundaries (e.g. counties, places, tracts, reservations, voting districts)
 - Includes any edges that form a polygon with other edges

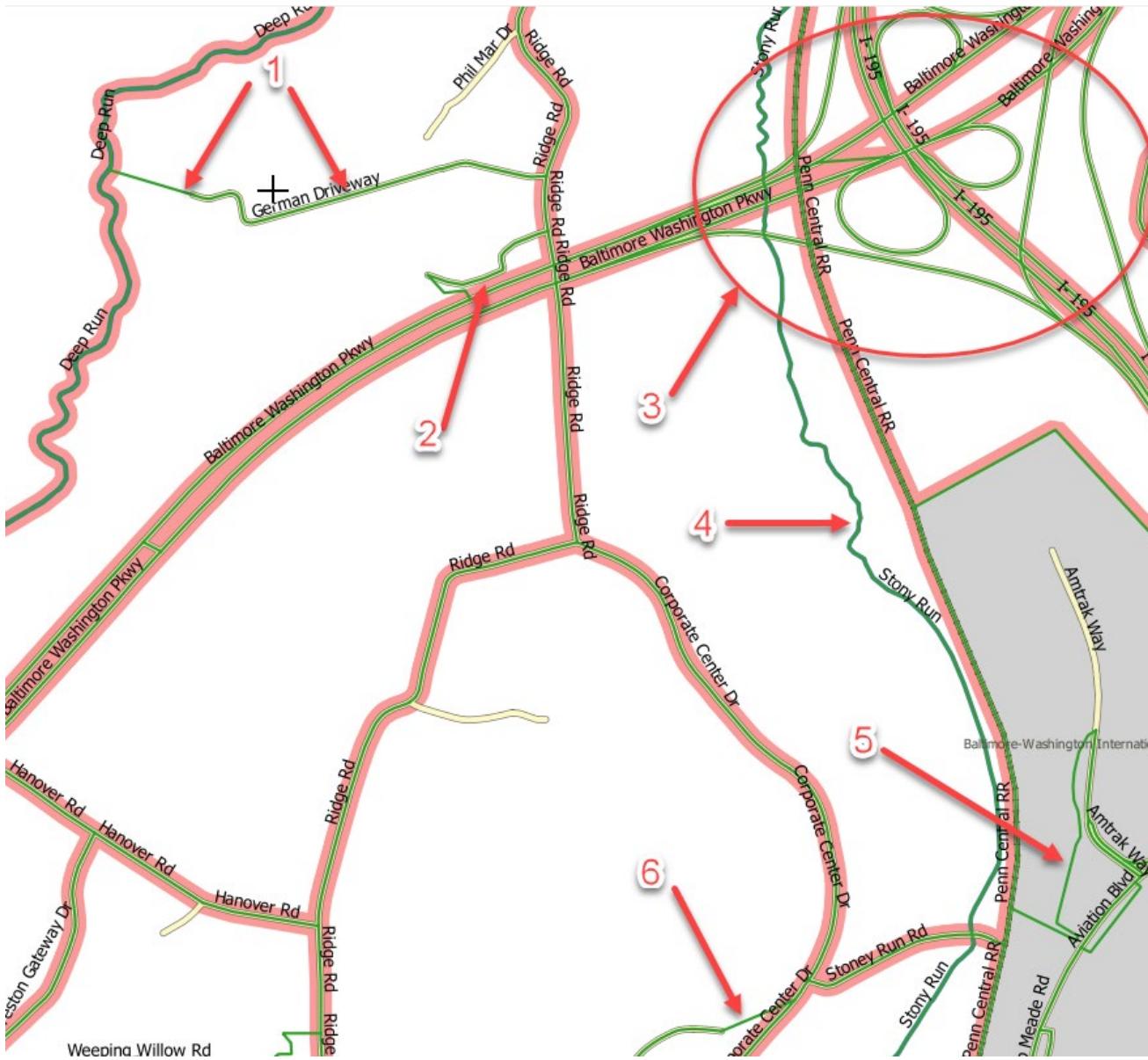
How are Census Tabulation Blocks Delineated?

2. Assign priority values to each edge

- Priority values assigned to each edge, 0-99
- The higher the priority value, the less likely it is to be merged across

3. Conduct merges based on priority values

- Type of feature (MAF/TIGER Feature Class Code or MTFCC)
- If feature is named
- Size of the preliminary block
- Number of addresses in the preliminary block



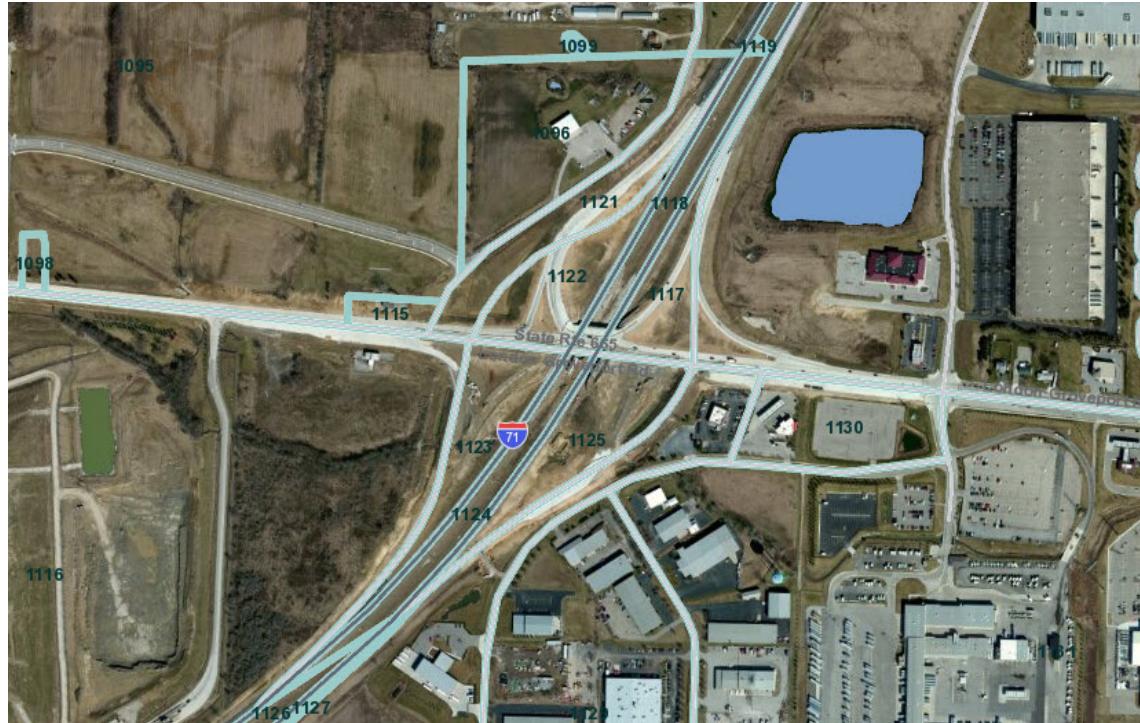
2020 Census Block Algorithm at Work

2010
Blocks
created by
roads in
cemeteries



2020 Census Block Algorithm at Work

Highway
ramps and
intersections
(S1630)



2020 Census Block Algorithm at Work

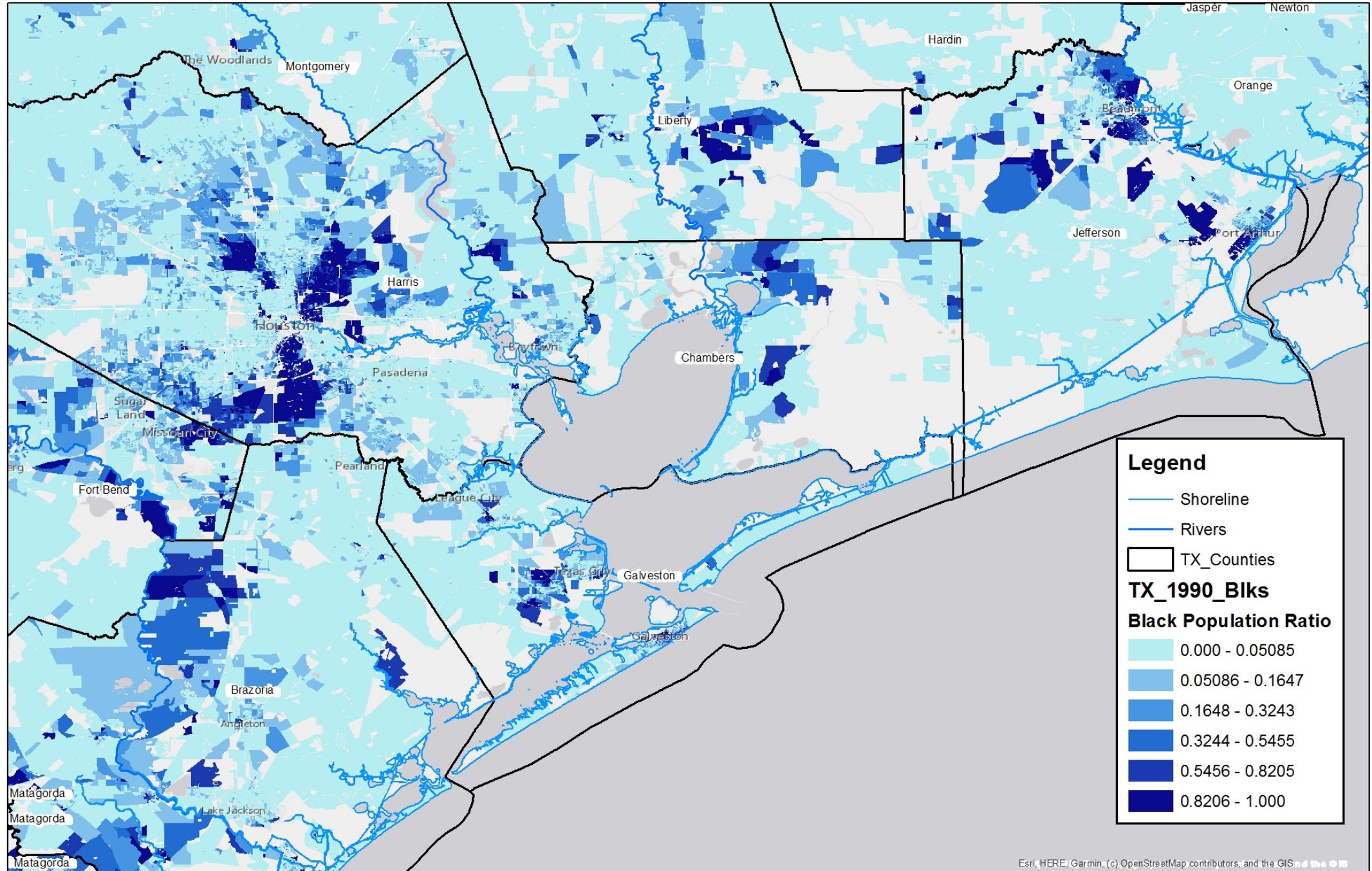
Excessive
blocks
within
water areas

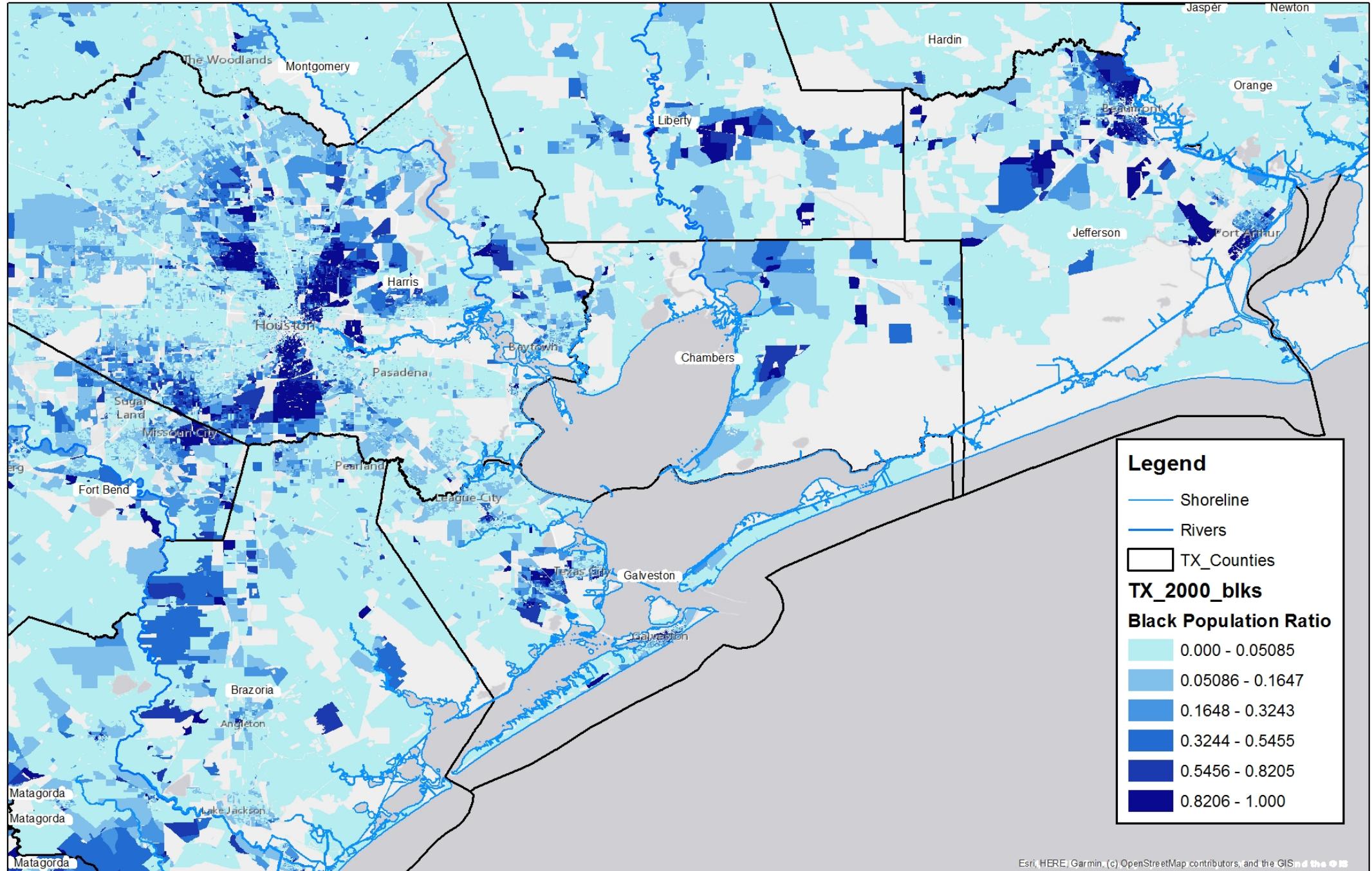


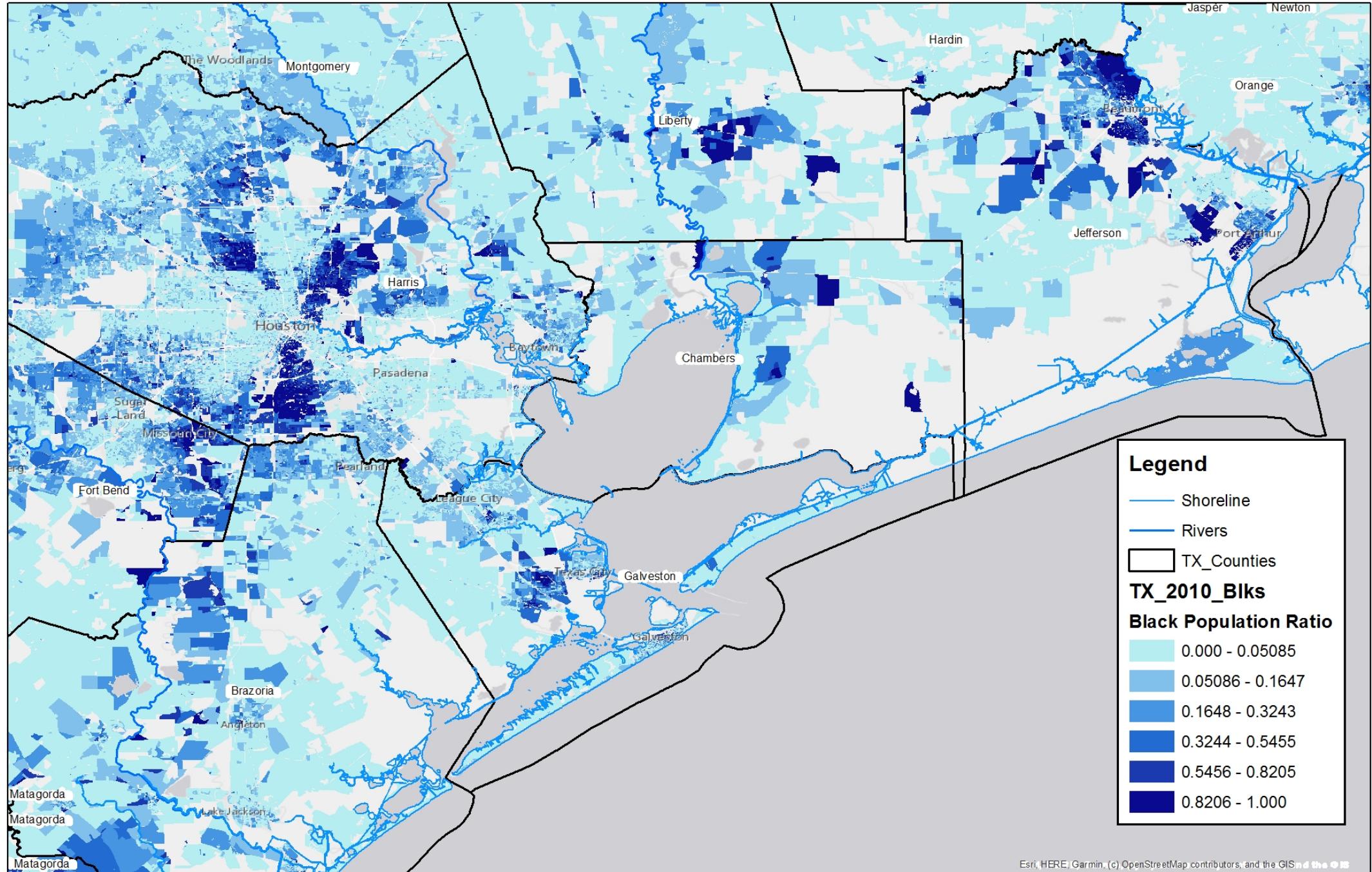
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Texas Gulf Coast

- The comparison does **not** include unreleased 2020 block level demographic data



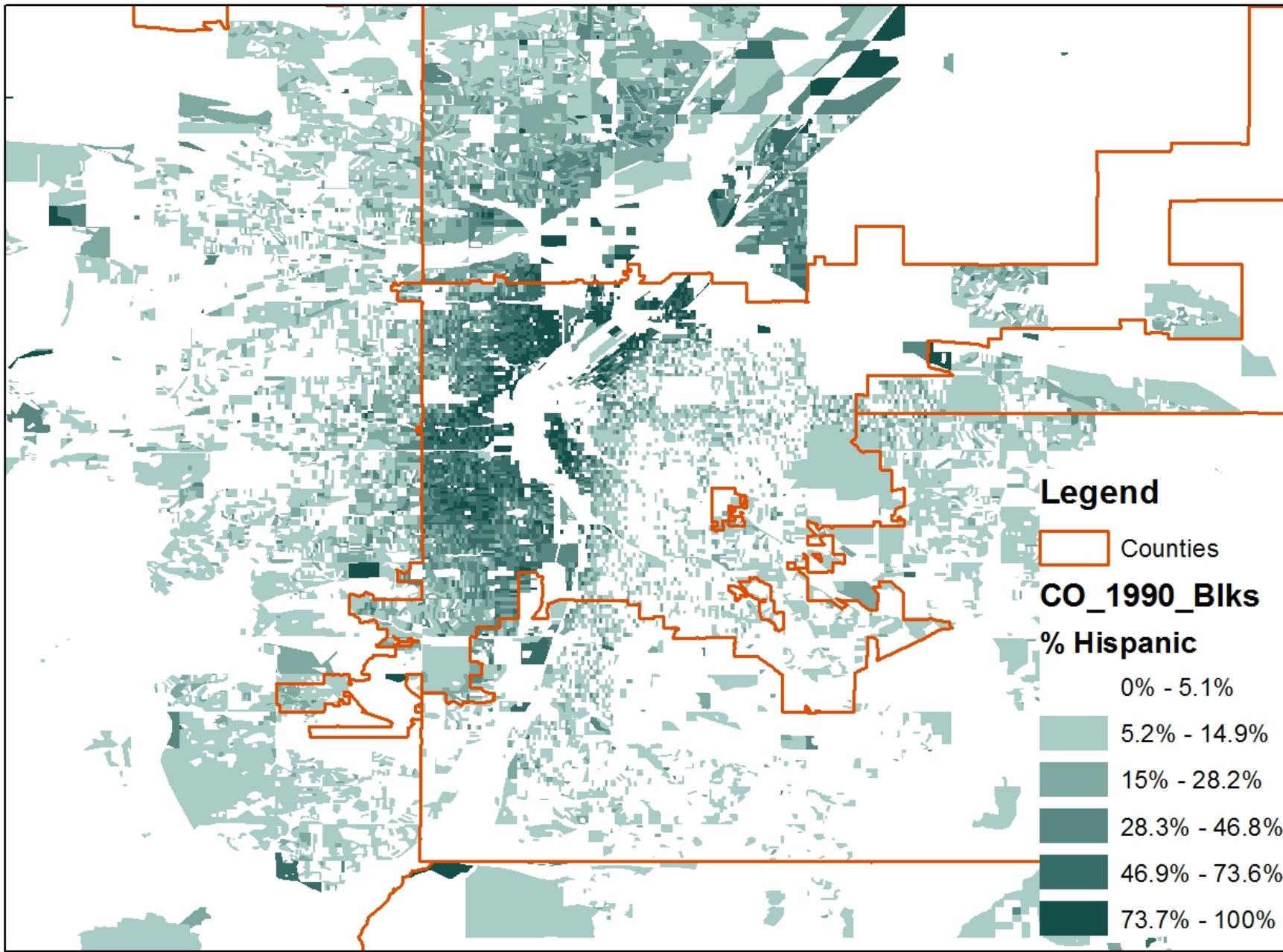


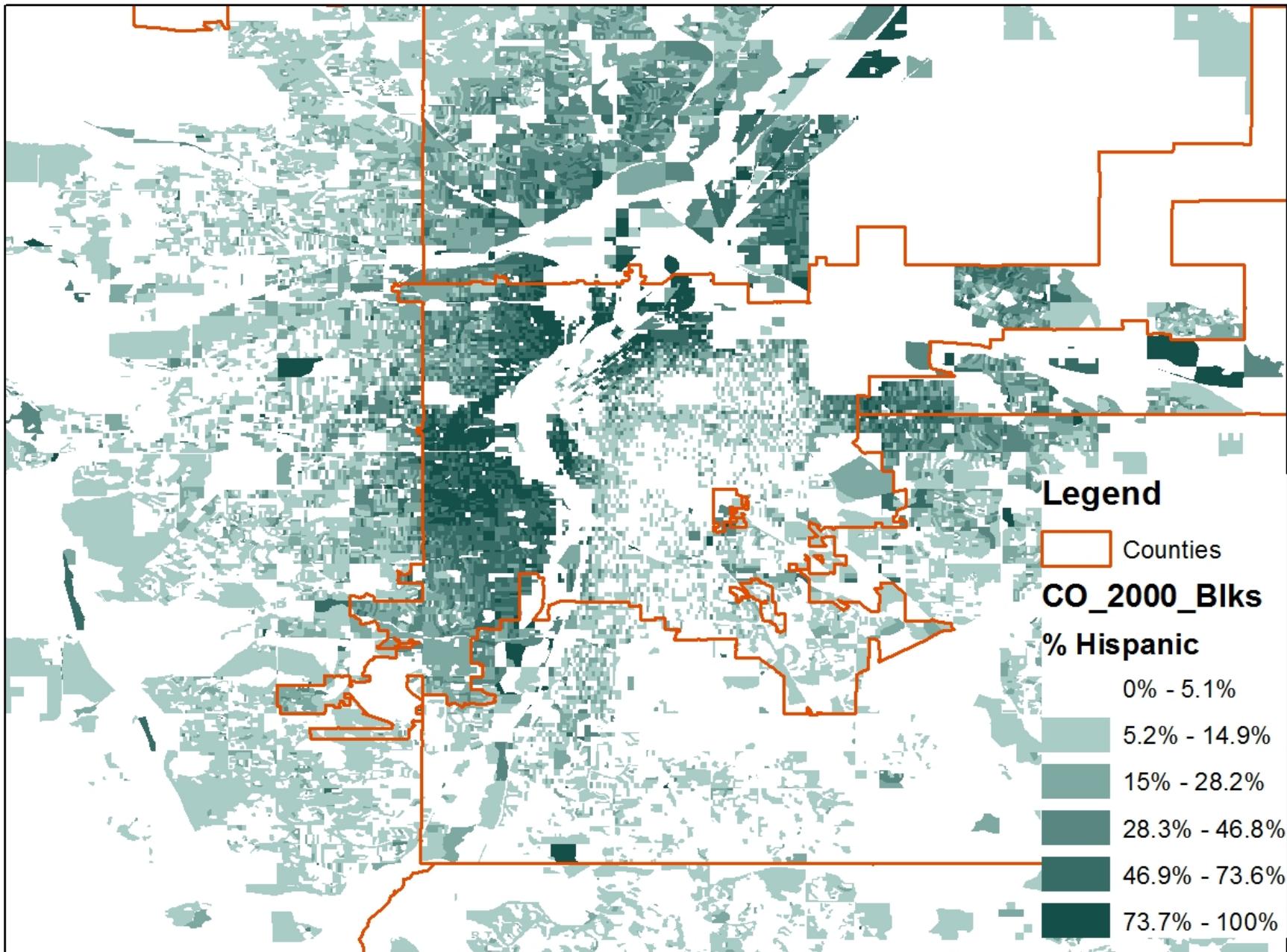


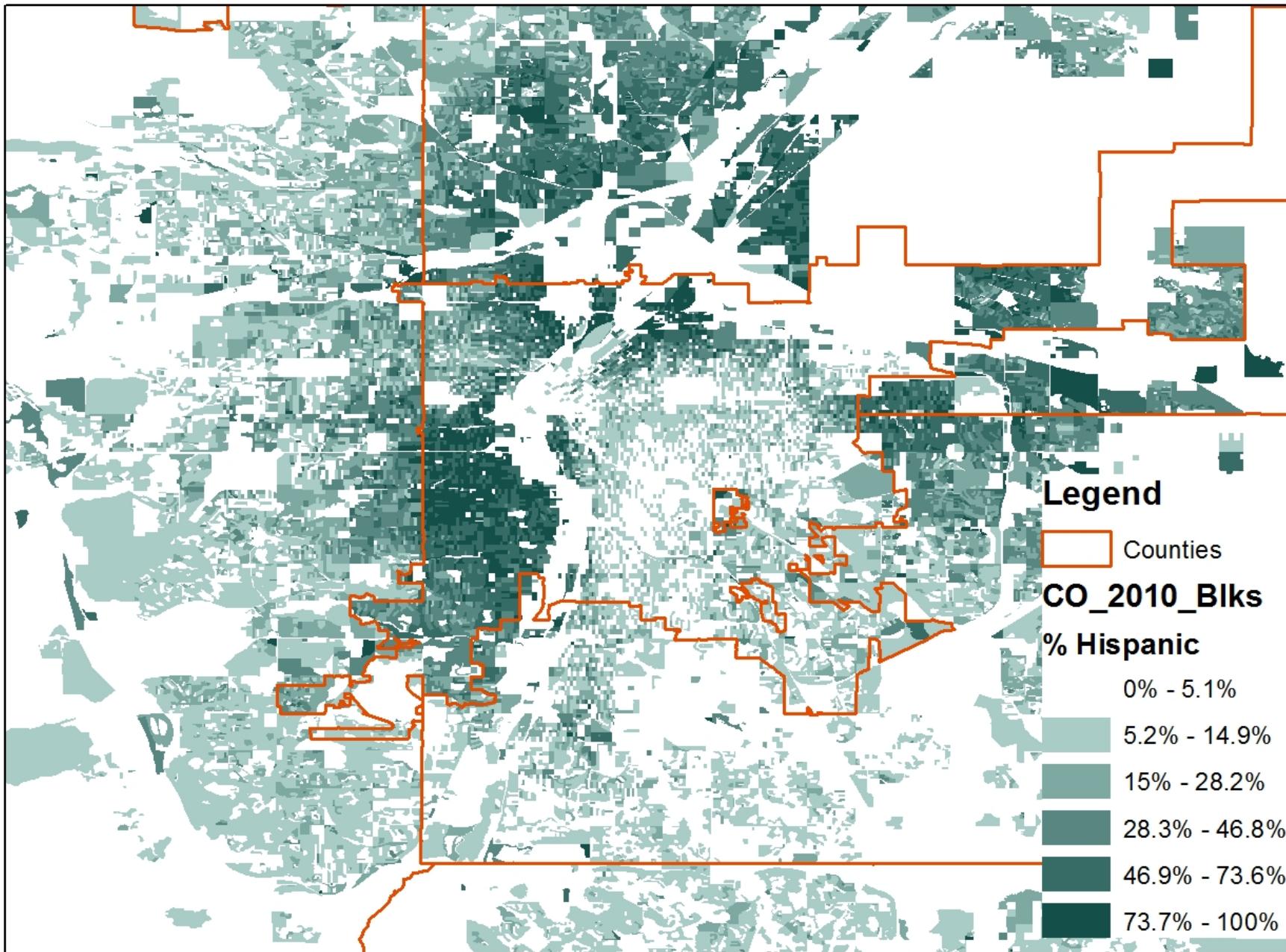
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Denver Metro Area

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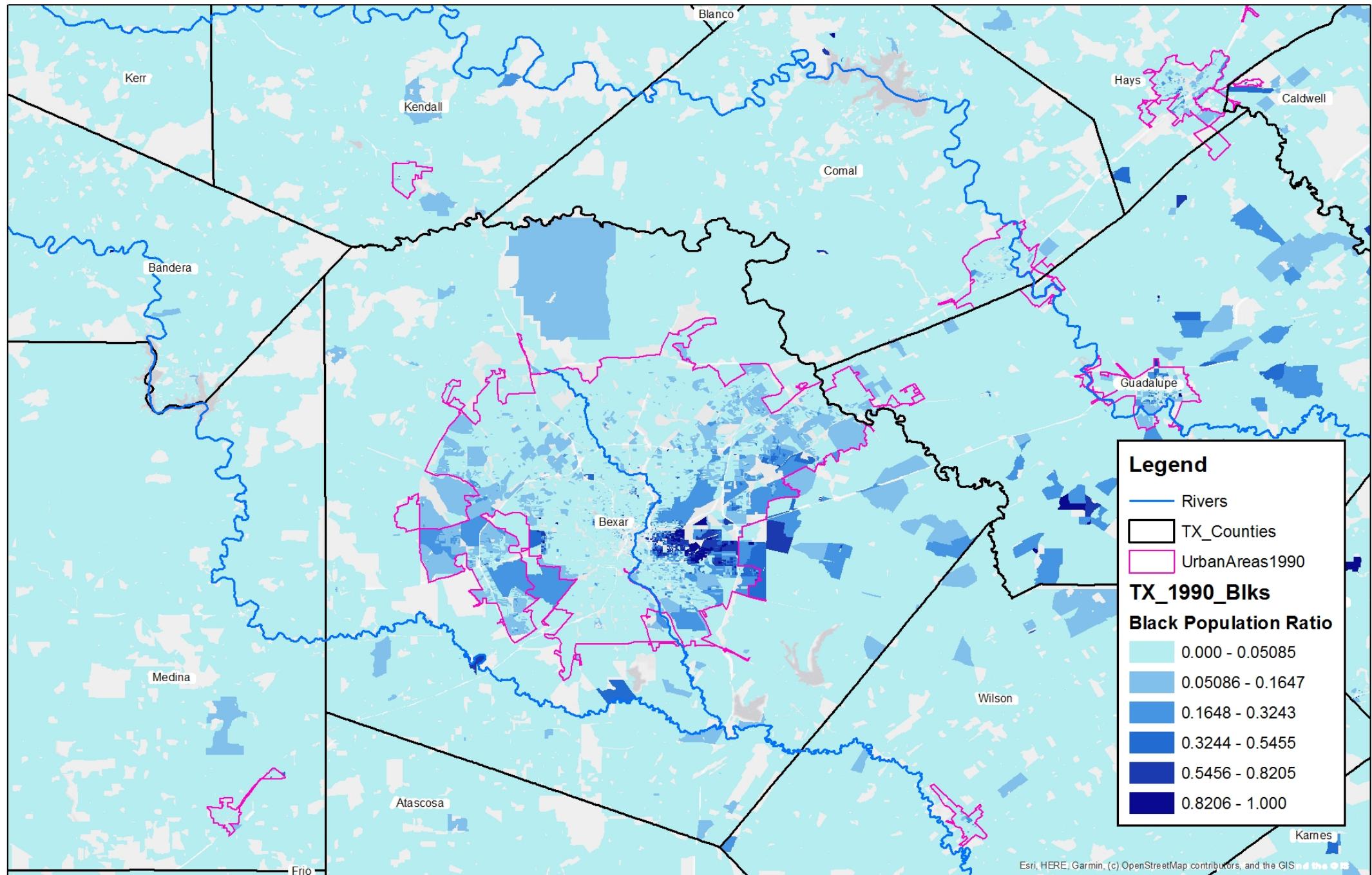


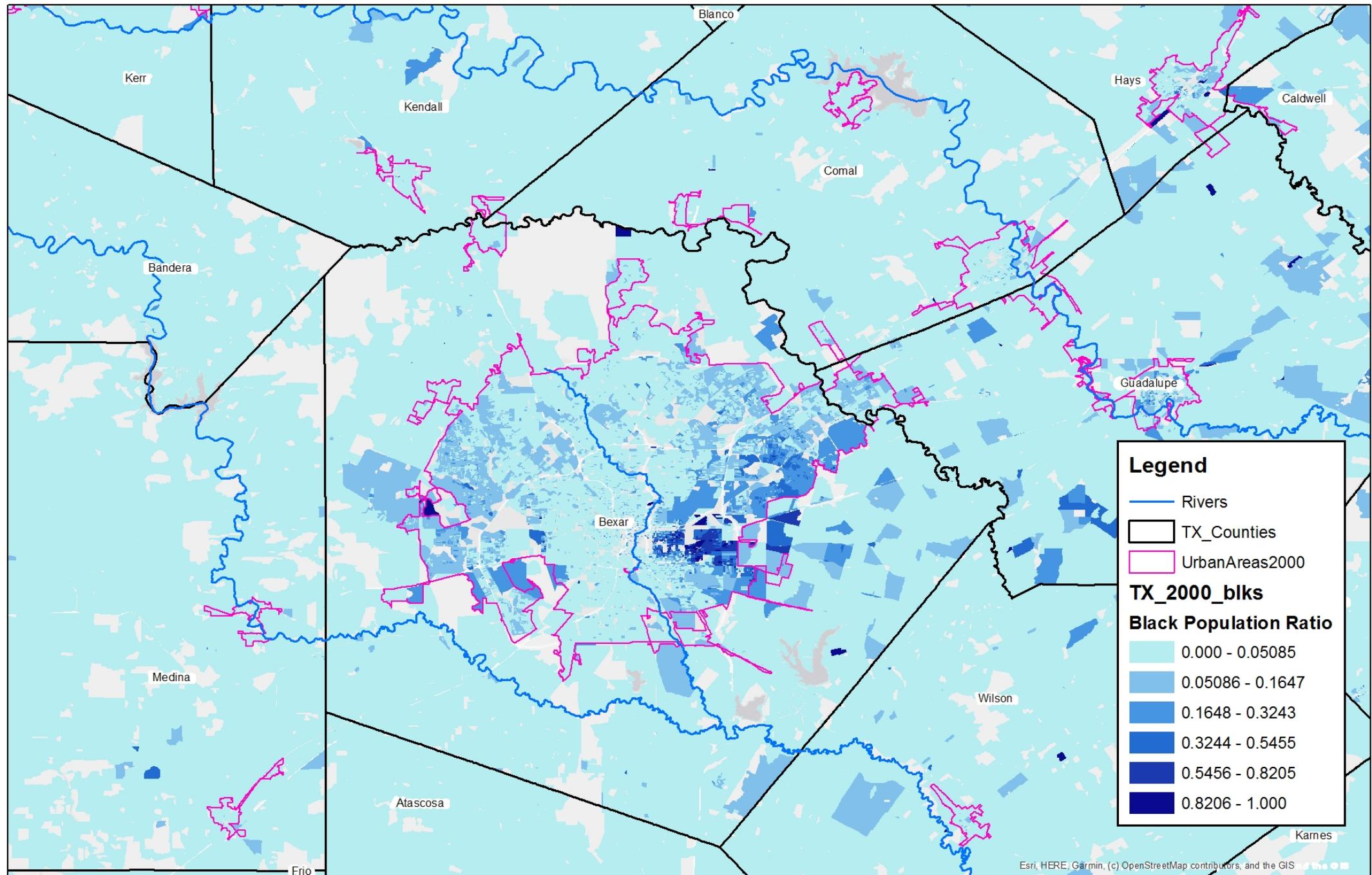


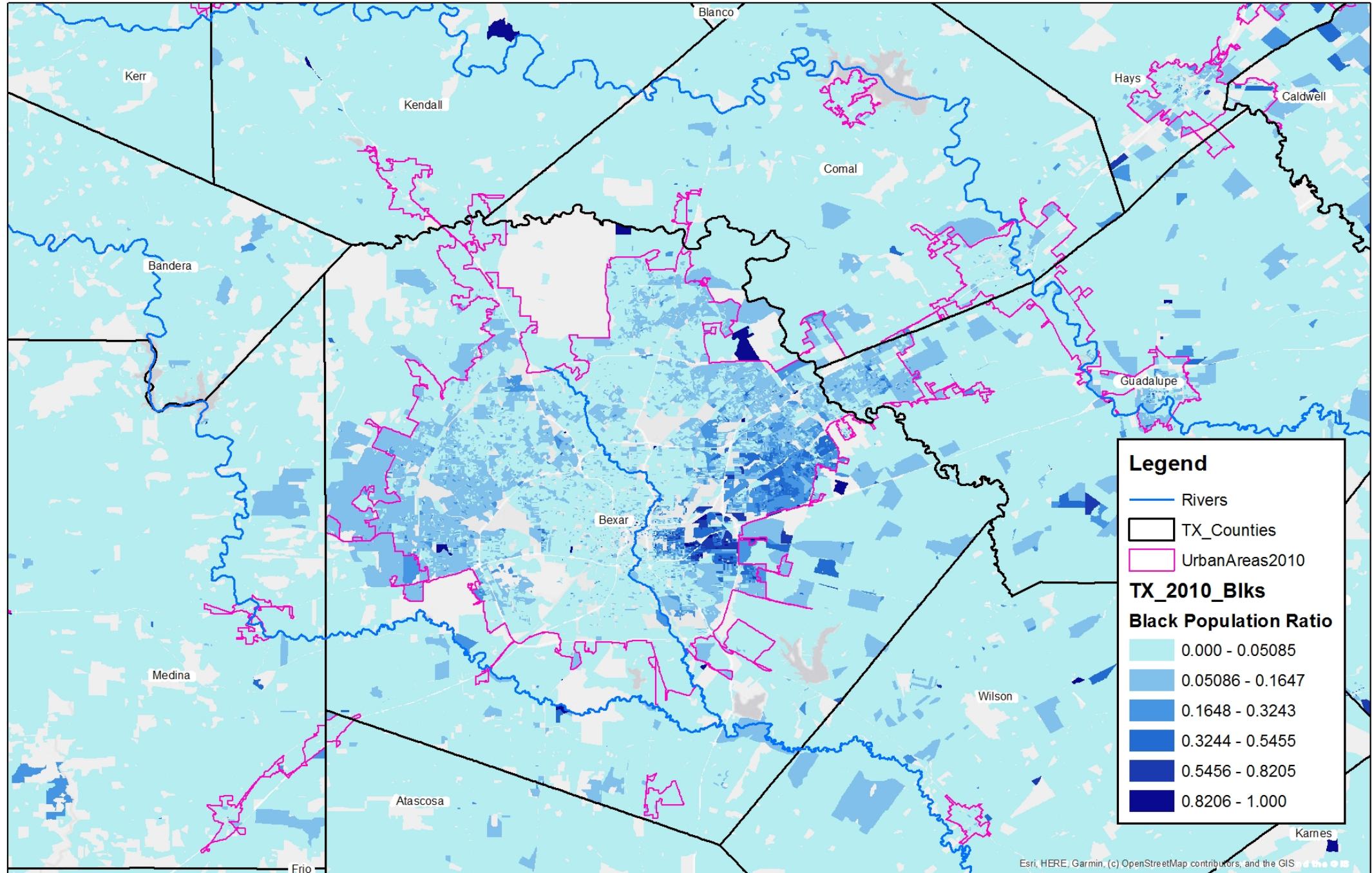
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San Antonio

The comparison does **not** include unreleased 2020 block level demographic data







Next steps:

- Incorporate 2020 demographics when released
- Investigate additional metro areas for growth and change
- Report back in 2022!

Thank You!

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