

Census Geographies, Concepts, and Relationships

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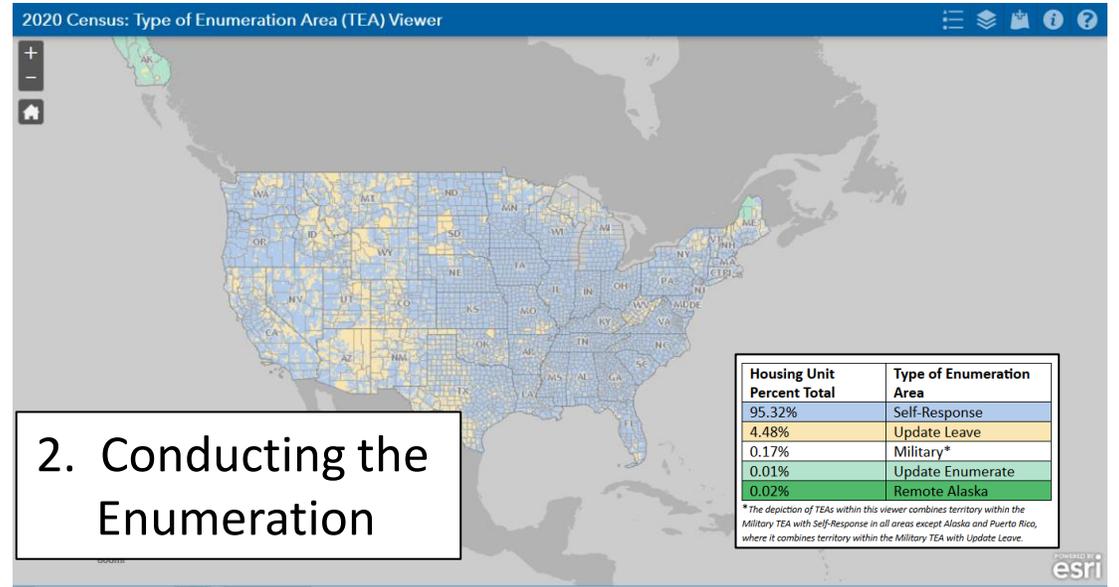
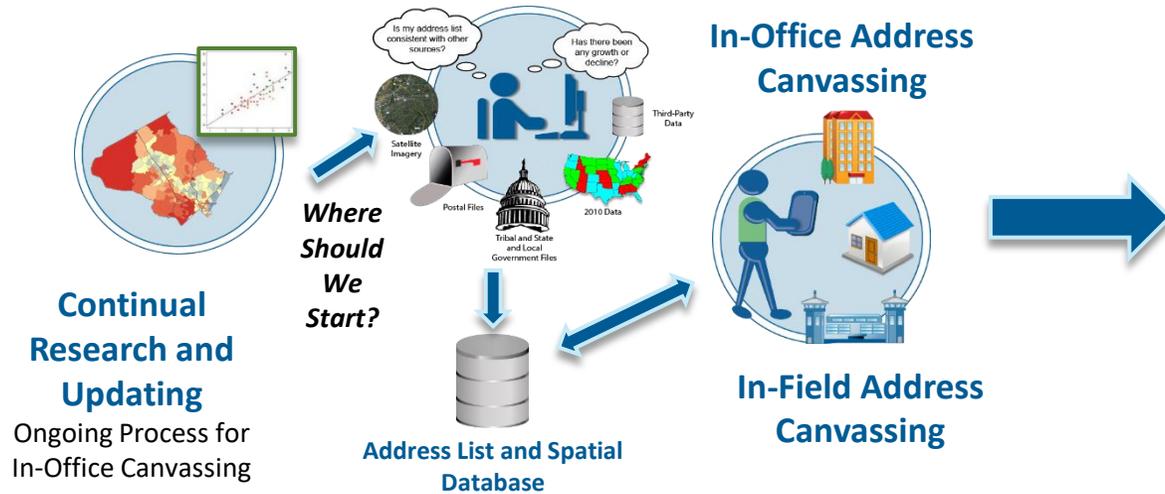
US Census Bureau

June 8, 2020

What we'll cover:

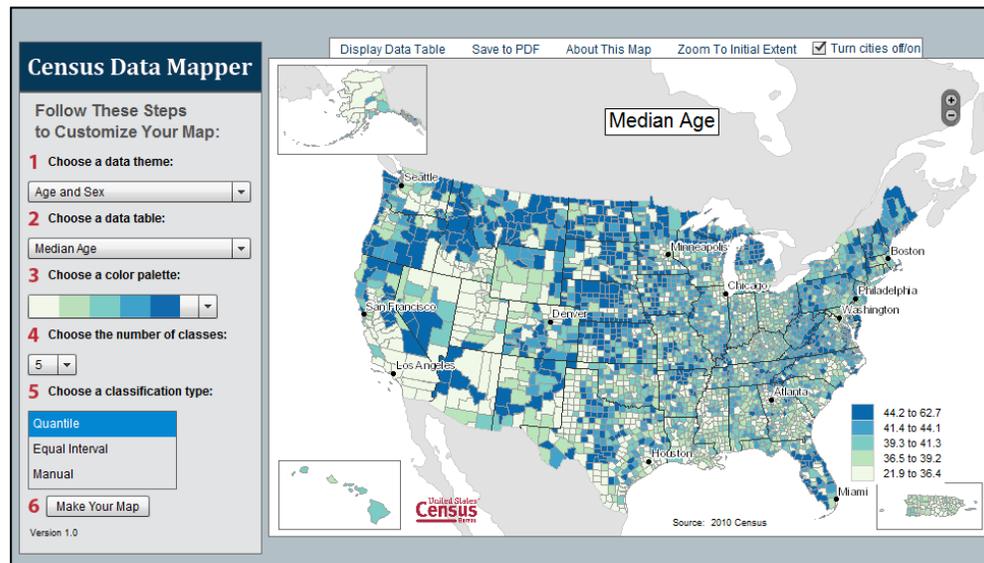
- Geography as the foundation for the decennial census
- A brief primer on the decennial census
- Basic census geography concepts
 - Standard "nesting" hierarchy
 - Geographic areas outside the standard nesting hierarchy
 - Legal, administrative, and statistical areas
 - Counties, places, and county subdivisions
- Sources of geographic area boundaries and attributes
- Regional variations
- Rethinking the geographic hierarchy
- Questions and further discussion

Geography is the Foundation of the Decennial Census



2. Conducting the Enumeration

1. Establishing Where to Count



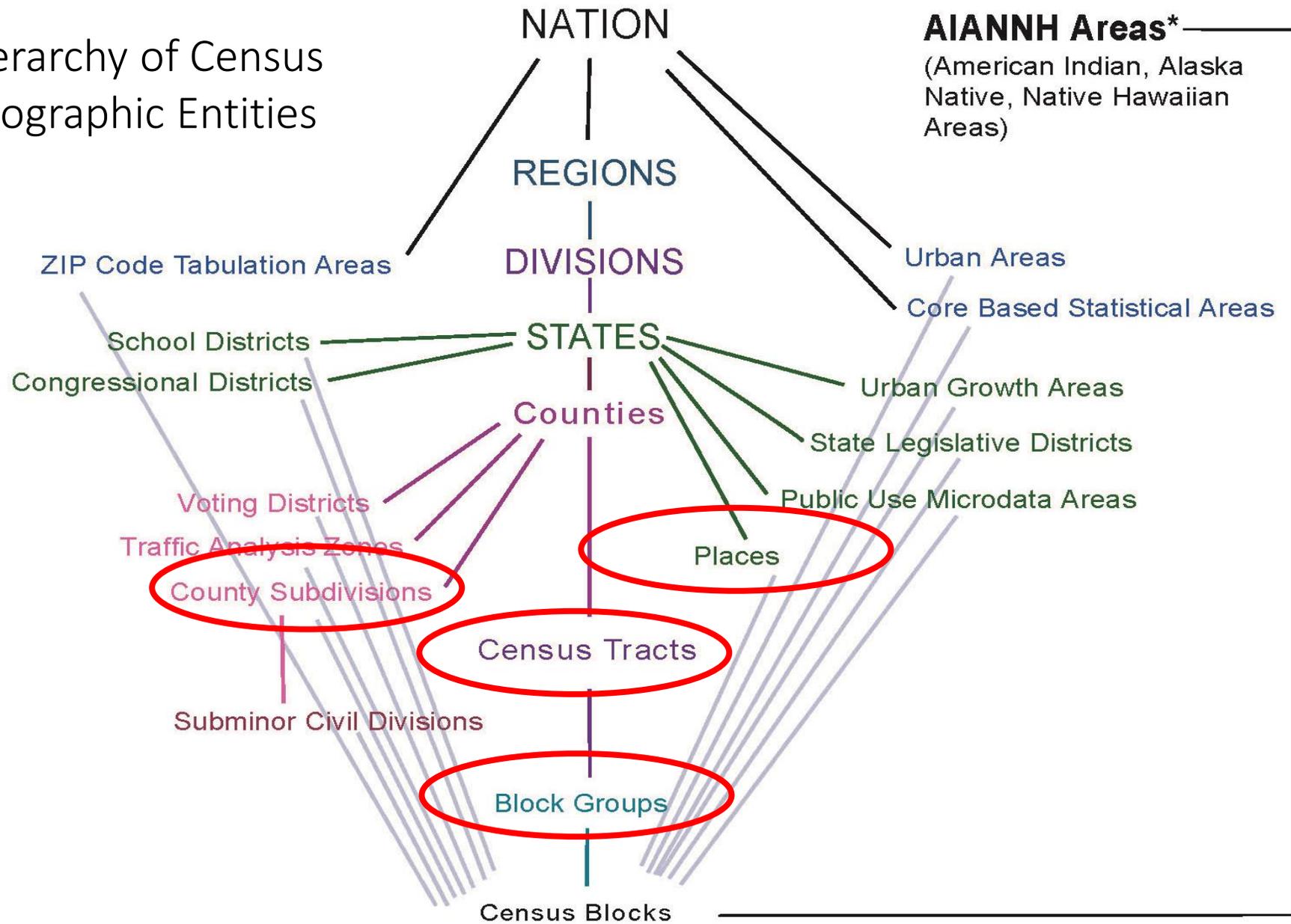
3. Tabulating and Disseminating Results

Decennial Census

- Conducted every 10 years since 1790.
 - Mandated by the U.S. Constitution.
 - Counts are used to determine representation in Congress.
 - Participation required by law.
 - Federal law protects the personal information collected and shared during the census.
 - Information from every person in every household in the United States and Puerto Rico.
 - Persons are counted at the household they “live or stay” as of April 1 of Census Year.
- The Decennial Census collects the following data items for each person in each household:
 - Name
 - Sex
 - Age
 - Race
 - Hispanic Ethnicity
 - Relationship to Householder
 - Housing Tenure (for household)
- **Data are self-reported****

Basic Census Geographic Area Concepts

Hierarchy of Census Geographic Entities



Legal Entities	Statistical Entities
<p>Nation</p> <p>American Indian Reservation American Indian Tribal Subdivision</p>	<p>Region Division</p> <p>Oklahoma Tribal Statistical Area American Indian Tribal Subdivision Tribal Designated Statistical Area State Designated Tribal Statistical Area</p>
<p>State</p>	<p>Combined Statistical Area Core Based Statistical Area (Metro/Micro Areas) Metropolitan Division Urbanized Area and Urban Cluster Public Use Microdata Area (PUMA)</p>
<p>County, Parish, Borough, etc.</p>	<p>Census Area (in Alaska)</p> <p>Combined NECTA New England City and Town Area (NECTA) NECTA Division</p>
<p>Minor Civil Division</p>	<p>Census County Division/Unorganized Territory</p>
<p>Alaska Native villages (not collected)</p>	<p>Alaska Native village statistical areas</p>
<p>Incorporated Place Special Purpose District (Census of Gov'ts)</p>	<p>Census Designated Place Census Designated Place</p> <p>Traffic Analysis Zone ZIP Code Tabulation Area Census Tract Block Group Census Block</p>

Legal Geography

Legal entities originate from legal actions, treaties, statutes, ordinances, resolutions, court decisions, etc.

- State and Equivalent
- County and Equivalent
- Consolidated City
- Incorporated Places
- Minor Civil Divisions (County Subdivisions)
 - Townships
- Alaska Native Regional Corporation
- American Indian/Alaska Native
 - Off Reservation Trust Lands
 - Native Hawaiian Area
 - American Indian Tribal Subdivision
- Puerto Rico
 - Barrio (minor civil division)
 - Sub-barrio (sub-MCD)



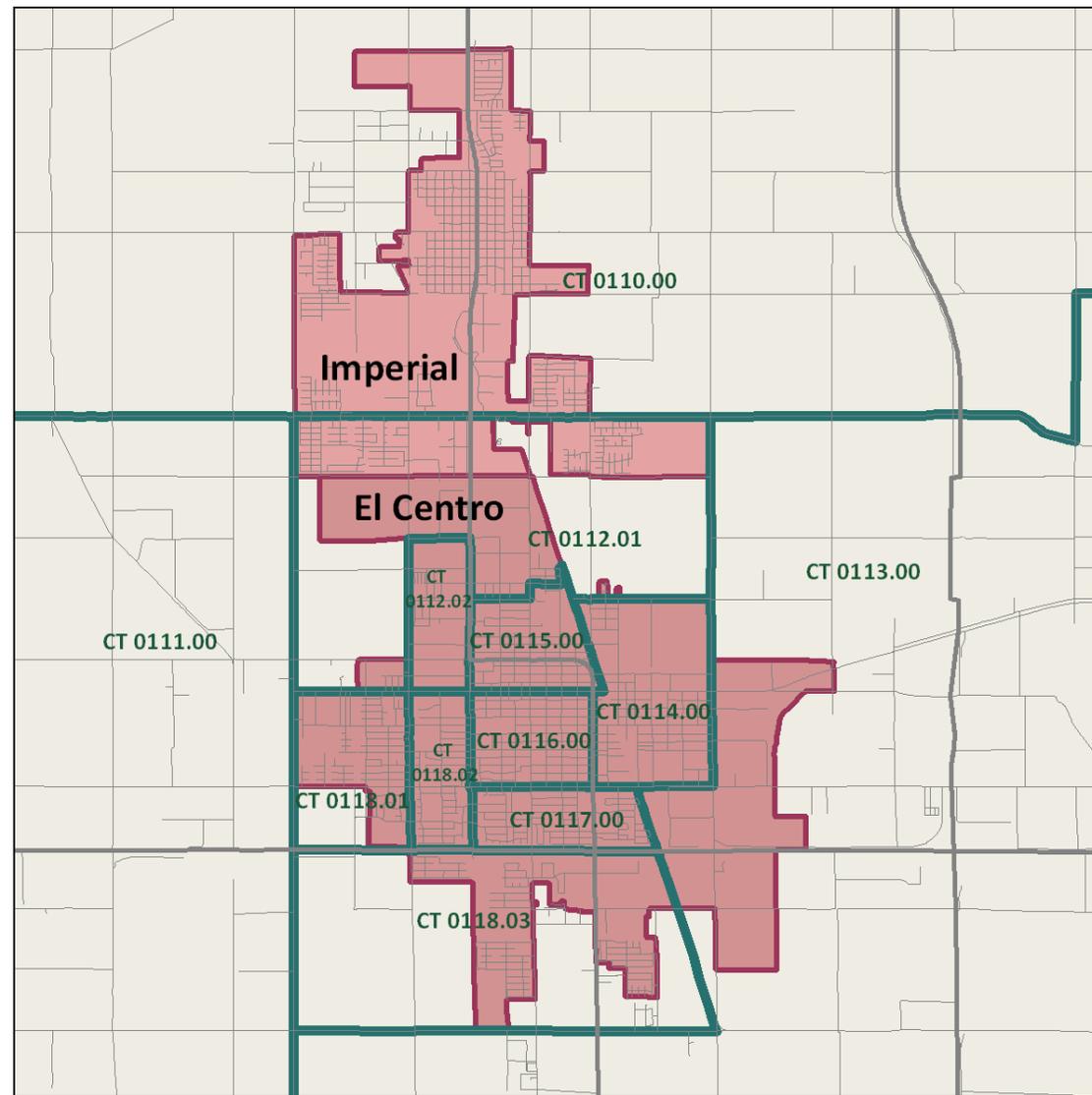
Mason-Dixon Line separating the states of Maryland and Pennsylvania.
Photo by Michael Ratcliffe, 2015

What do statistical areas represent?

- Commonly understood areas or communities that lack legally defined boundaries
 - ZIP Code tabulation areas
 - Census designated places (CDPs– unincorporated places)
 - Tribal designated statistical areas, state designated tribal statistical areas
- Geographic, demographic, economic concepts
 - Metropolitan, micropolitan, urban, rural
- Representations of entities that have (or had) a legal existence, but may lack clear boundaries or may not fit within an agency's definition of legal entities
 - Oklahoma tribal statistical areas (former reservations), Alaska Native Village statistical areas
- Areas defined specifically for data presentation and analysis
 - Census tracts, block groups, census county divisions, public use microdata areas (PUMAs)

Census Tracts

- Small, relatively permanent geographic divisions of a county or county equivalent defined to tabulate and present data from the decennial census, the ACS, and selected other statistical programs.
- Must not cross county or state boundaries.
- Must cover the entire land and water area of a county.
- Must comprise a reasonably compact and contiguous land area, with a few exceptions.
- Must meet specific population and housing unit thresholds and suggested area and employment thresholds.
- Should follow visible and identifiable features.



Imperial and El Centro, CA

- Census tracts
- Imperial city
- El Centro city

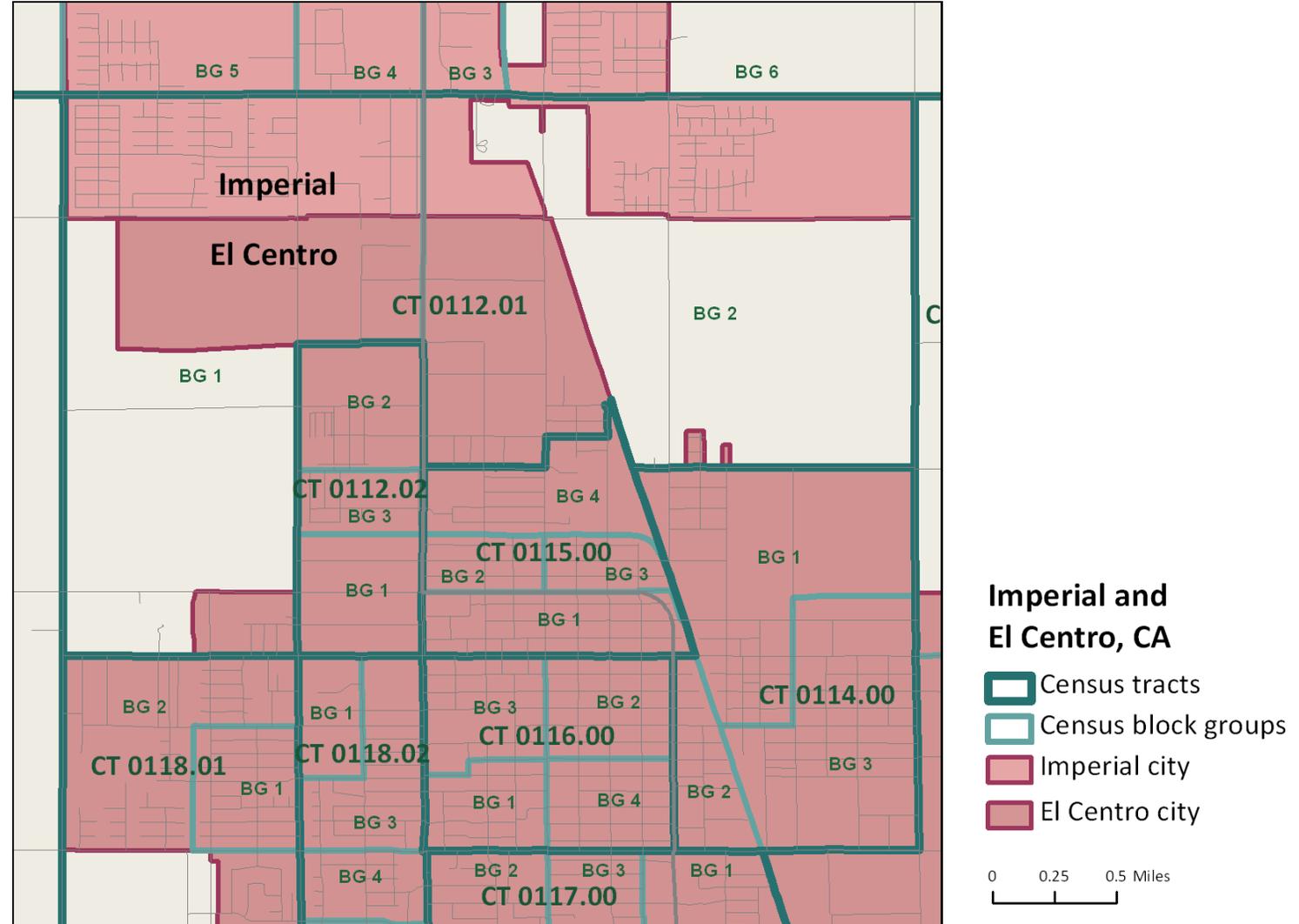
0 0.5 1 Miles

Census Tract Thresholds

Tract Type	Threshold Type	Optimum	Minimum	Maximum
Standard and Tribal Tracts	Population	4,000	1,200	8,000
	Housing Units	1,600	480	3,200
Special Land Use Census Tracts	Land Area	At least comparable in land area size to surrounding census tracts		
	Population	Little or none, or within standard tract thresholds		

Block Groups

- Statistical geographic subdivisions of a census tract.
- Nest within, and completely cover, census tracts nationwide.
- Each block group comprises a reasonably compact and contiguous cluster of census blocks. Census tracts may contain no more than 10 block groups (nine standard and one composed of water).
- Must comprise a reasonably compact and contiguous land area, with a few exceptions.
- Must meet specific population and housing unit thresholds and suggested area and employment thresholds.
- Boundaries should follow visible and identifiable features.



Block Group Thresholds

BG Type	Threshold Type	Optimum	Minimum	Maximum
Standard and Tribal Block Groups	Population		600	3,000
	Housing unit		240	1,800
Special Land Use Block Groups	Land Area	At least comparable in land area size to surrounding block groups		
	Population	Little or none, or within standard tract thresholds		

Sources of Boundaries

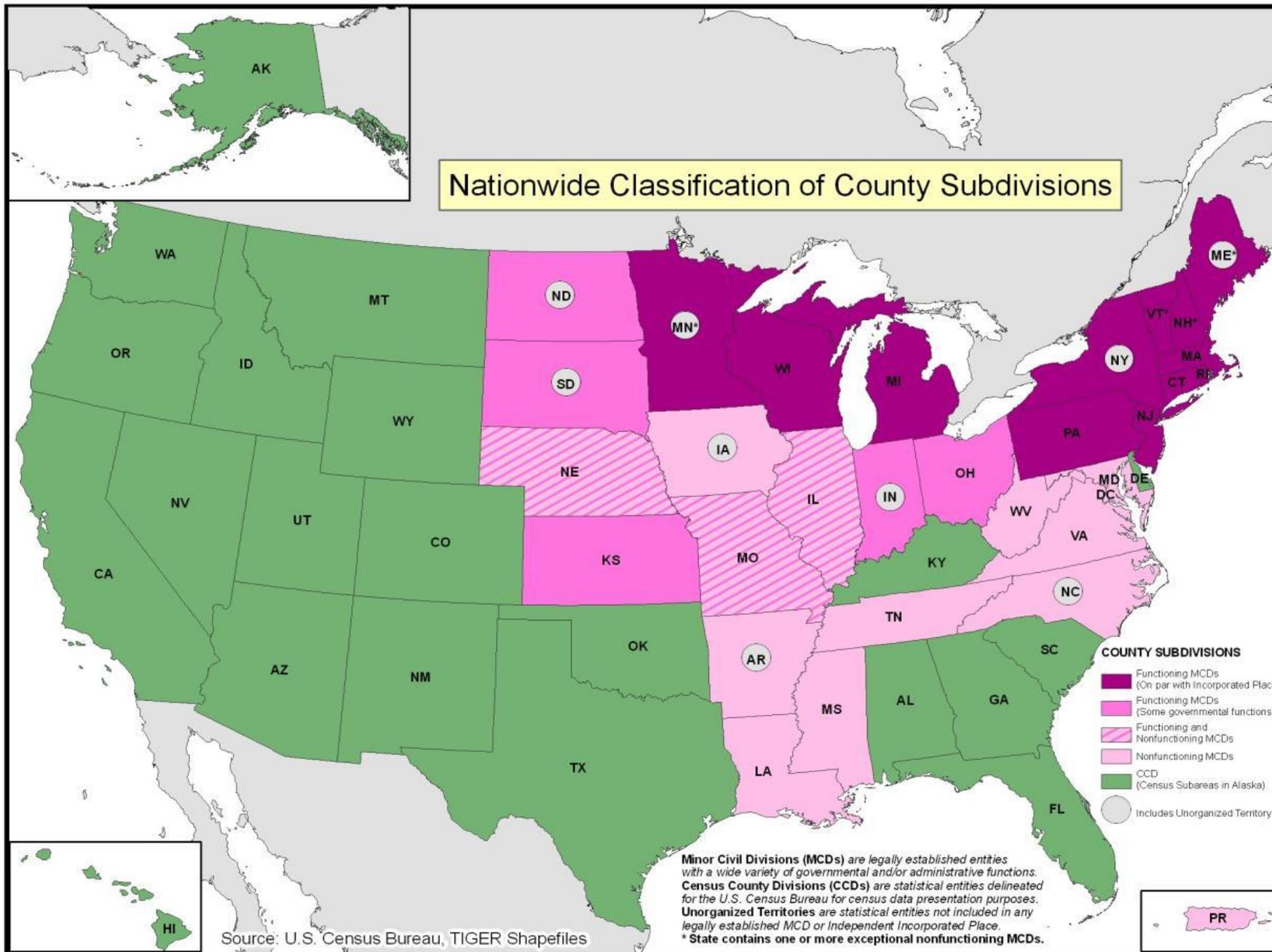
- Legal Entities

- Boundaries are collected from tribal, state, and local governments, via the Boundary and Annexation Survey.
- The Census Bureau is not responsible for establishing boundaries for legal entities.

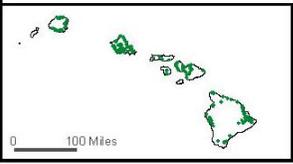
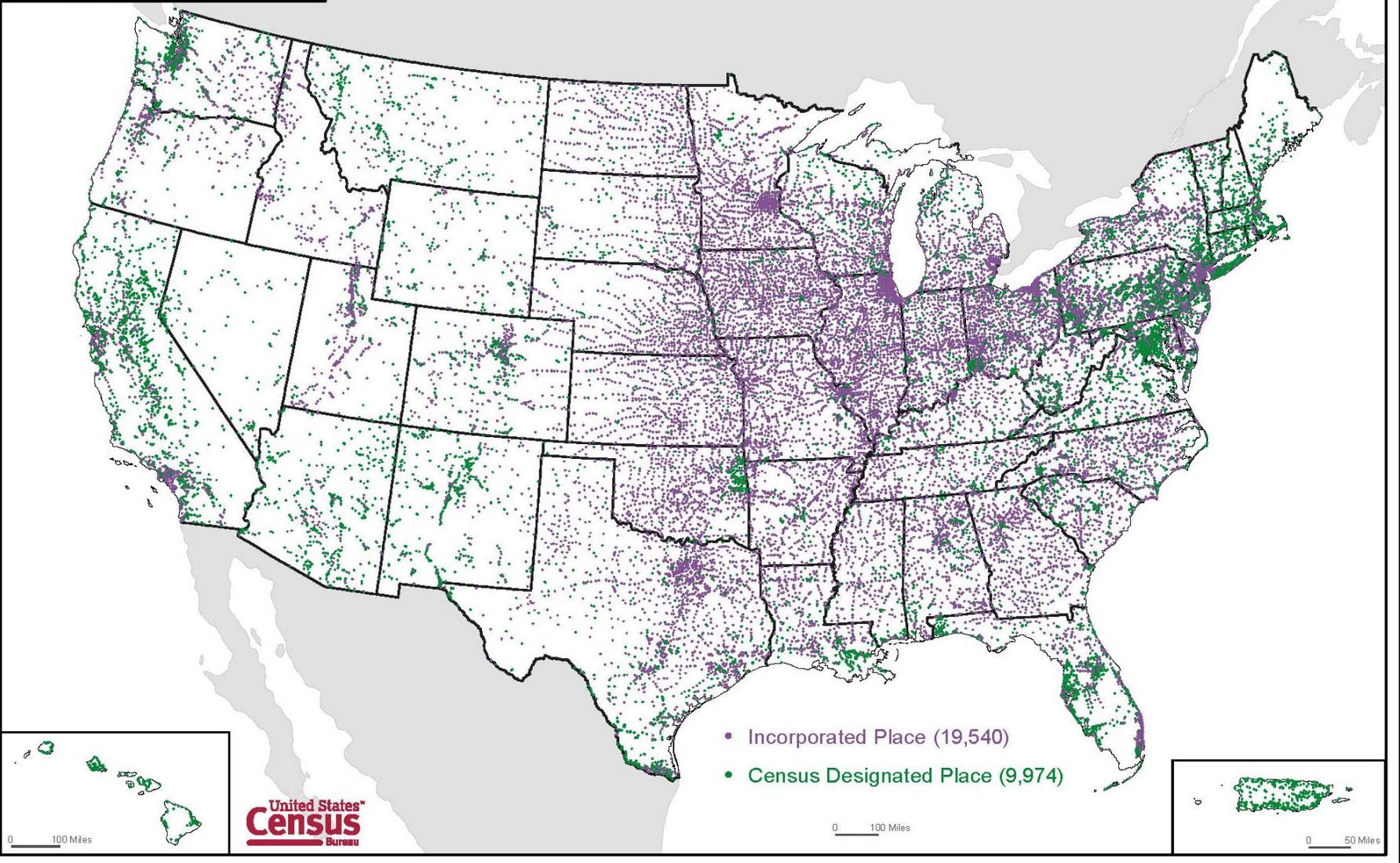
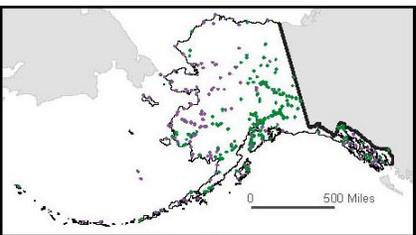
- Statistical Entities

- Boundaries are defined in cooperation with tribal, state, and local officials, based on criteria issued by the Census Bureau.
- For a limited set of statistical areas, boundaries are defined by Census Bureau staff without external input, but based on published criteria.

Regional Variations



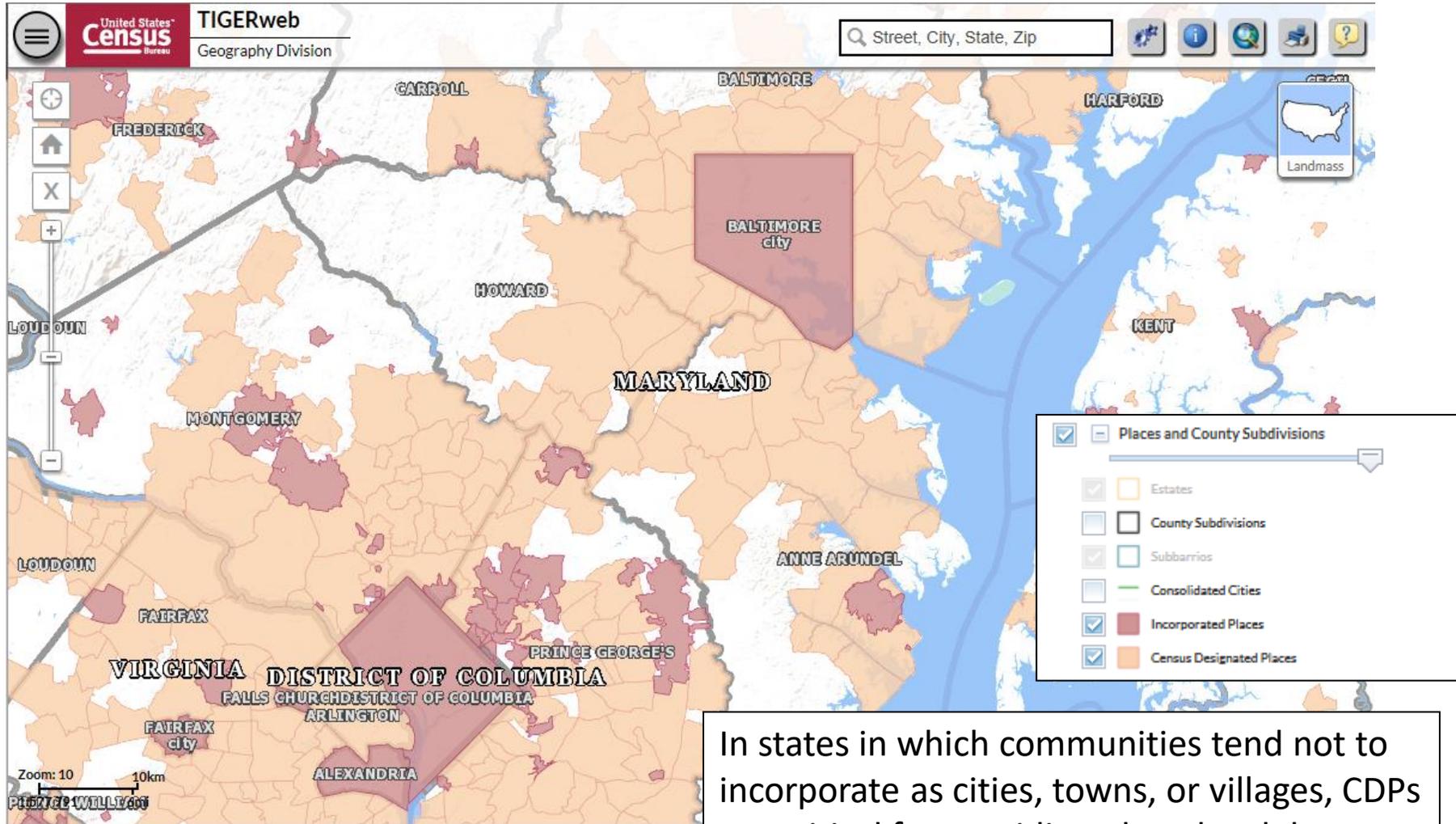
2010 Census Distribution of Places



United States
Census
Bureau

United States®
Census
Bureau

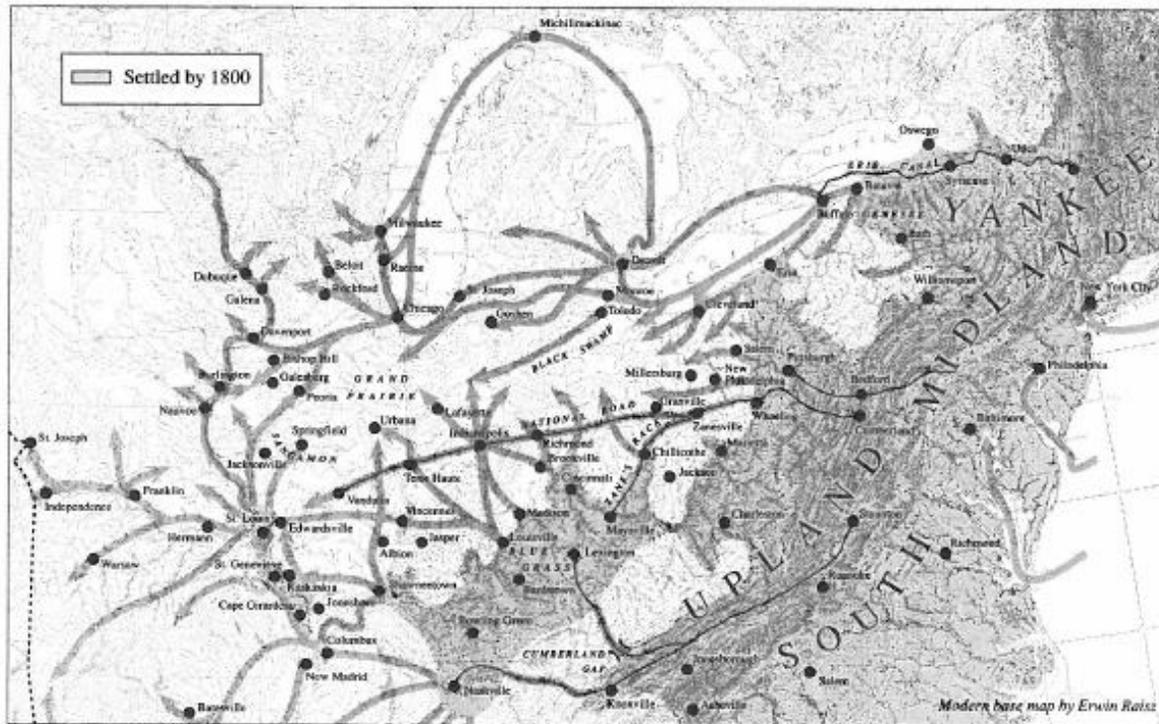
Census Designated Places



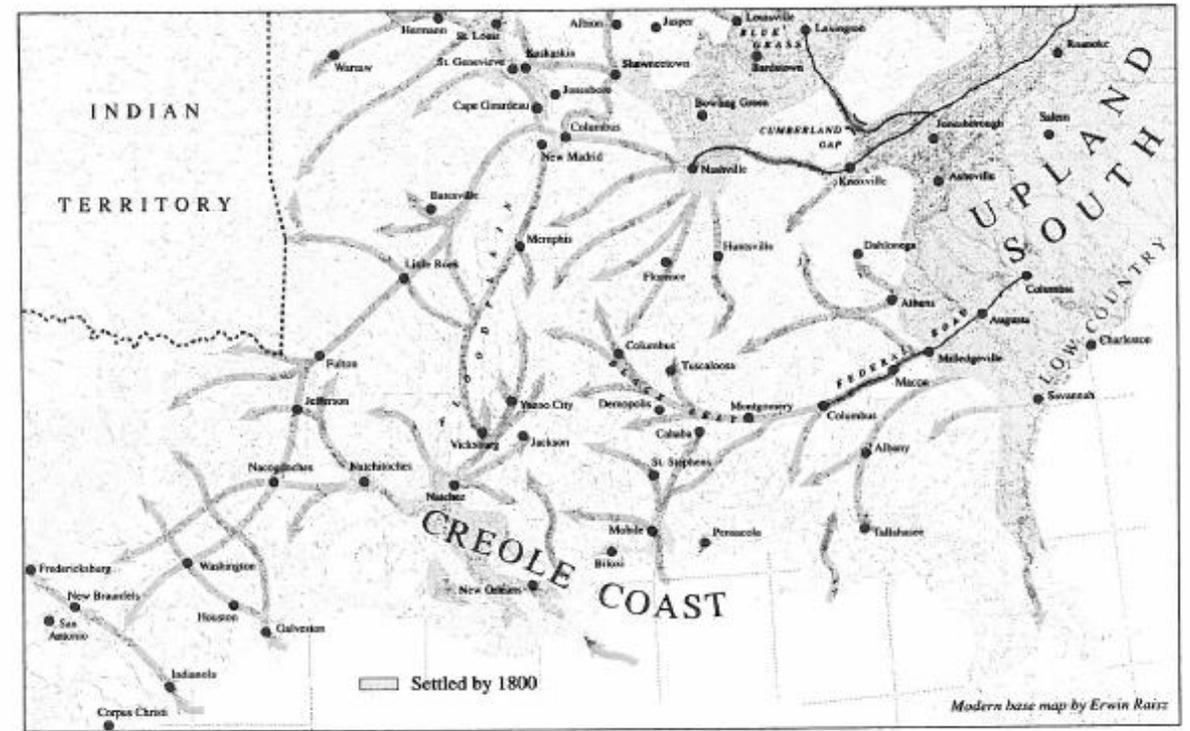
Chesapeake Counties and New England Towns... and a Middle Path in the Mid-Atlantic

- Our basic units of local political geography largely stem from three colonial hearths:
 - The Chesapeake Region of Maryland and Virginia
 - New England
 - Pennsylvania
- The political landscape in the Chesapeake region formed around counties.
- In New England, the basic unit of local government was the town/township.
- In Pennsylvania, we see a mix of counties, cities, and townships.

As Americans moved west, they tended to take their political geography preferences with them.



27. Westward Migrations: Northern Paths.



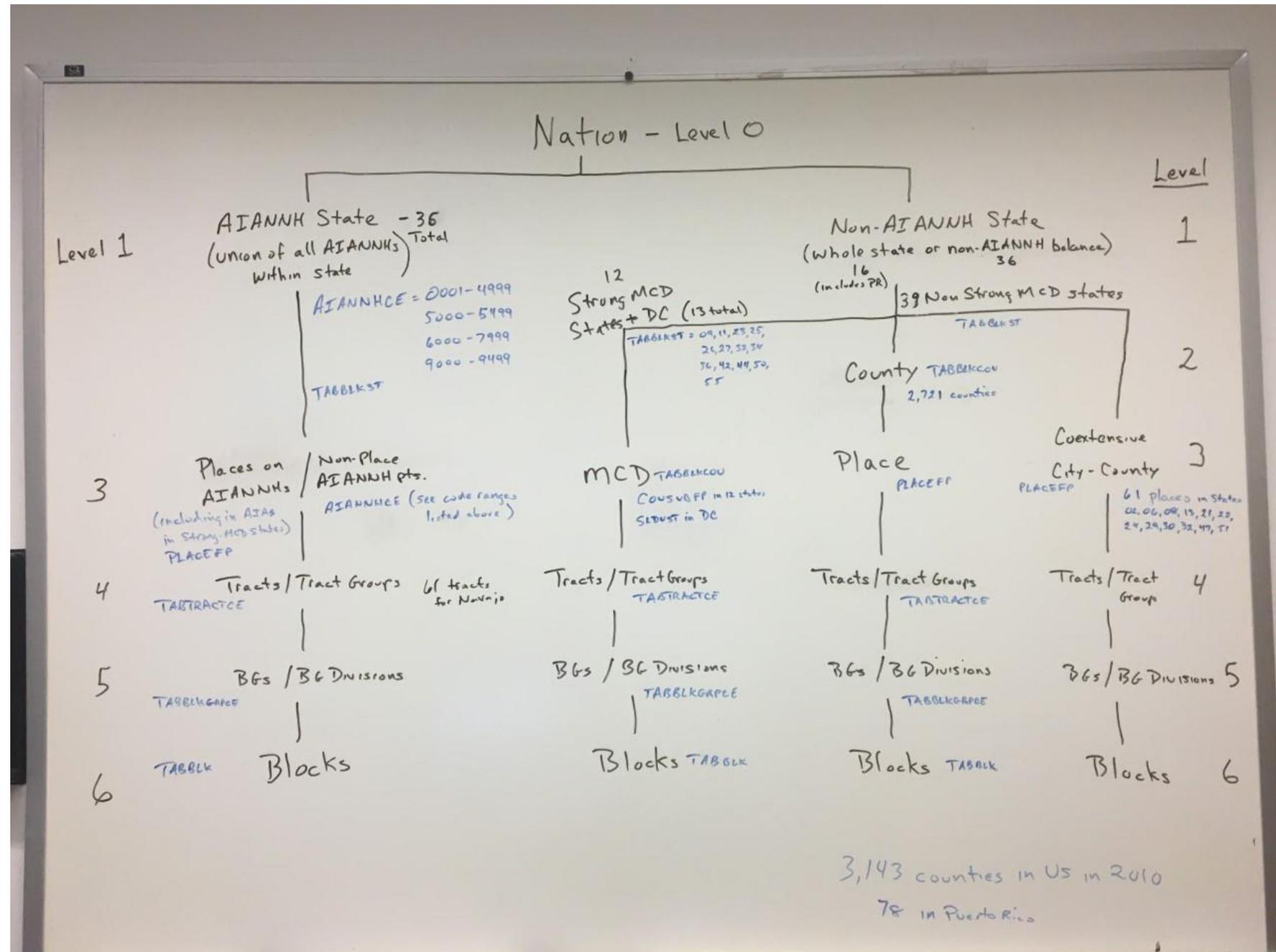
28. Westward Migrations: Southern Paths.

Source: Donald W. Meinig, 1993. *The Shaping of America: Continental America, 1800-1865*. Yale University Press.

Rethinking the Geographic Hierarchy

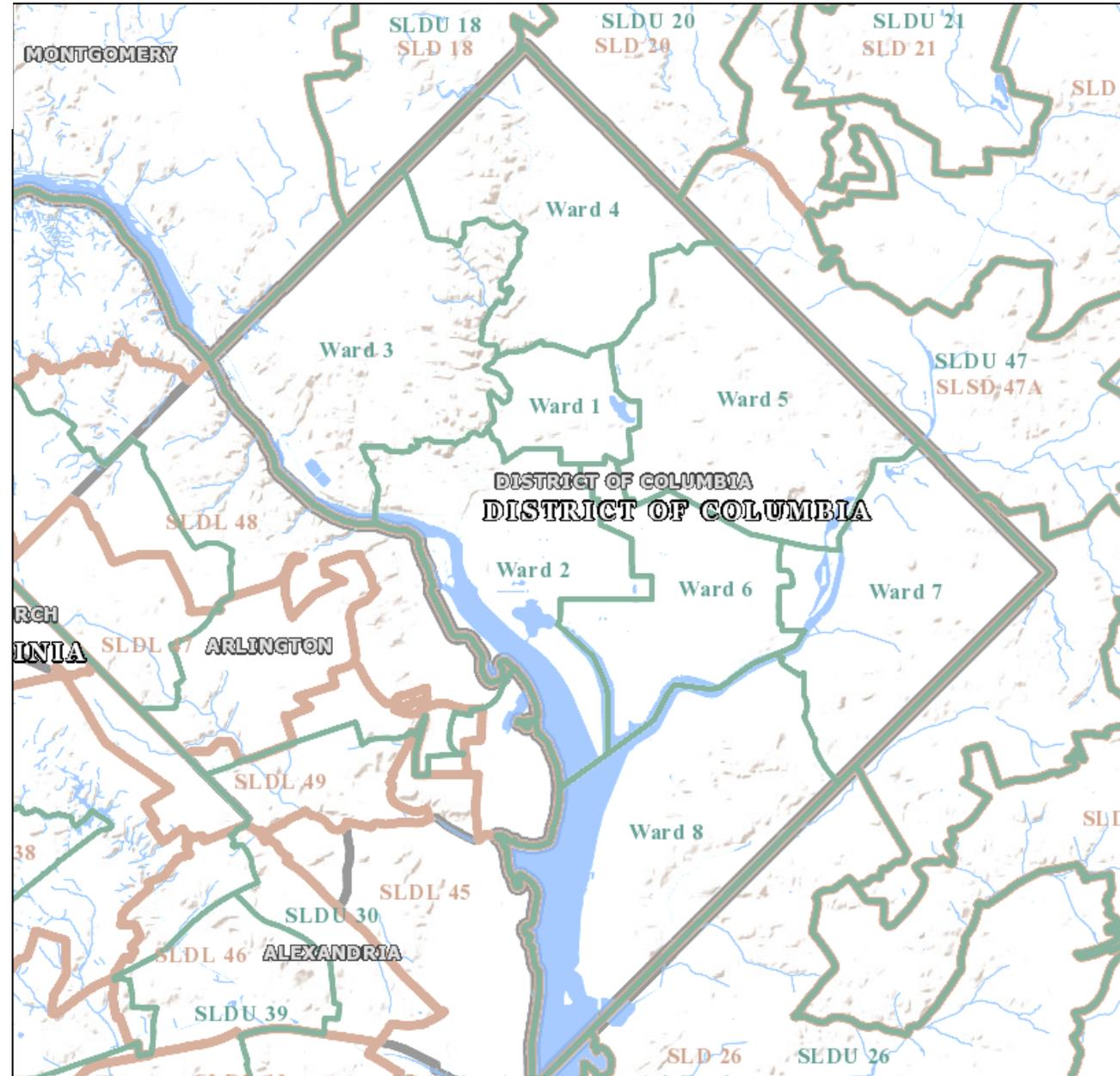
Rethinking the geographic hierarchy:

Focus on the more important sub-state geographic entities and recognizing regional variation.

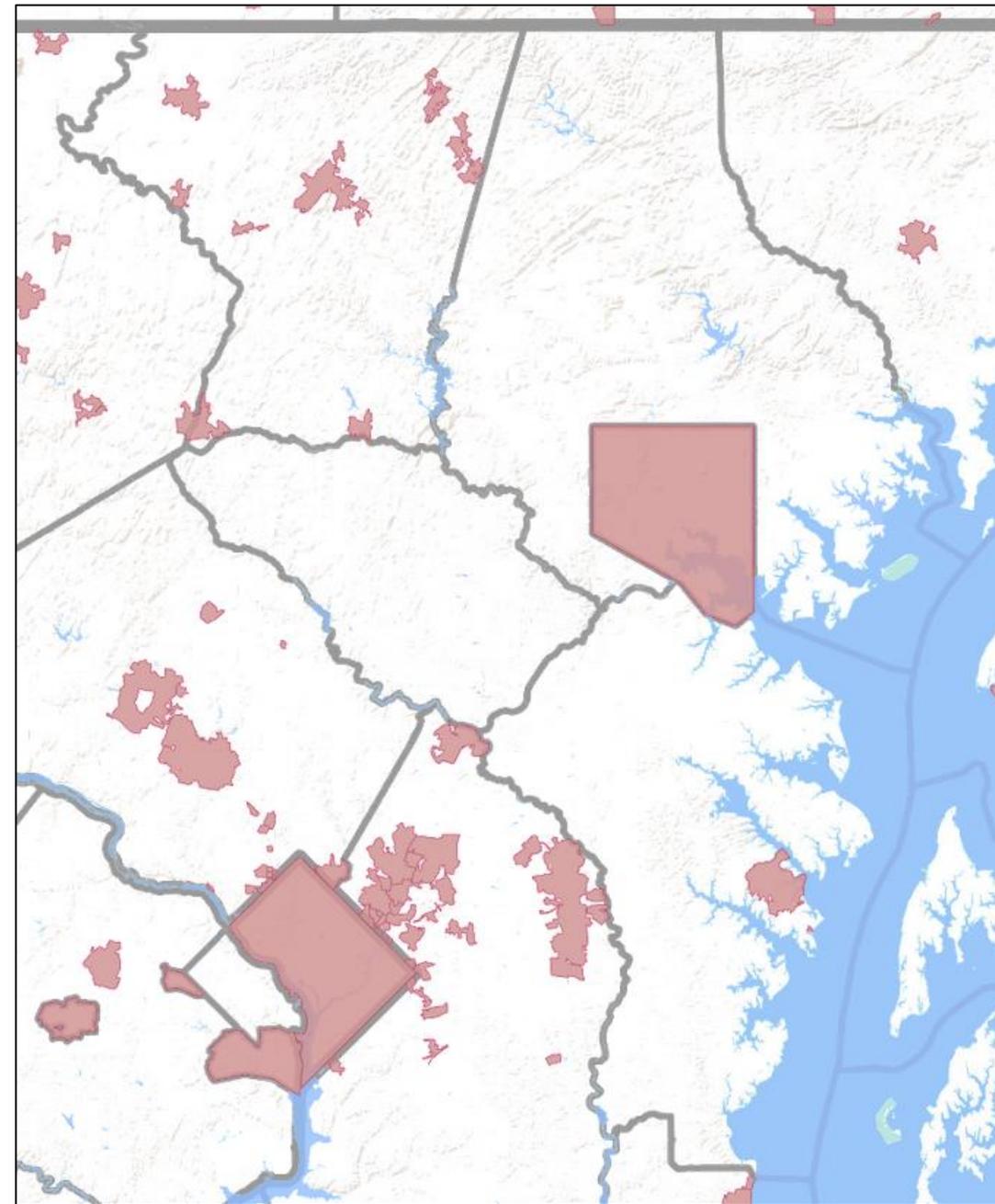
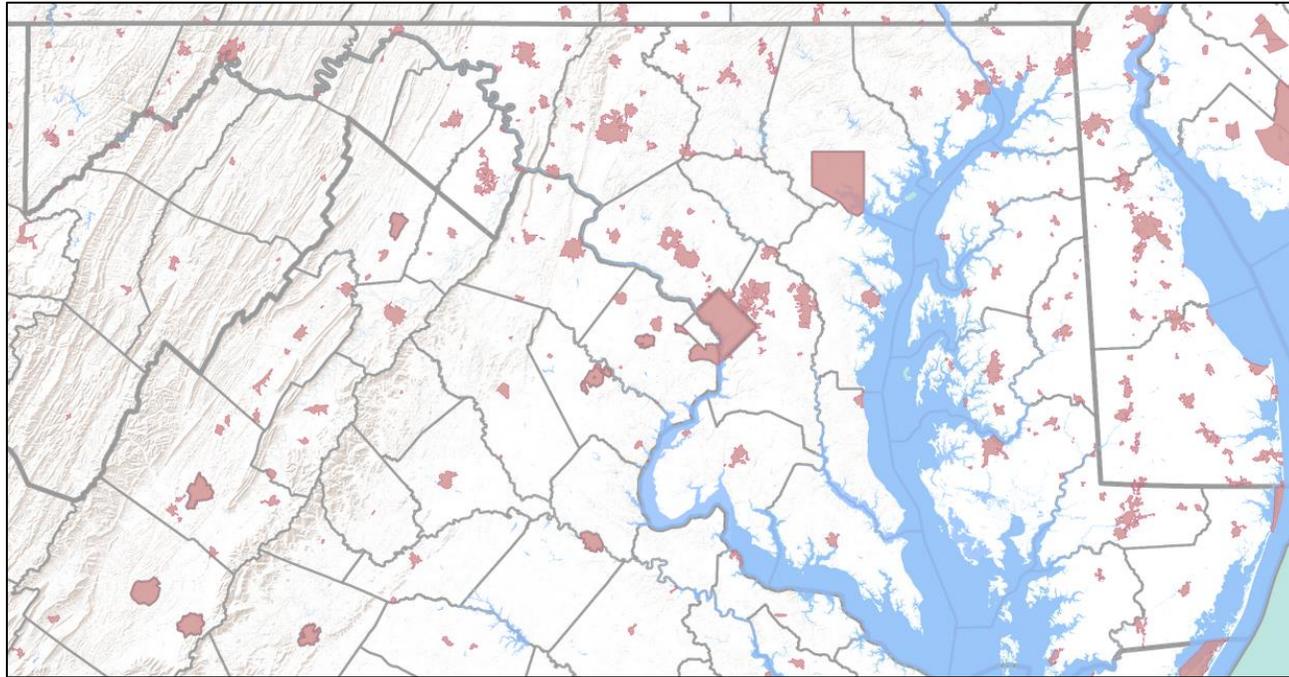


Rethinking the geographic hierarchy

- What is Washington, DC?
 - Five geographic entities covering the same space:
 - Federal district (state equivalent)
 - County equivalent
 - County subdivision equivalent
 - Incorporated place
 - Unified school district
- We can rethink Washington, DC's hierarchy as:
 - Washington, DC
 - Ward
 - Tract (part)



Rethinking the geographic hierarchy: focus on “municipal-like” entities (counties and cities in Maryland)

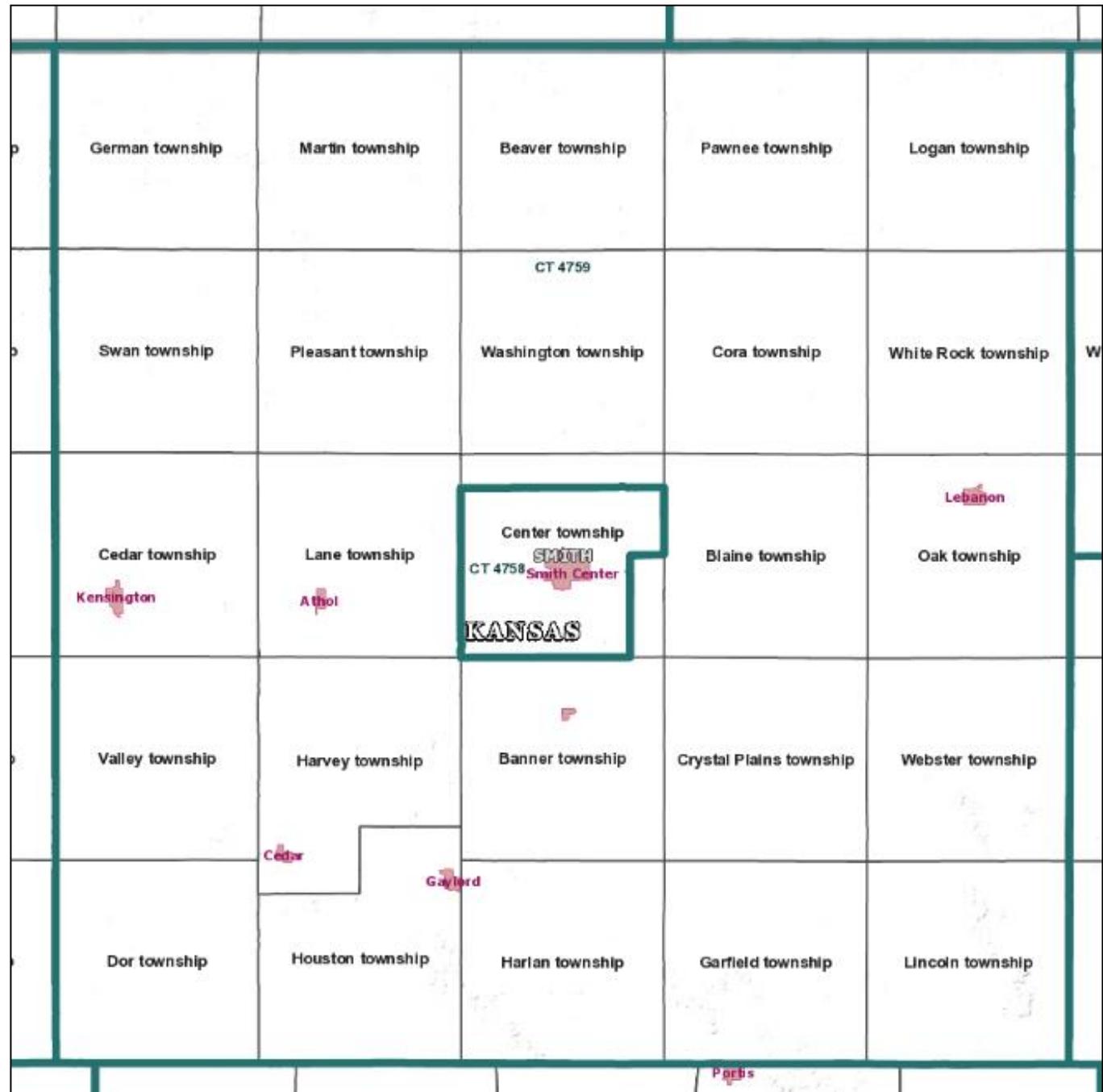


Maryland has strong counties that provide services typically provided by cities and towns/townships in other states. As a result, there is little incentive for communities to incorporate; two counties contain no municipalities.

Rethinking the geographic hierarchy:

Geographic areas lower on the conceptual hierarchy do not always provide greater spatial resolution.

In this typical Great Plains County of small population size, county subdivisions provide greater spatial resolution than census tracts.



Thanks!

Contact:

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Geography Division

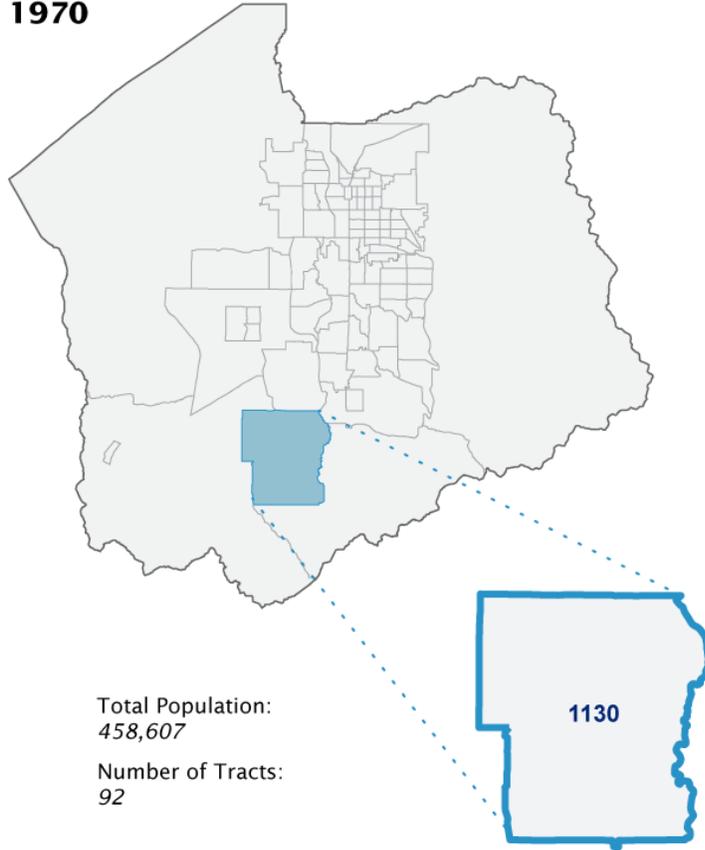
US Census Bureau

michael.r.ratcliffe@census.gov

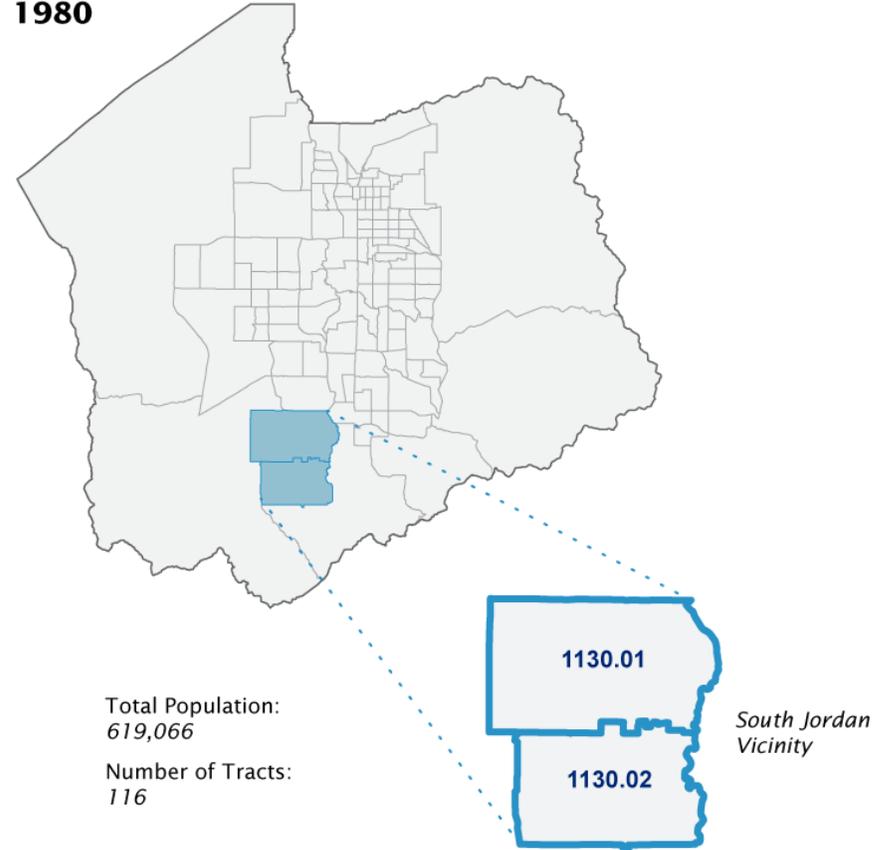
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CENSUS TRACTS - Salt Lake County, UT

1970



1980

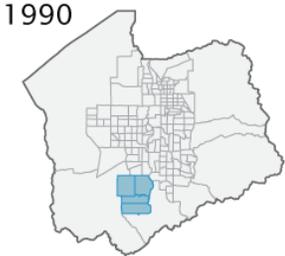


Source: Minnesota Population Center
National Historical Geographic Information System:
Version 2.0

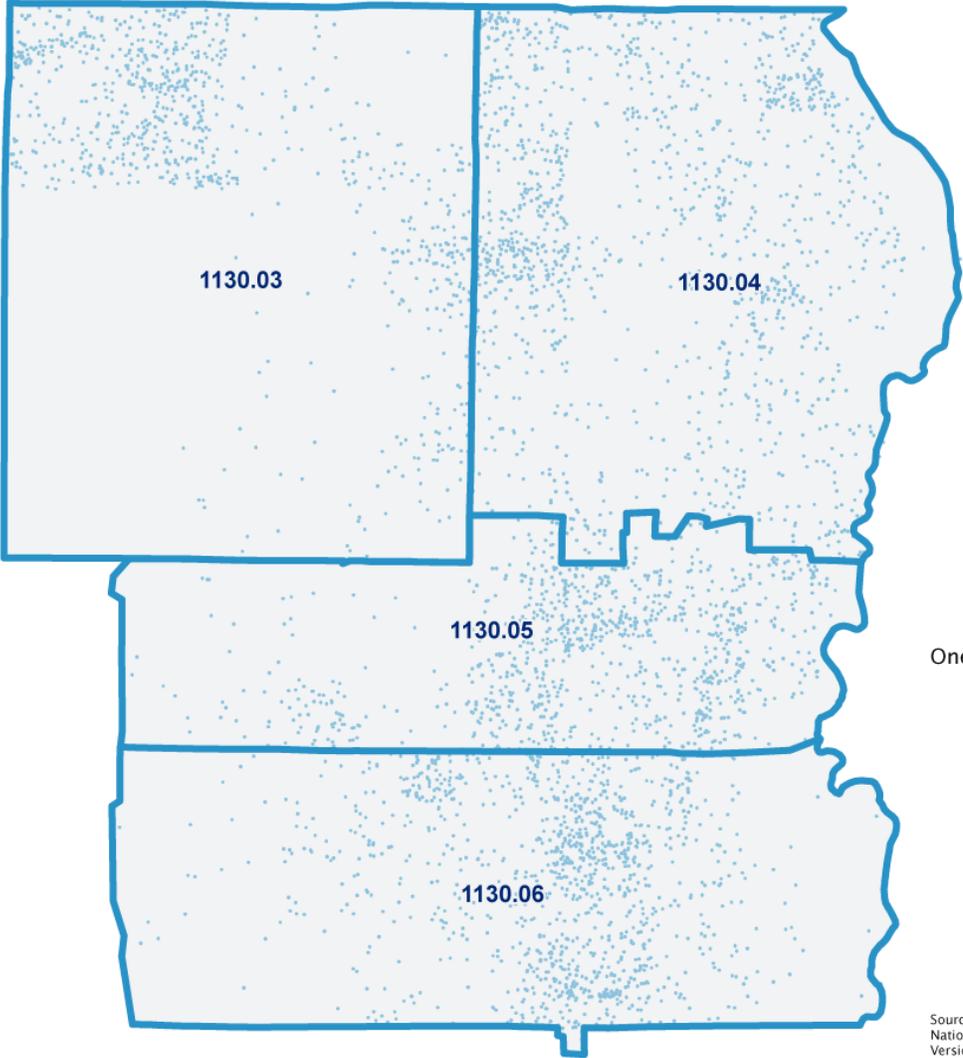
CENSUS TRACTS - 1990

South Jordan, UT Vicinity

Salt Lake County, Utah



Total Population:
725,956
Number of Tracts:
156



One Dot Represents 10 People

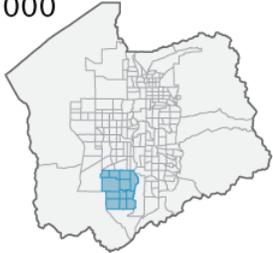
Source: Minnesota Population Center
National Historical Geographic Information System:
Version 2.0

CENSUS TRACTS - 2000

South Jordan, UT Vicinity

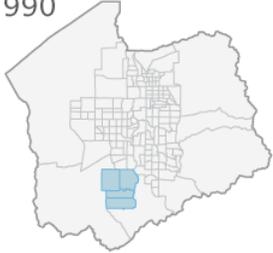
Salt Lake County, Utah

2000

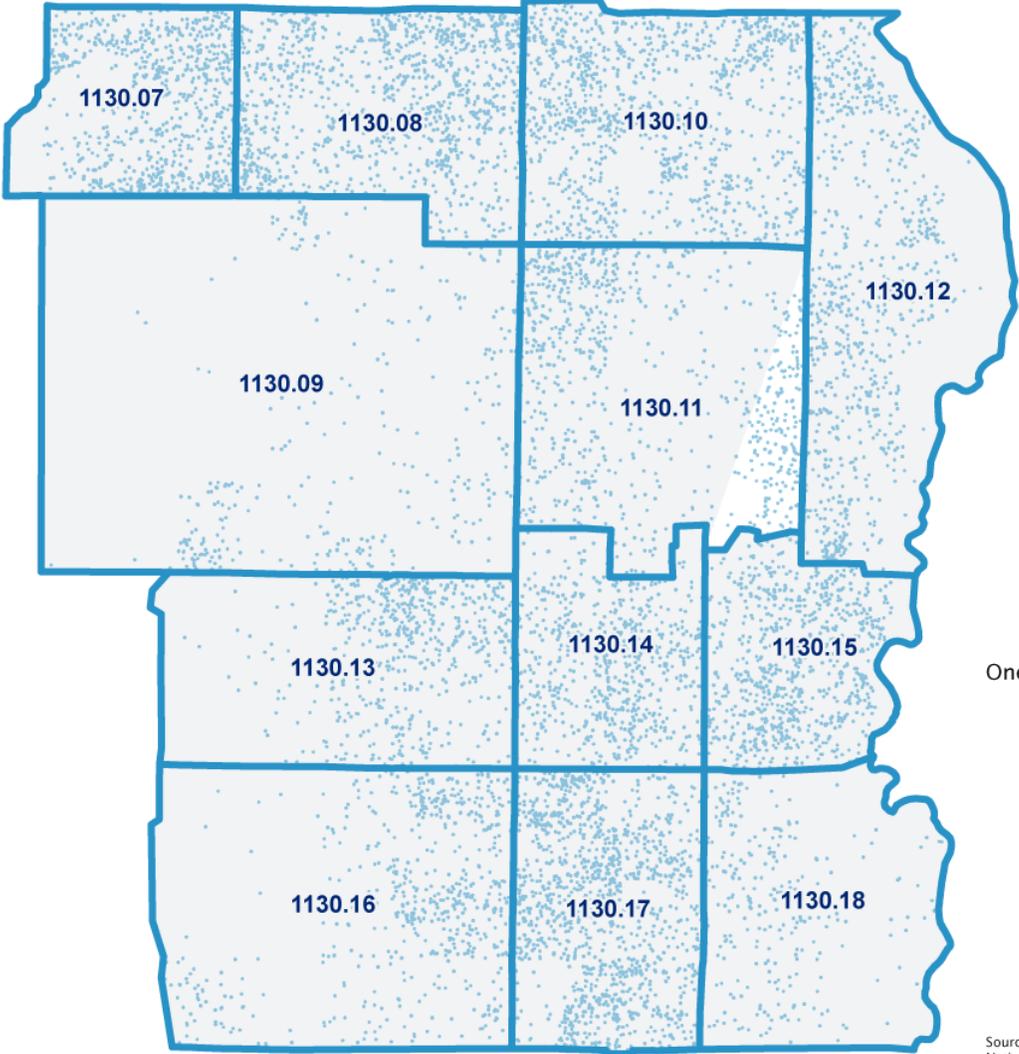


Total Population:
898,387
Number of Tracts:
193

1990



Total Population:
725,956
Number of Tracts:
156



One Dot Represents 10 People

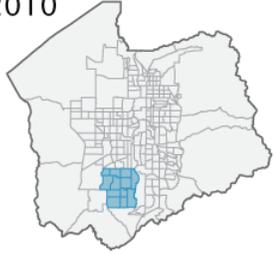
Source: Minnesota Population Center
National Historical Geographic Information System:
Version 2.0

CENSUS TRACTS - 2010

South Jordan, UT Vicinity

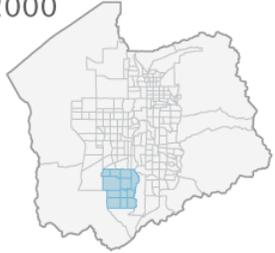
Salt Lake County, Utah

2010



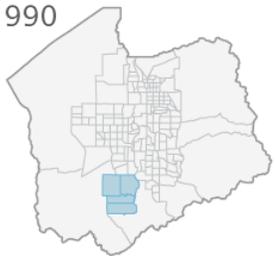
Total Population:
1,029,655
Number of Tracts:
212

2000

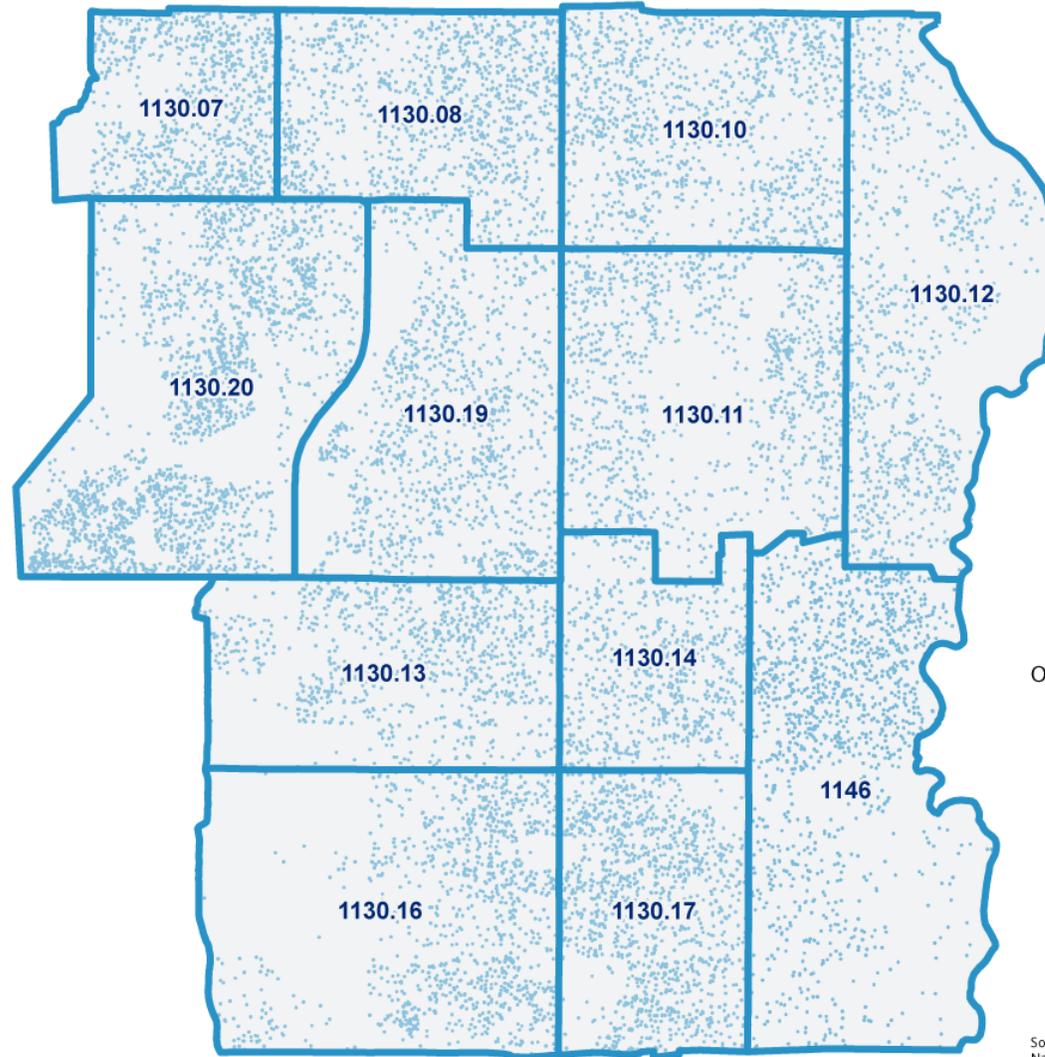


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