

Census Bureau Geographic Entities and Concepts

Presented by

Mike Ratcliffe

Michael.R.Ratcliffe@census.gov

Census Geographic Concepts

Legal/Administrative Areas

Examples:

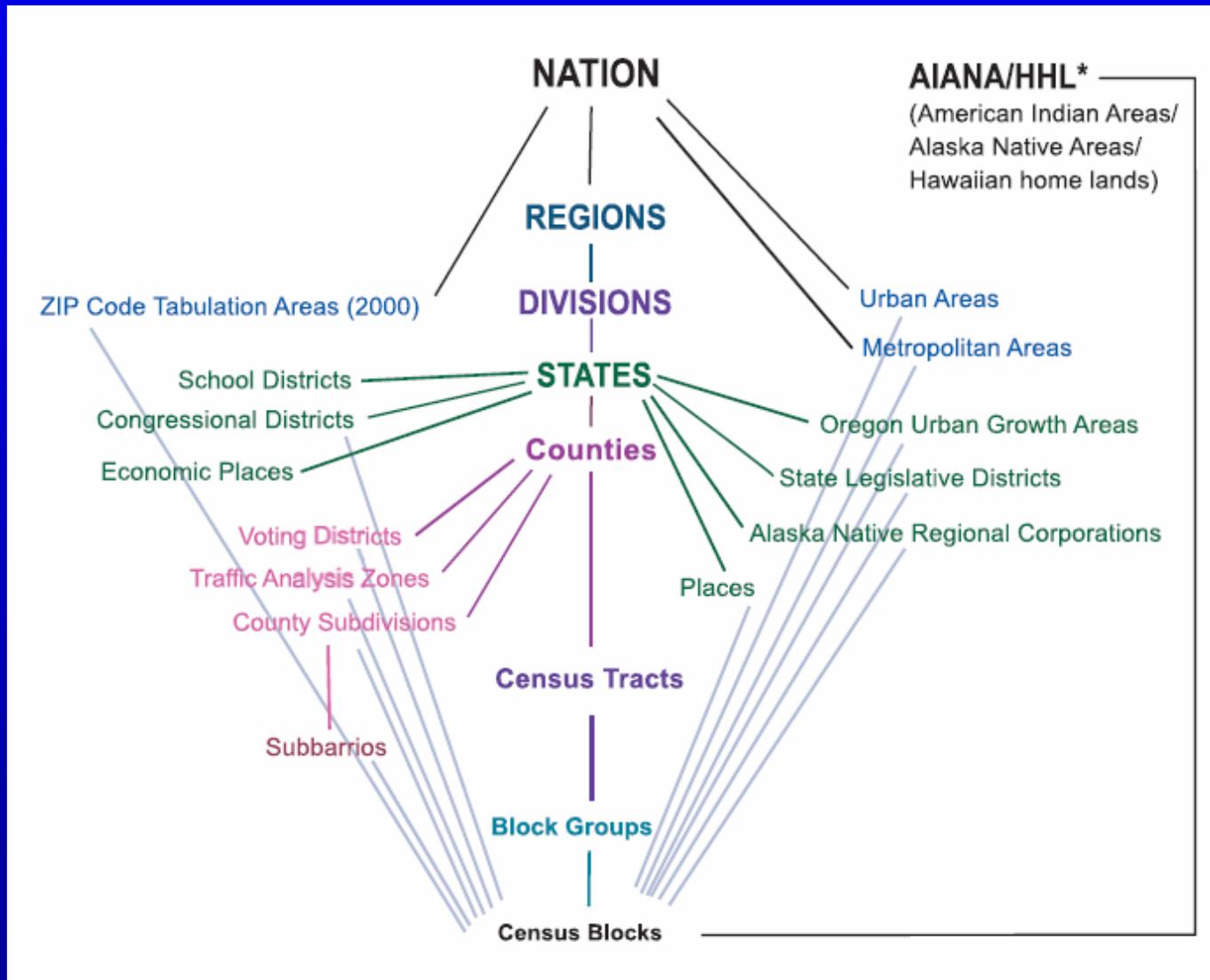
- States
- Counties
- Minor civil divisions
- Incorporated places
- Congressional districts
- Legislative areas
- School districts

Statistical Areas

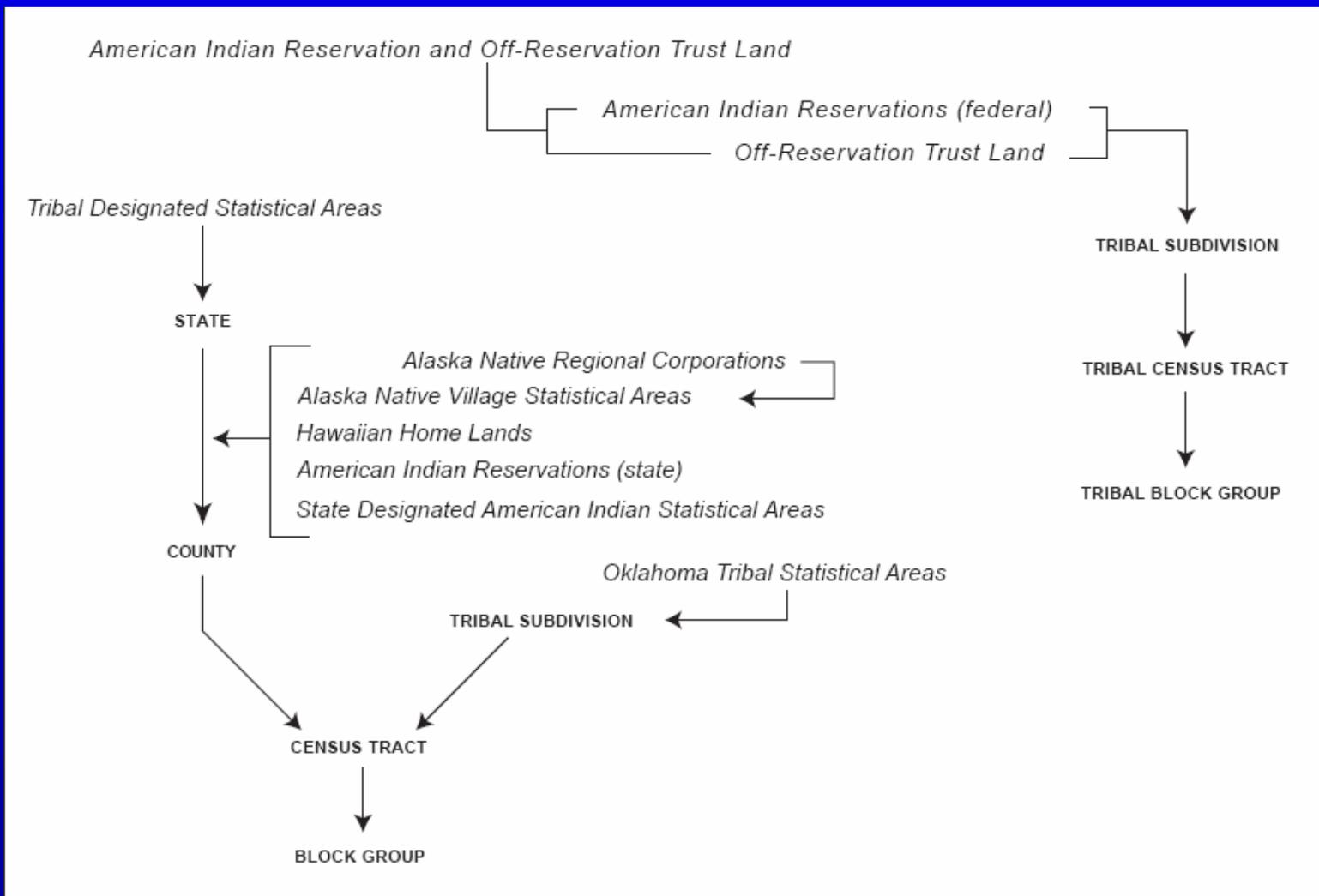
Examples:

- Census county divisions
- Census designated places
- Census tracts
- Metropolitan and micropolitan statistical areas
- Urban areas
- Public Use Microdata Areas
- Traffic Analysis Zones

Hierarchy of Census Geographic Entities



Hierarchy of American Indian, Alaska Native, and Hawaiian Entities



Hierarchy: State File Summary Levels

State

County

County Subdivision

Place (or place part)

Census tract

Block group

Block

Blocks

- Smallest units of data tabulation—decennial census only, but used by ACS for sample design
- Cover the entire nation
- Form “building blocks” for all other tabulation geographic areas
- Generally bounded by visible features and legal boundaries
- 4-digit block numbers completely change from census to census

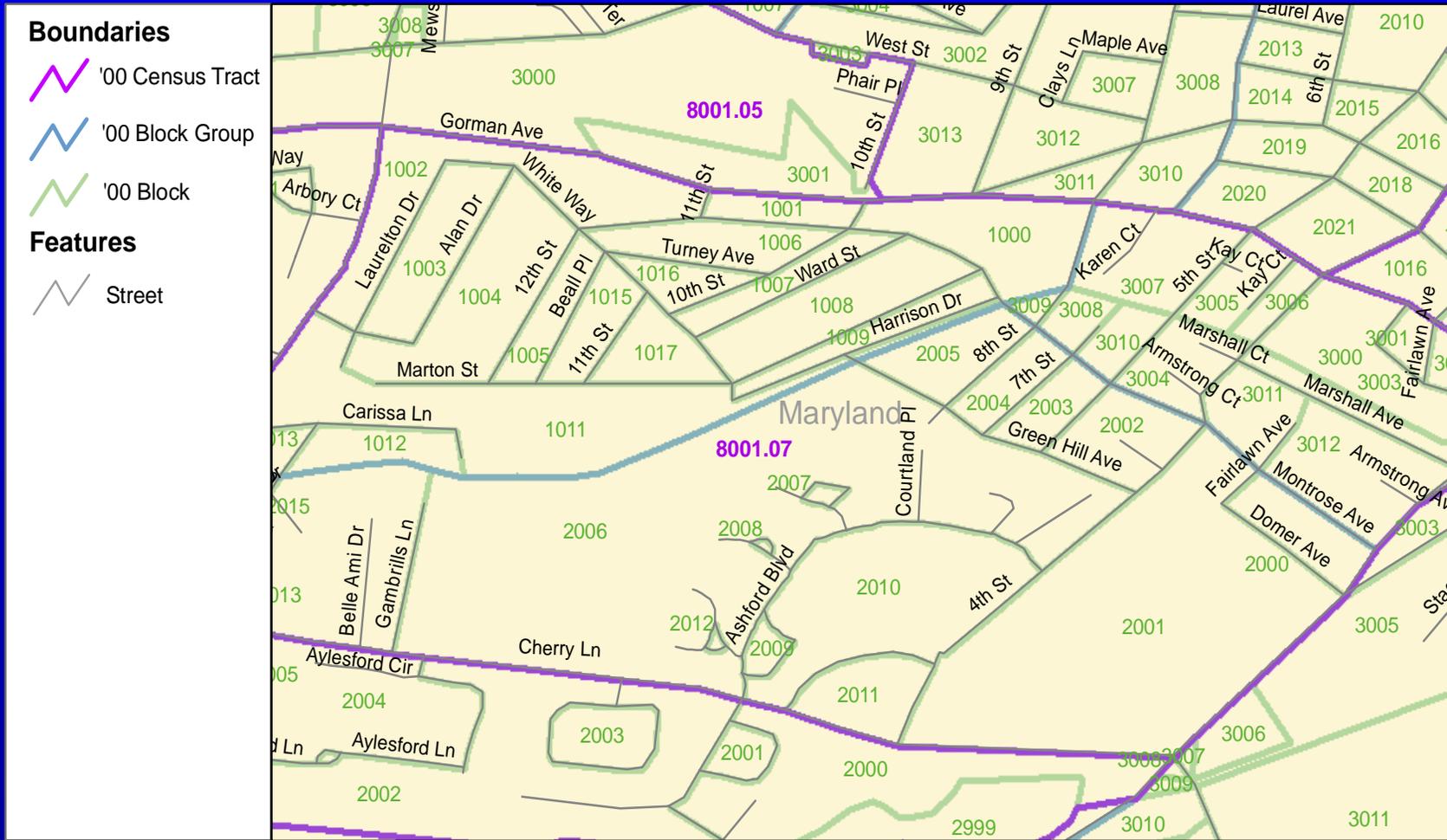
Block Groups

- Groups of blocks sharing the same first digit
- Smallest areas for which sample (decennial census “long form” as well as ACS) data are available
- Size: optimally 1,500 people; range between 300 to 3,000
- Proposed change in minimum threshold to 1,200 people/480 housing units

Census Tracts

- Small, relatively permanent statistical subdivisions of a county or a statistically equivalent entity.
- Increased importance over time for data analysis.
- Will be used to present ACS data as well as decennial census data.
- Relatively consistent boundaries over time
- Size: optimally 4,000 people; range between 1,000 and 8,000
- Proposed change in minimum threshold to 1,200 people
- Approximately 65,000 census tracts in U.S.
- Defined nationwide for the first time in Census 2000; however Block Numbering Areas (BNAs) and tracts covered the entirety of the United States in 1990

Blocks, Block Groups, and Census Tracts



Exercise: Finding the census tract, block group, and block for an address

- Use American Factfinder to search an address:
 - Select “Address Search” in lower left on AFF main page
 - Key in your address, click “Go”
 - Click “Map It” to see a map
 - Select one of the geographic areas listed and click “OK” to obtain data



Search

You are here: [Main](#) > [Search](#) > [Advanced Geography Search](#)

- [FAQs](#)
- [Privacy](#)
- [Site Map](#)
- [Help](#)

[general search](#) | [keyword](#) | [geography](#)

Choose a geography selection method

[list](#) | [name search](#) | [address search](#) | [map](#)

Select a year and program

Enter a street address, city and state, or a street address and ZIP code. Click 'Go'

Street Address [Quick tips](#)

City

State

ZIP Code

Select a geography and click 'OK'

- State: Maryland**
- ... County: Howard County
- ... County Subdivision: District 6, Savage
- ... Census Tract: Census Tract 6069.02
- ... Block Group: Block Group 5
- ... Block: Block 5016
- ... Voting District/Remainder: Howard Precinct 06-002
- ... Traffic Analysis Zone: 1139
- Place: North Laurel CDP

[Explain Census Geography](#)

Geographies containing **1326 Confidentiality Blvd, Cantreleasville, Maryland, 00000**

Select a geography and click "OK"

State: **Maryland**
... County: Howard County
... .. County Subdivision: District 6, Savage
... .. Census Tract: Census Tract 6069.02
... .. Block Group: Block Group 5
... .. Block: Block 5016
... .. Voting District/Remainder: Howard Precinct 06-002
... .. Traffic Analysis Zone: 1139
... Place: North Laurel CDP

 [Explain Census Geography](#)

Search results for Census Tract 6069.02

Reference Maps

2000

- [Census Tract 6069.02, Howard County, Maryland](#)

Thematic Maps

Census 2000 Redistricting Data (Public Law 94-171) Summary File

- TM-PL001: [Total Persons: 2000](#)
- TM-PL002: [Persons per Square Mile: 2000](#)
- TM-PL003A: [Percent of Persons Who Are White Alone: 2000](#)
- TM-PL003B: [Percent of Persons Who Are Black or African American Alone: 2000](#)
- TM-PL003C: [Percent of Persons Who Are American Indian and Alaska Native Alone: 2000](#)
- TM-PL003D: [Percent of Persons Who Are Asian Alone: 2000](#)
- TM-PL003E: [Percent of Persons Who Are Native Hawaiian and Other Pacific Islander Alone: 2000](#)
- TM-PL003F: [Percent of Persons Who Are Some Other Race Alone: 2000](#)
- TM-PL003G: [Percent of Persons of Two or More Races: 2000](#)
- TM-PL003H: [Percent of Persons Who Are Hispanic or Latino \(of any race\): 2000](#)

[11 more Thematic Maps](#)

Exercise: Look up data using AFF

- On AFF main page, select “Data Sets” then “Decennial Census”
- Default is Summary File 1. Select “Detailed Tables”
- Select Geographic Type: Census Tract
- Select State, County, Tract from lists
- Click “Add”, highlight the geographic area, then click “Next.”
- On next screen, select data variable(s), add to window, click “Show Result”

- Select a [geographic type](#)

..... Census Tract

- Select a state

Maryland

- Select a county

Howard County

- Select one or more geographic areas and click 'Add'

Census Tract 6067.03
Census Tract 6067.04
Census Tract 6067.05
Census Tract 6068.02
Census Tract 6068.03
Census Tract 6068.04
Census Tract 6069.01
Census Tract 6069.02
Census Tract 6069.03

Map It

Add ▼

Current geography selections:

==== **Census Tract** =====
Census Tract 6069.02, Howard County, Maryland

Download data for more than 7,000 geographic areas using the [Download Center](#).

Remove

Next ►

Geographic Identifiers

- After obtaining data for your geographic area, pull down window under “Options” tab.
- Select “Show Geographic Identifiers”

G001. GEOGRAPHIC IDENTIFIERS

Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data

GEOGRAPHIC AREA CODES	
Region	3
Division	5
State (Census)	52
State (FIPS)	24
County	027
County Size Code	18
County Subdivision (FIPS)	
FIPS County Subdivision Class Code	
County Subdivision Size Code	
Place (FIPS)	
FIPS Place Class Code	
Place Description Code	0
Place Size Code	
Census Tract	606902
Block Group	
Block	

AREA CHARACTERISTICS	
Area (Land) (square meters)	11,767,807
Area (Water) (square meters)	91,729
Area Name-Legal/Statistical Area Description (LSAD) Term-Part Indicator	Census Tract 6069.02
Functional Status Code	S
Geographic Change User Note Indicator	
Population Count (100%)	10,208
Housing Count (100%)	3,849
Internal Point (Latitude)	+39132527
Internal Point (Longitude)	-076826901
Legal/Statistical Area Description Code	
Part Flag	

Unique Geographic Identifiers

To create unique identifiers for census geography:

	State	County	Place	Tract**
<u>FIPS*</u> :	47	103	25920	9754.00

Incorporated place code: 4725920

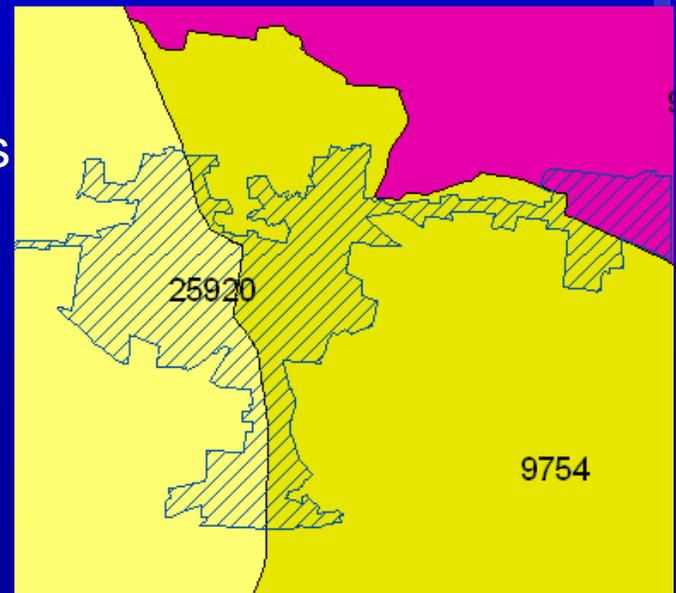
Concatenate State + Place codes, as places can cross county lines

Tract code: 47103975400

Concatenate State + County + Tract codes
as tracts nest within state and county

* FIPS codes can be found on the Understanding Census Geography on the Census Bureau Geography homepage:
<http://www.census.gov/geo/www/reference.html>

** Tract codes are not designated in the FIPS codes



Places

Incorporated Places

- Legally bounded entity
- Referred to as cities, boroughs, towns, or villages, depending on the state

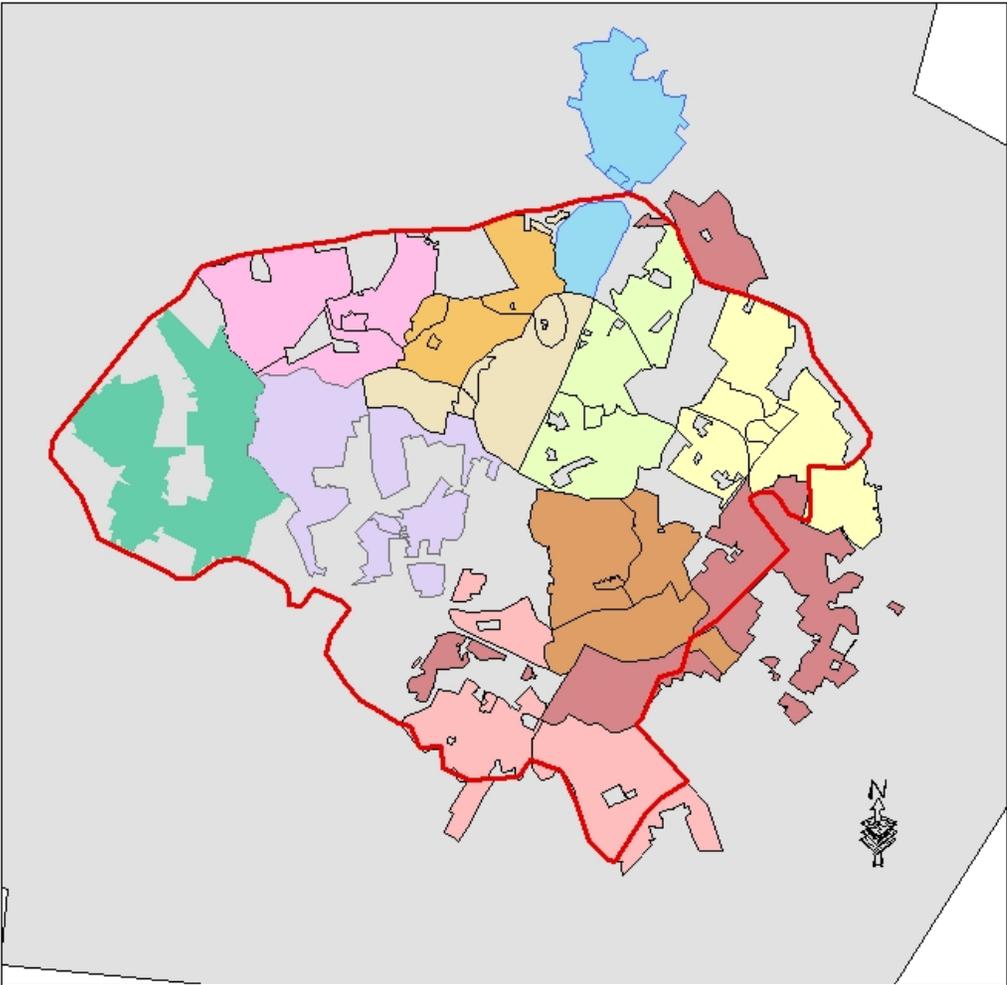
Census Designated Places (CDPs)

- Statistical entity
- Created to present census data for an area with a concentration of population, housing, and commercial structures that is identifiable by name, but not within an incorporated place
- Example: Columbia, MD; Paradise, NV

Number of CDPs and Incorporated Places in the US, Puerto Rico, and the Island Areas: 2000

	<u>CDPs</u>	<u>Incorporated Places</u>
United States	5,698	19,452
Puerto Rico	225	0
American Samoa	0	73
Guam	32	0
Northern Marianas	16	0
US Virgin Islands	6	3

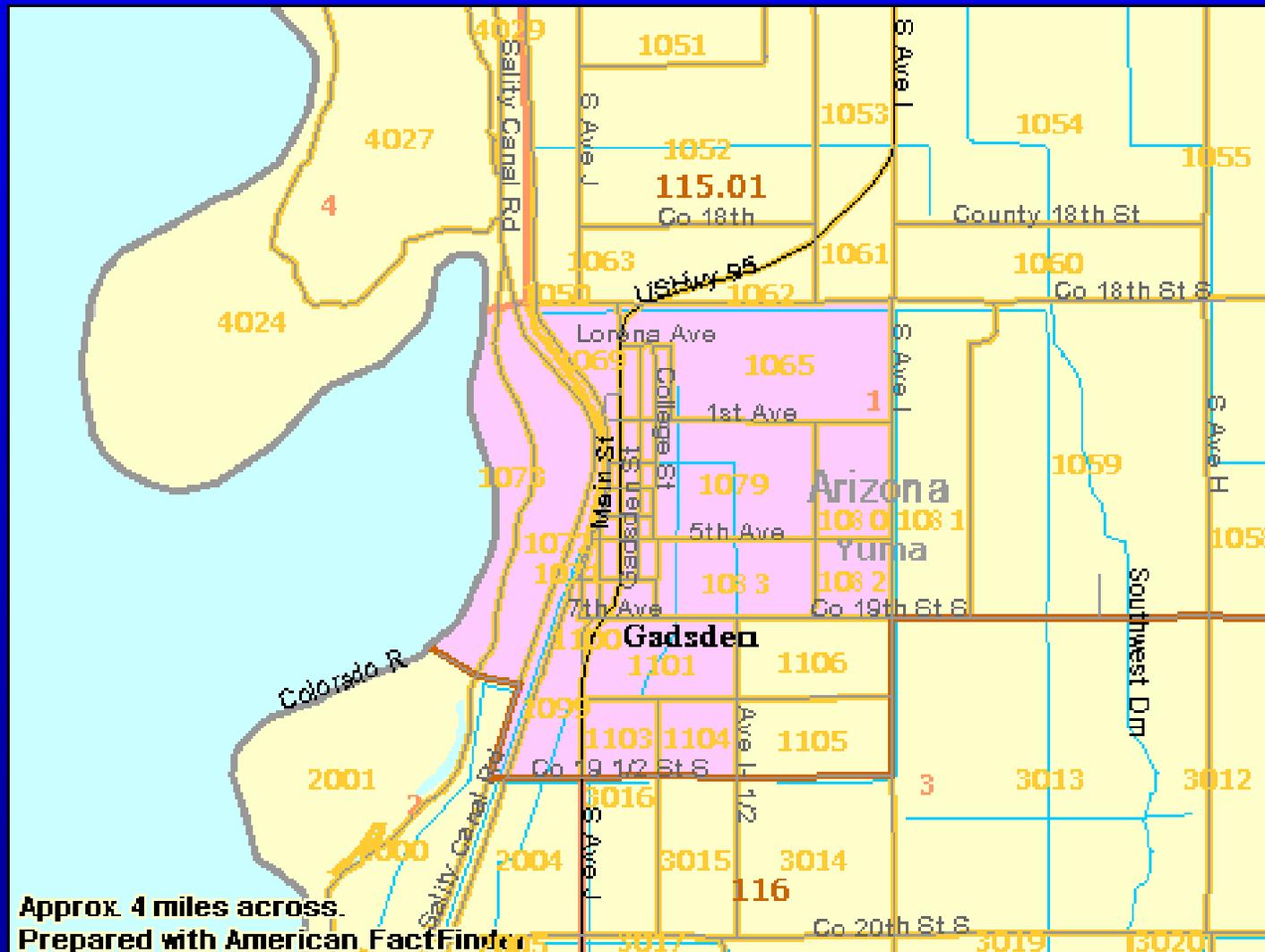
Columbia, MD CDP with Village Boundaries



Columbia, MD Village Boundaries

- Commercial
- Wilde Lake
- Town Center
- River Hill
- Owen Brown
- Oakland Mills
- Long Reach
- Hickory Ridge
- Kings Contrivance
- Harpers Choice
- Dorsey Search
- Howard County
- Columbia CDP

Gadsden CDP, Yuma County, AZ



County Subdivisions

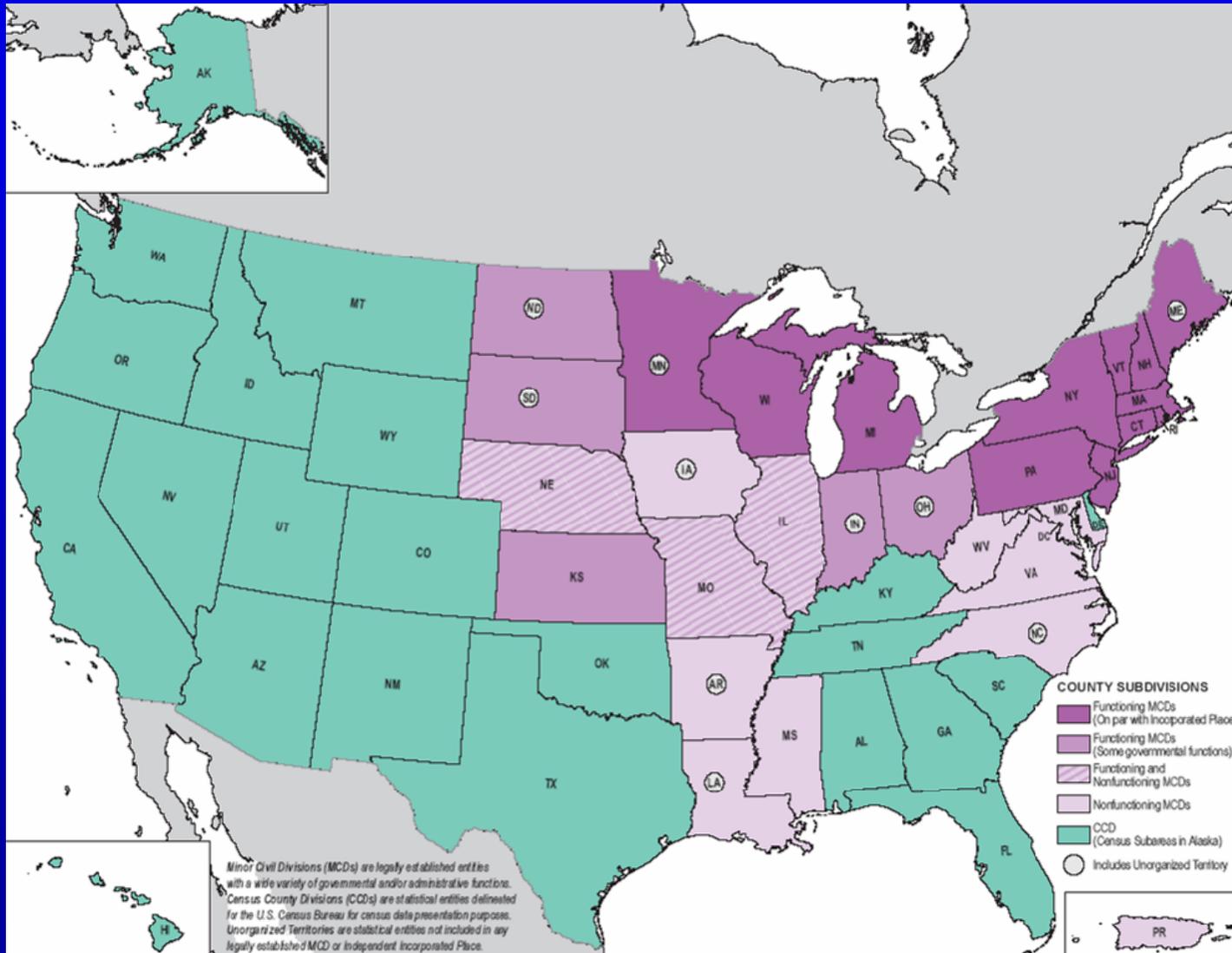
Minor Civil Divisions (MCDs)

- Legally bounded entity
- Subcounty entities in 28 states, the District of Columbia, Puerto Rico, and the Island Areas.
- May have a formal government with elected officials

Census County Divisions (CCDs)

- Statistical entity
- Subcounty units that have stable boundaries and recognizable names in 22 states.
- No minimum or maximum population guidelines

County Subdivisions



Place and County Subdivision Data in Census Bureau Tabulation Programs

Tabulation Program	Incorporated Places	Census Designated Places	Minor Civil Divisions	Census County Divisions
Decennial Census	All	All	All	All
Population Estimates	All	None	In 20 states only	None
American Community Survey	All, but subject to pop threshold requirements for 1-, 3-, and 5-year averages	All, but subject to pop threshold requirements for 1-, 3-, and 5-year averages	All, but subject to pop threshold requirements for 1-, 3-, and 5-year averages	All, but subject to pop threshold requirements for 1-, 3-, and 5-year averages
Economic Census	5,000+ pop or 5,000 + jobs, all states	5,000+ pop or 5,000 + jobs (all but 12 strong-MCD states)	5,000+ pop or 5,000 + jobs (12 strong-MCD states only)	None

Exercise: Obtaining population data for places and county subdivisions from AFF

- Find the Census 2000 population, the July 1, 2005 population estimate, and the 2005 American Community Survey estimate for Columbia, Maryland
- Find the same data for Framingham, Massachusetts
- What differences do you find among data sets?

Exercise: Population Data for Places and County Subdivisions

- Census 2000 populations are available for both Columbia CDP and Framingham CDP, in place tables, and Framingham town, in county subdivision tables
- Because Framingham is a county subdivision in a “strong-MCD” state, population estimates are available
- ACS estimates are available for Columbia CDP, Framingham CDP, and Framingham town

CENSUS BUREAU GEOGRAPHY

The integrating factor for all U.S. Census Bureau products.

The framework on which the data rest.

[Geographic Programs](#)

2010 Census Local Update of Census Addresses (LUCA), 

Boundary and Annexation Survey (BAS),

School District Review Program,

2010 Census Participant Statistical Areas Program (PSAP), 

Census 2000 Urbanized Areas and Urban Clusters, PUMA, American Indian and Alaska Native Programs

[TIGER® page](#)

TIGER/Line®, **MAF/TIGER® Modernization**, and TIGER Related Data

[LandView® 6](#)

A Viewer for the Environmental Protection Agency, U.S. Census Bureau, and U.S. Geological Survey Data and Maps

[MAPS and Mapping Resources](#)

Census 2000 map series; **Cartographic Boundary Files**; American FactFinder and TIGER Map Service Internet mapping engines; Map Gallery (additional 1990 and 2000 vintage maps)

[Census Tract Resources](#)

How to locate Census 2000 Census Tracts, 1990 Census Tracts/BNAs, **Match Addresses to Census Tracts** and BNAs and Obtain Listings of 1990 Qualifying Poverty Census Tracts

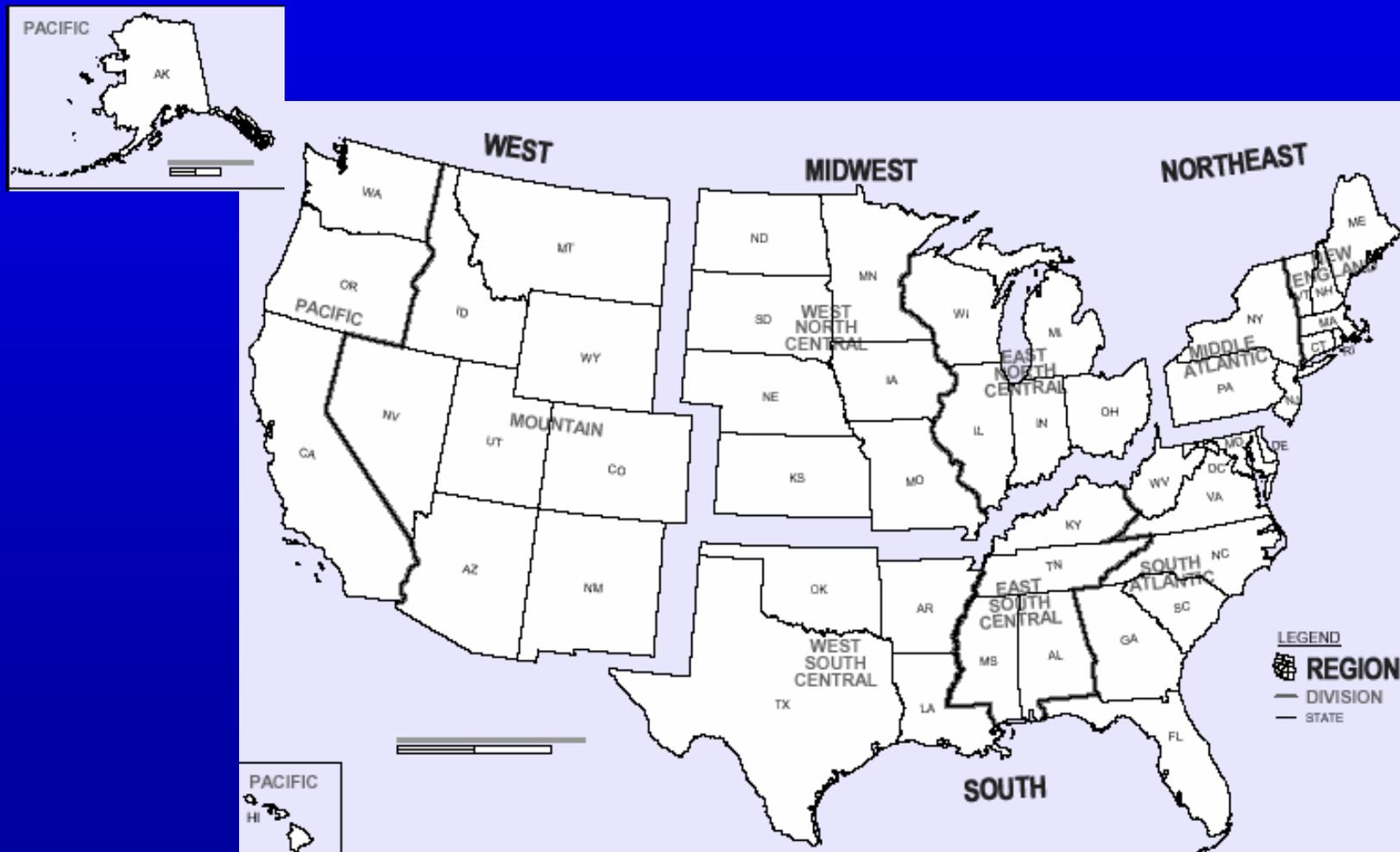
[Understanding Census Geography - Reference Resources](#)

Census 2000 Urban Areas Criteria; FIPS Codes; GARM; Glossaries; Hierarchical Diagrams; Manuals; Map Image Metafile (MIM); Significant County Changes 1970-Present; **ZCTAs**

[Census 2000 Geographic Products](#)

Census 2000 Maps and Boundary Files, Glossaries, Relationship Files, **2000 Tabulation Tallies** (Number of geographic entities for Census 2000), Census 2000 TIGER/Line, **108th Congressional Districts Geographic Products**, 109th Congressional Districts

Census Regions and Divisions



Counties and County Equivalents

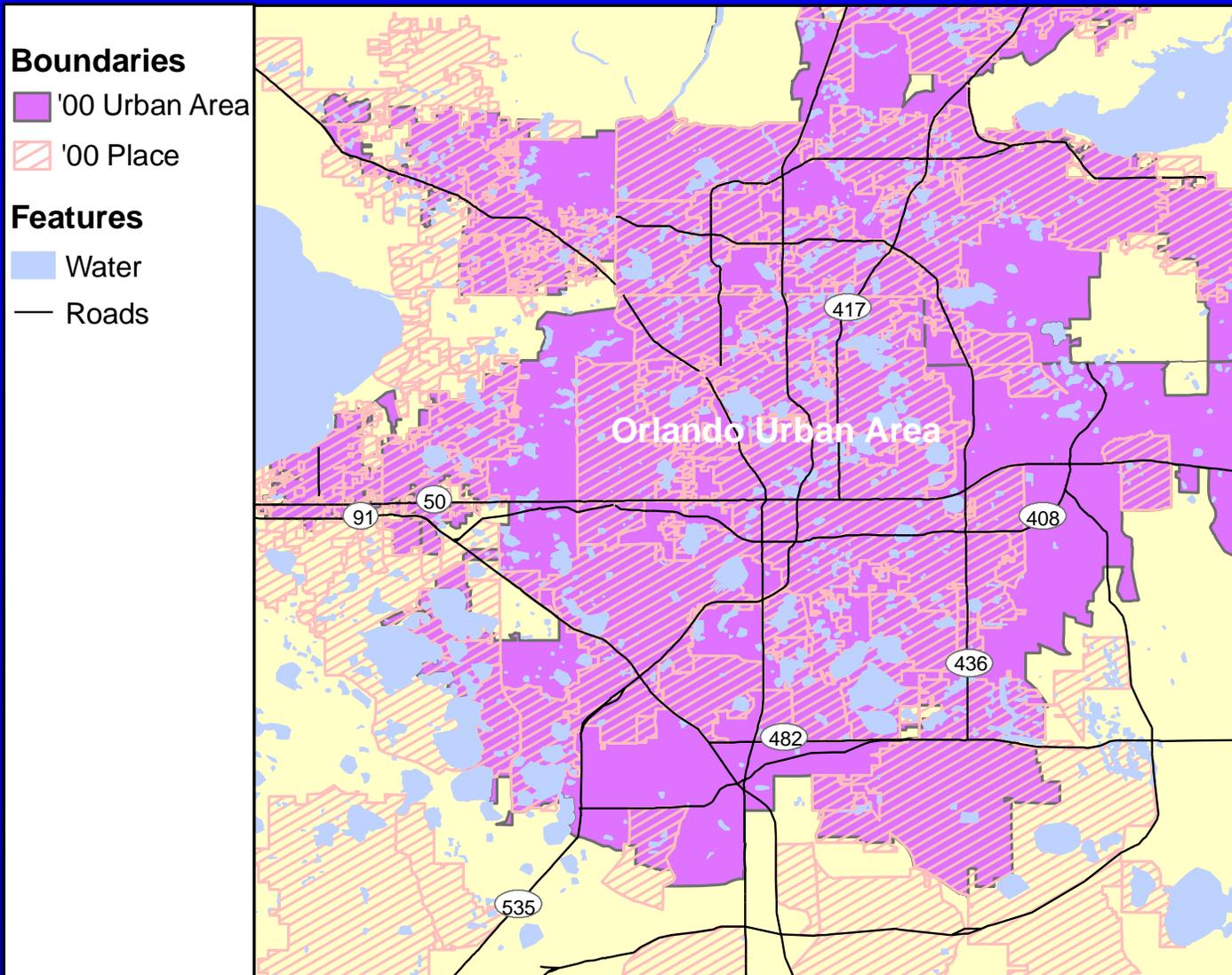
- Counties in 48 states
- Independent Cities in MD, MO, NV, and VA
- Parishes in Louisiana
- Cities, Boroughs, Municipality, Census Areas in Alaska
- Municipios in Puerto Rico
- Islands and Districts in American Samoa
- Municipalities in the Northern Marianas
- Islands in the Virgin Islands
- District of Columbia and Guam each treated as a county equivalent

Urban Area Classification: Census 2000

- Urbanized Areas (UAs) of 50,000 or more people.
- Urban Clusters (UCs) of 2,500 up to 50,000 people.
 - Both defined based on population density at the census block and block group levels.
- Substantial changes to urban area concept and criteria adopted for Census 2000.

www.census.gov/geo/www/ua/ua_2k.html

Orlando, FL Urbanized Area



Core Based Statistical Area Classification

Core Based Statistical Area (CBSA) – refers to both metropolitan and micropolitan statistical areas; county-based areas, defined based on commuting patterns

Metropolitan Statistical Area - must have at least one UA

Micropolitan Statistical Area - must have at least one UC of at least 10,000

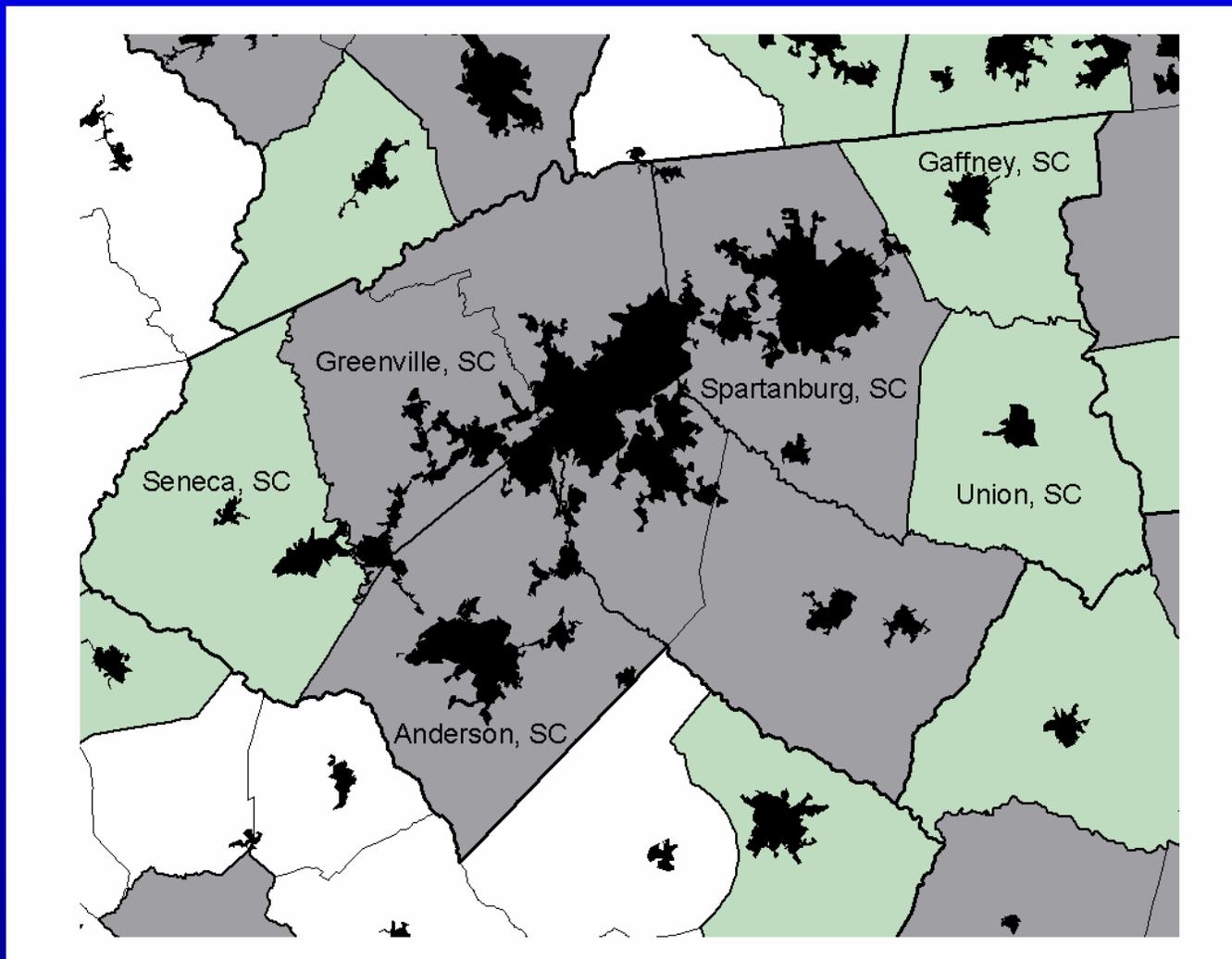
Metropolitan Division – subdivision of a metropolitan statistical area

Combined Statistical Area – represents a grouping of adjacent CBSAs.

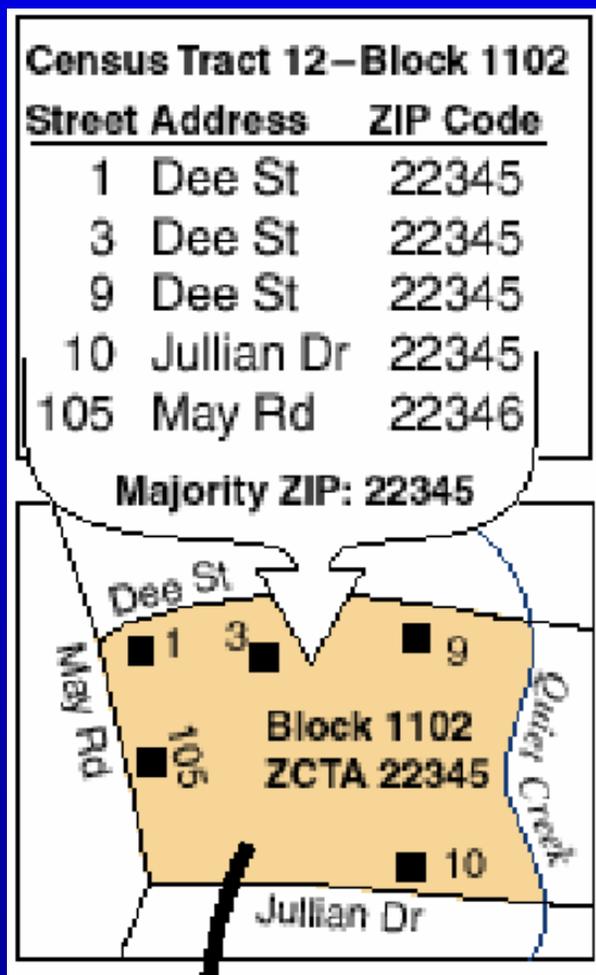
New England City and Town Area – a city- and town-based equivalent to the county-based CBSAs.

Principal City – a place that occupies a more important social and economic position within a CBSA.

Relationship Between CSA, CBSAs, and Urban Areas: Greenville-Spartanburg-Anderson, SC



Creating Zip Code Tabulation Areas



Determine the majority ZIP Code for each census block with addresses.

Public Use Microdata Areas (PUMAs)

Geographic entity for which extracts of raw data from a small sample of confidentiality-screened, long-form census records are provided.

Also used by ACS to present summary data.

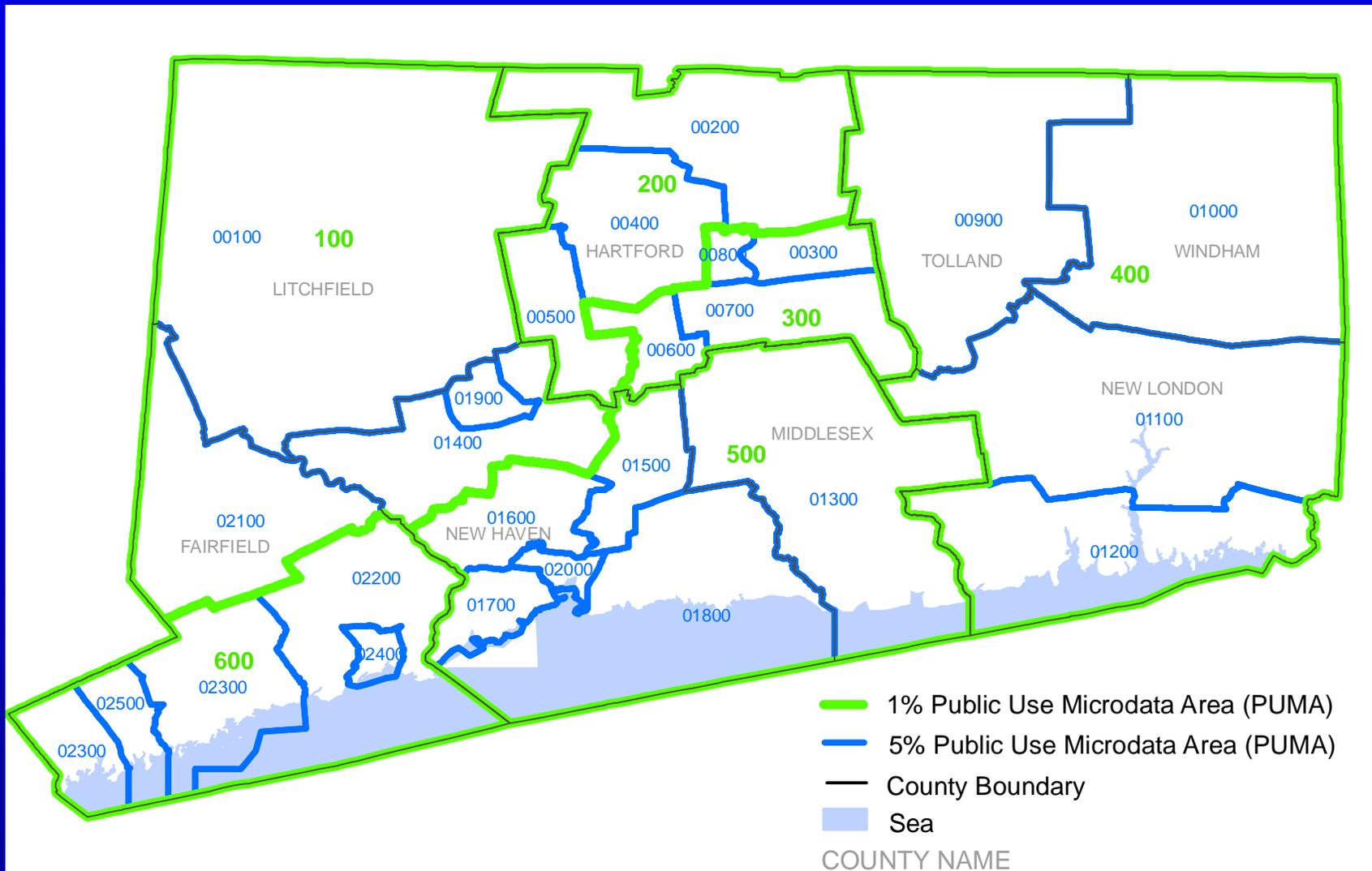
Composed of:

- Census tracts
- Places (generally metropolitan area central cities)
- One or more counties
- A combination of tracts and counties

PUMAs: Minimum population of 100,000, cannot cross a state line (5-percent long-form records sample)

Super PUMAs: Aggregated PUMAs with a minimum population of 400,000 (1-percent long-form records sample). Cannot cross state lines.

Public Use Microdata Areas



Questions?

Geographic area concepts, criteria, codes, and attributes:

Geographic Standards and Criteria Branch: x3-3056

Geographic products:

Geographic Products Management Branch: x3-1128