

The Census Bureau, TIGER, and Geospatial Information: Over Two Decades of Accurate and Reliable Data for the GIS Community

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Today's Presentation:

- Brief introduction to TIGER
- Census Bureau spatial data
 - TIGER/Line shapefiles
 - TIGERweb
- Accessing statistical data and visualizing data
- Geographic areas
 - Urban Areas
 - Places
 - Census Tracts

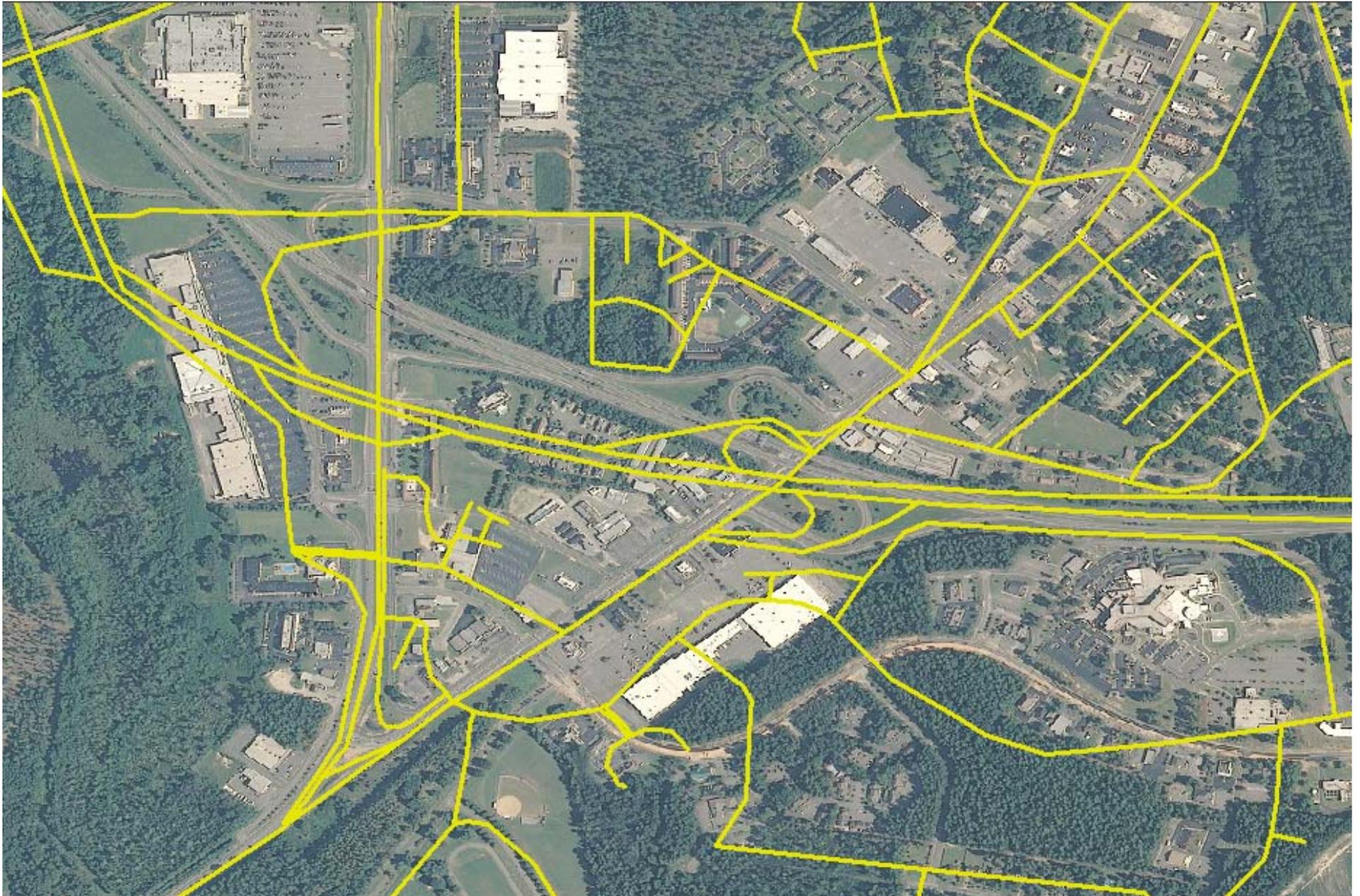
TIGER

- Topologically Integrated **Geographic Encoding and Referencing System**
 - A digital map of US, Puerto Rico, & Island Areas
 - Contains
 - Roads (Streets), Rail, Hydro
 - Geographic Entity Boundaries
 - Housing Unit Locations
 - Address Ranges and Zip codes
 - Key Geographic Locations

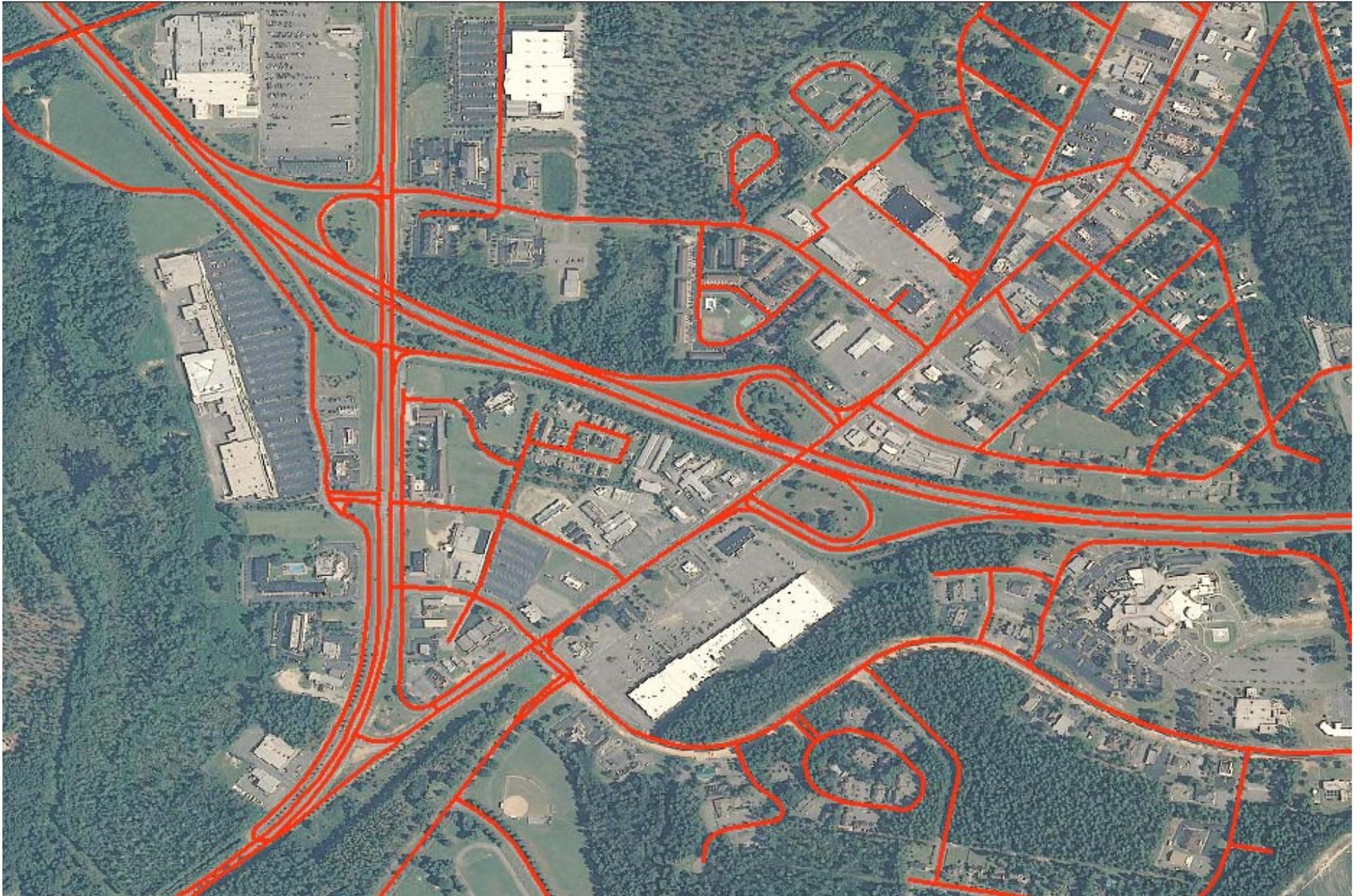
MAF/TIGER Accuracy Improvement (MTAIP)

- 2002 – 2008
- Emphasis on **positional** accuracy
- Processed at county level
- Total of 3,233 files processed

Scotland County, NC – Before MTAIP



Scotland County, NC – After MTAIP



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- Partnerships
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- Research

Maps & Data

- [Maps & Data Main Page](#)

Maps

- [Reference](#)
- [Thematic](#)
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Data

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TIGER Products

TIGER = Topologically Integrated Geographic Encoding and Referencing

The Census Bureau offers several file types and an application for mapping census geographic data based on data found in our MAF/TIGER database. Our products are:

- [TIGER/Line Shapefiles](#)
- [TIGER/Line Shapefiles pre-joined with Demographic Data](#) - 2010 Census selected geography
- [Cartographic Boundary Files](#)
- [KML Prototype Files](#)
- [TIGERweb](#)

Which product should I use?

Product	Best For...	File Format	Type of Data	Level of Detail	Descriptive Attributes	Vintages Available
TIGER/Line Shapefiles	Most mapping projects--this is our most comprehensive dataset . Designed for use with GIS (geographic information systems).	Shapefiles (.shp) and database files (.dbf)	Boundaries, roads, address information, water features, and more	Full detail (not generalized)	Extensive	2006 - 2011
TIGER/Line Shapefiles & Geodatabases with Demographic Data	Demographic analysis from selected attributes from the 2010 Census. Designed for use with GIS.	Shapefiles (.shp) and Geodatabases	Boundaries, Population Counts, Housing Unit Counts, 2010 Census Demographic Profile 1 attributes and geography	Full detail (not generalized)	Limited	2010
Cartographic Boundary Files	Small scale (limited detail) mapping projects clipped to shoreline. Designed for thematic mapping using GIS.	Shapefiles (.shp)	Selected boundaries	Less detail (generalized)	Limited	2010, 2000, 1990
KML Prototype Files	Viewing data or creating maps using Google Earth, Google Maps, or other platforms that use KML.	KML (.kml)	Selected boundaries	Less detail (generalized)	Limited	2010
TIGERweb	Viewing maps online or streaming to your mapping application.	interactive viewer and WMS	Boundaries, roads, address information, water features, and more	Detailed and generalized	Extensive	2010

TIGER/Line Shapefiles - What

- <http://www.census.gov/geo/maps-data/data/tiger-line.html>
- Spatial Extracts from the Census Bureau's MAF/TIGER database
- Geographic Boundaries and Features
- 2007 version first in Shapefile format
 - Previously in TIGER/Line format
 - Change due to migration to Oracle

2010 Census TIGER/Line Shapefiles Pre-Joined with 2010 Census Demographic Profile

TIGER/Line[®] Shapefiles Pre-joined with Demographic Data

A limited set of TIGER/Line Shapefiles are available pre-joined with demographic data. These files were created as a proof of concept for another project and we are making them available to everyone.

We are working on an on-line tool that will allow you to access selected data from the 2010 Census and American Community Survey (ACS) for custom geographic areas (conforming to blocks for the 2010 Census and block groups or census tract boundaries for the ACS). We do not have plans to continue to create shapefiles and/or geodatabases pre-joined with demographic data as a regular product because of the large volume of data available and the many varying needs of customers. We will continue to work with our data providers to ensure there are easy links between the geographic products and the data products.



+ 2010 Census Demographic Profile 1 - Shapefile Format

+ 2010 Census Demographic Profile 1 - Geodatabase Format

+ 2010 Census Population & Housing Unit Counts - Blocks

TIGERweb Applications

Note: These links will open new browser windows.

[TIGERweb](#)

[TIGERweb2010](#)

The applications need:

- JavaScript enabled
- Allow Popups
- Microsoft Silverlight Plug-In

[Click to sign up for updates on TIGERweb and other Census Bureau Topics](#)

TIGERweb Application

The TIGERweb web-based application allows the users to visualize our TIGER (Topologically Integrated Geographic Encoding and Referencing database) data. The application allows users to select features and view their attributes, to search for features by name or geocode, and to identify features by selecting them from a map. The TIGERweb application is a simple way to view our TIGER data without having to download the data.

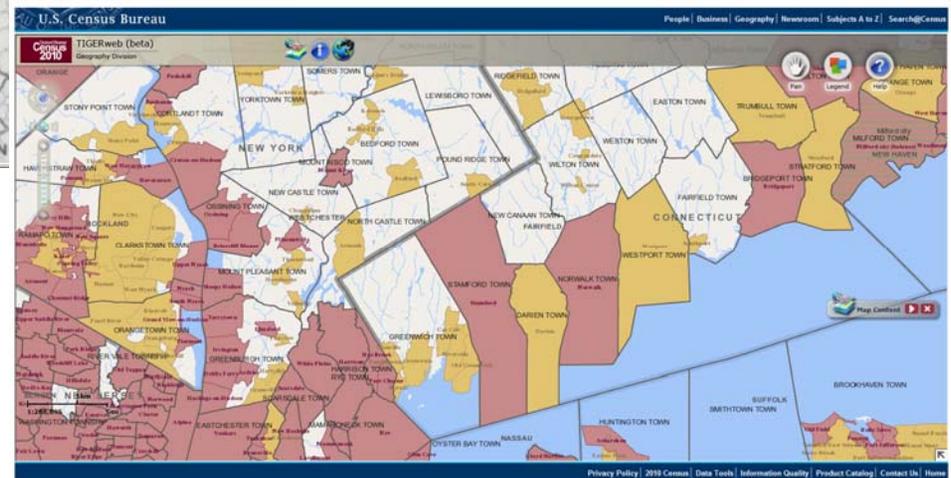
The TIGERweb application offers the ability to view:

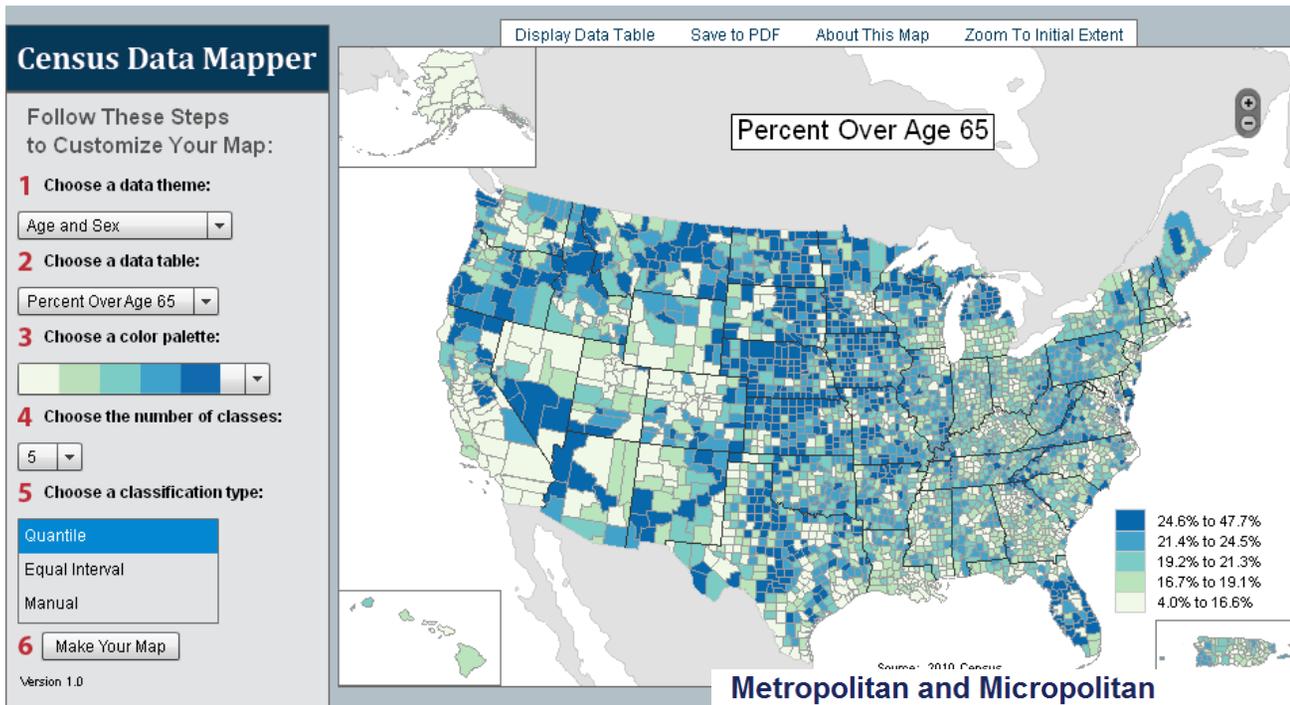
- Linear features
 - Roads, highways, streets
 - Railroads
 - Rivers, streams, and other "single-line" drainage
- Area water
 - Rivers, lakes, and glaciers
- Boundaries for legal and statistical geographic entities

Because geographic and locational context and relationships are important, the TIGERweb application determines which geographic entities and features may be visible based on map scale.

Users have the capability to turn on and off linear features and geographic entities by type. This allows users to limit the amount of data on the map by selecting only the features and entity types they would like to see.

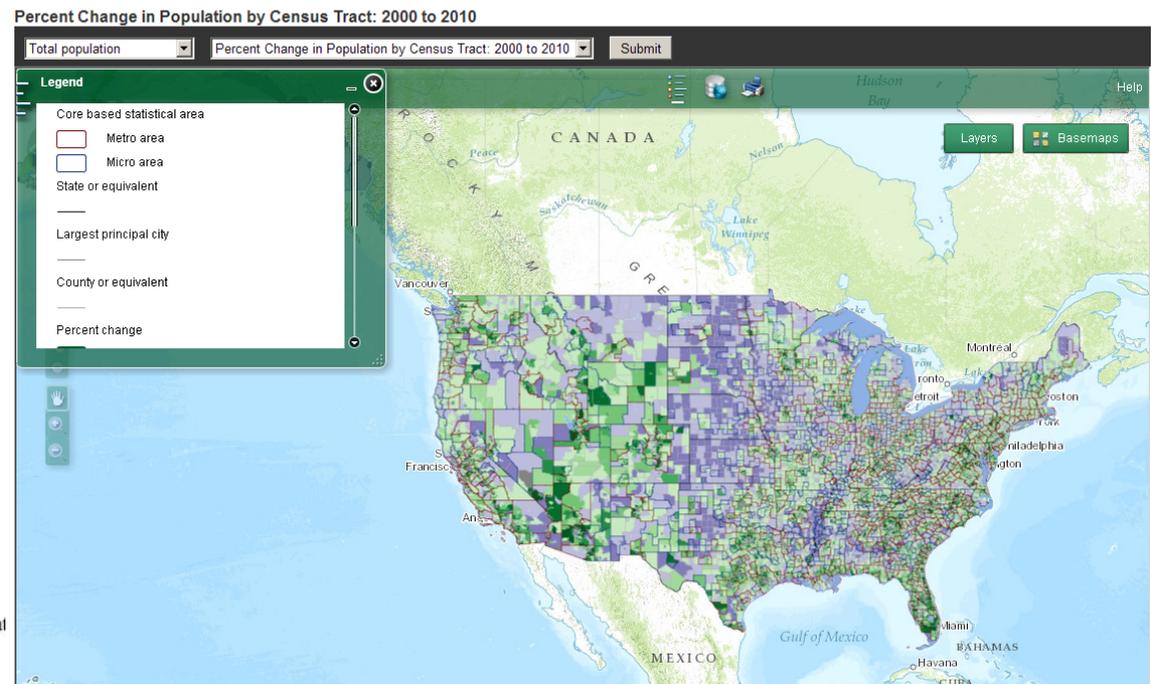
View the following video for an introduction to the TIGERweb application:





On-Line Mapping Tools

Census Data Mapper and Metro/Micro Area Data Viewer



<< Previous

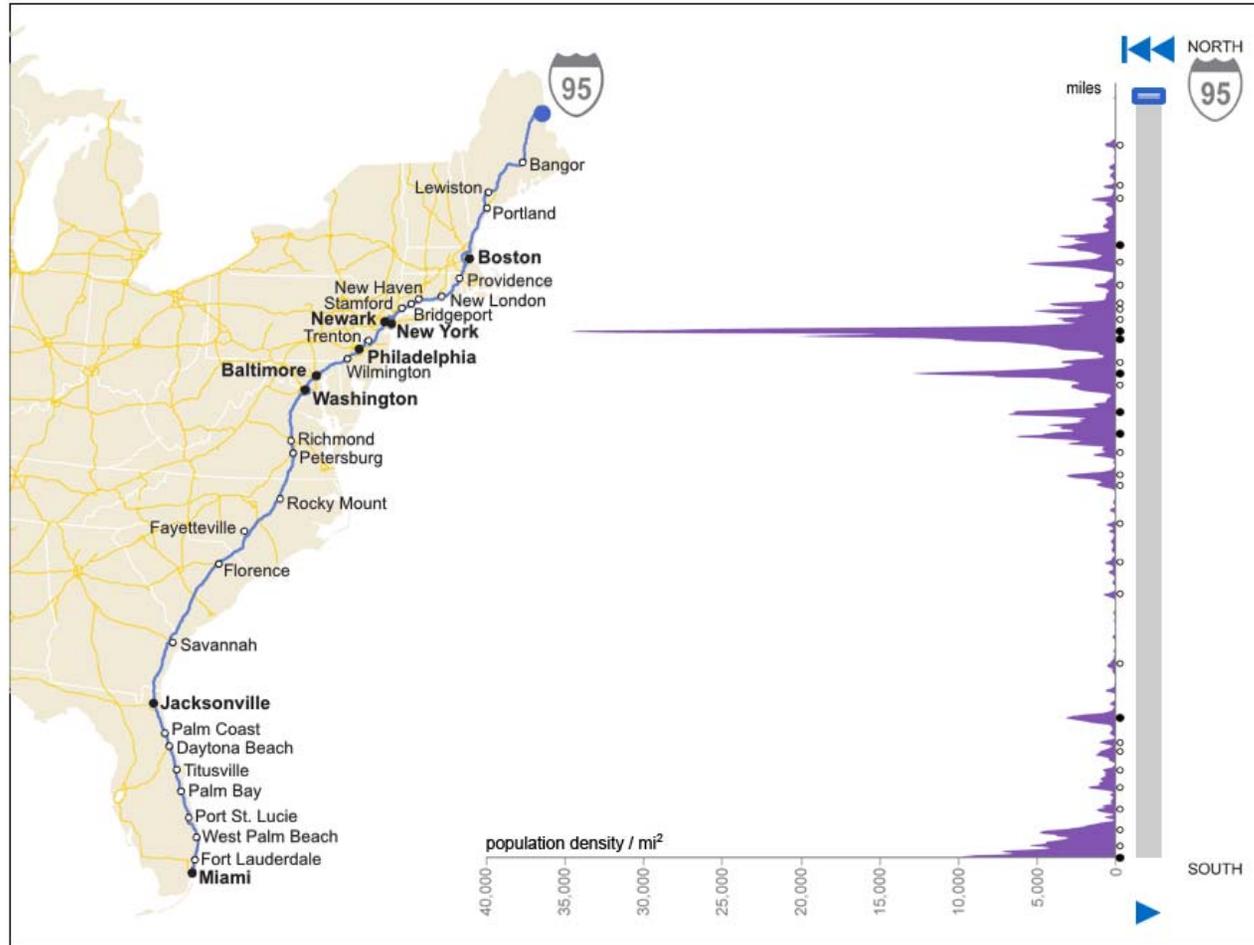
Return to Data Visualization Gallery

Next >>

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I-95 Population Density Profile, 2010

July 26, 2012



[View Data Table](#)

Running from Florida to Maine, I-95 passes through 15 states and District of Columbia, covering 2,800 miles. The following is population d...

Data visualization gallery:
<http://www.census.gov/dataviz/>

Your Selections

'Your Selections' is empty

Search using the options below:

Topics

(age, income, year, dataset, ...)

Geographies

(states, counties, places, ...)

Race and Ethnic Groups

(race, ancestry, tribe)

Industry Codes

(NAICS industry, ...)

EEO Occupation Codes

(executives, analysts, ...)

Quick Facts

Quick, easy access to facts about people, business, and geography.

Select the U.S. or a state to begin:

United States [GO]

Popular Searches

- Decennial Census
- Population
- Poverty
- Housing
- Income

Your source for population, housing, economic, and geographic information



Quick Start

Enter search term(s) and click 'GO' ?

topic or table name for state, county or place (optional)

for

topics race/ancestry industries occupations

Or use the options on the left to begin your search

News and Notes

GET EMAIL UPDATES

Nov 08, 2012

2011 Annual Survey of Manufactures (ASM) data are now available! The ASM provides sample estimates of statistics for all manufacturing establishments with one or more paid employees. Some key statistics include employment, payroll, supplemental labor costs, cost of materials consumed, operating expenses, value of shipments, value added by manufacturing, detailed capital expenditures, fuels and electric energy used, and inventories. more »

Oct 25, 2012

The 2009-2011 American Community Survey 3-year estimates are now available for cities, counties, and other geographic areas with populations of 20,000 or more. The 2009-2011 ACS 3-year data products are the first multiyear release to include the topic of Bachelor's Field of Degree. more »

Census Newsroom »

Getting Detailed Data

The following data are available on American FactFinder:

- Decennial Census
Taken every 10 years to collect information about the people and housing of the United States
- American Community Survey
An ongoing survey that provides data about your community every year
- Puerto Rico Community Survey
The equivalent of the American Community Survey for Puerto Rico
- Economic Census
Profiles the U.S. economy every 5 years
- Population Estimates Program

Address Search

Find Census data by entering a street address.

View the American FactFinder Data Release Schedule

Download large volume data from the Census Bureau's FTP Site

A how-to guide for Building Deep Links into American Factfinder (PDF) is available

Reference Maps

Reference Maps show selected geographic boundaries for an area along with orienting features, such as roads.

United States [GO]

Load Query

Use Load Query to restore a previously saved query

LOAD QUERY

Access Data with Census APIs

[Main](#) | [Data Sets](#) | [Geography](#) | [App Gallery](#)

Developer Forum

Join our [Developer Forum](#) to submit questions, provide feedback, and share ideas to help the Census Bureau as it makes data available through APIs.

Using the API

[Examples and Supported Geography \[PDF\]](#)

[SF1 Examples and Supported Geography](#)

[ACS Examples and Supported Geography](#)

[Request a Key](#)

Download Data

To download full data sets, visit our [FTP Server](#)

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Census Bureau APIs

To improve access to data and encourage innovation, the Census Bureau has begun to provide API access to some data sets, beginning with the 2010 Census Summary File 1 and the 2010 American Community Survey (five year data). We invite developers to use these APIs, join our Developer Forum, and provide feedback to help us move forward with continued API development.

Please read the [Terms of Service](#) for using the API.

Note on URL base: Please note the the URL of the API has changed to api.census.gov. The former URL will remain active until August 6th. Please update your calls to reflect the new URL.

Accessing Data

Data are accessible to software developers through a stateless HTTP GET request. In order to access data, you will need to insert a key into the request URL in order for query results to be returned. If you do not have a key assigned to you, you will be directed to the Request a Key page where you can register for one.

1) Example of the request URL for 2010 Census SF1 data that has an assigned key inserted:

http://api.census.gov/data/2010/sf1?key=b48301d897146e8f8efd9bef3c6eb1fcb864cf&get=P0010001,NAME&for=state:*

2) Example of the request URL for ACS 2010 5 Year data for Total Population for California and New York:

http://api.census.gov/data/2010/acs5?key=b48301d897146e8f8efd9bef3c6eb1fcb864cf&get=B02001_001E,NAME&for=state:06,36

3) Example of the request URL for ACS 2010 5 Year data for Gross Rent as a Percentage of Household Income, 10.0 to 14.9 percent for all counties in CA:

http://api.census.gov/data/2010/acs5?key=b48301d897146e8f8efd9bef3c6eb1fcb864cf&get=B25070_003E,NAME&for=county:*&in=state:06

4) Example of the request URL for 2010 Census SF1 white population of 12 year olds in Alabama

[http://api.census.gov/data/2010/sf1?key=\[user key\]&get=PCT012A015,PCT012A119&for=state:01](http://api.census.gov/data/2010/sf1?key=[user key]&get=PCT012A015,PCT012A119&for=state:01)

Query Response

The response for all queries is formatted as a two dimensional JSON array where the first row provides column names and subsequent rows provide data values.

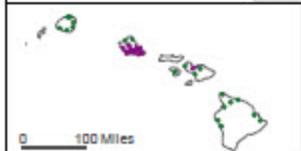
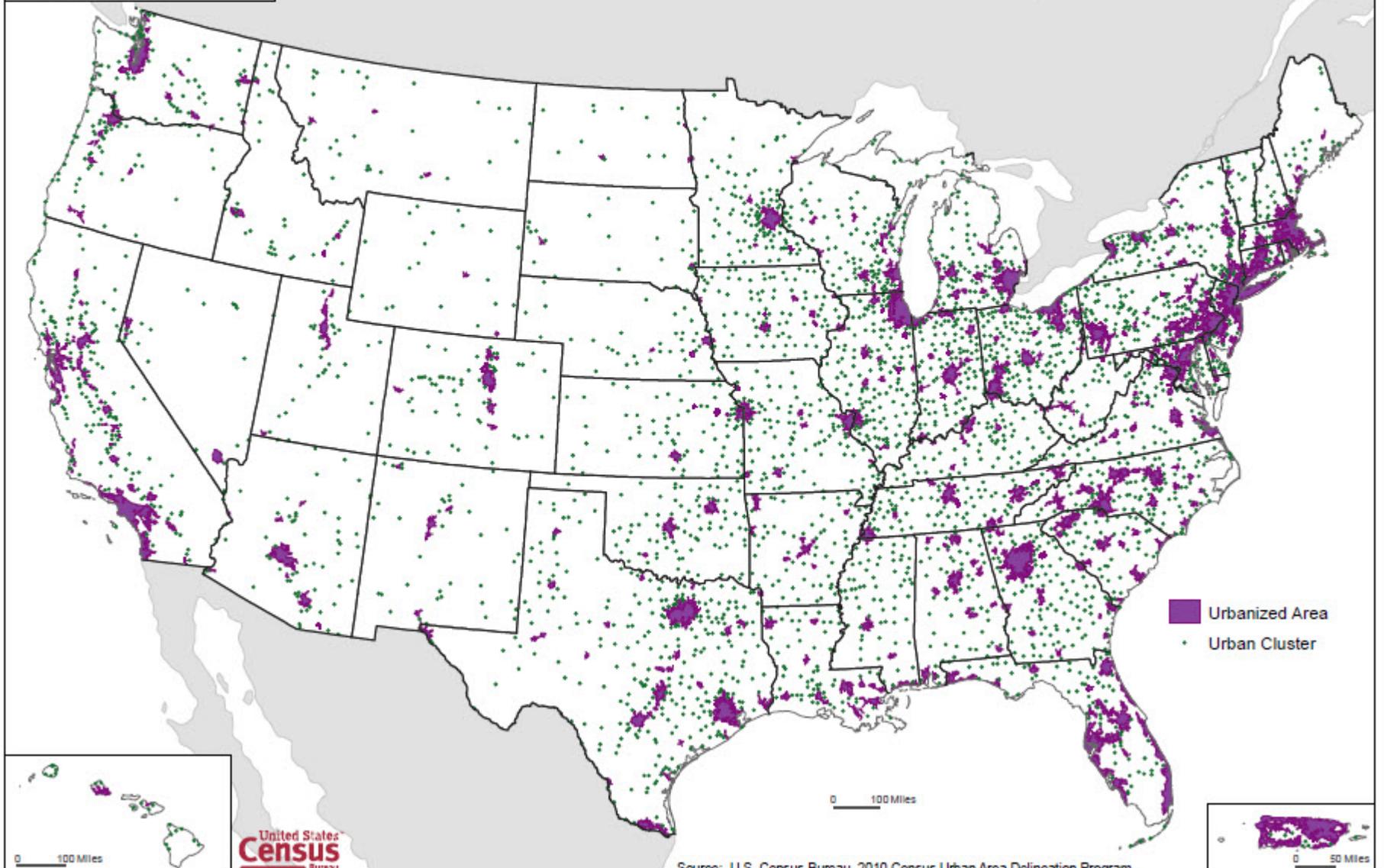
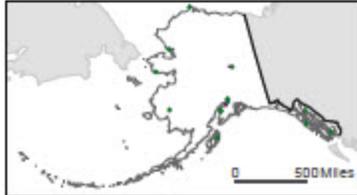
An example query response looks like this:

```
[["P0010001","NAME","state"],  
["710231","Alaska","02"],  
["4779736","Alabama","01"],  
["2915918","Arkansas","05"],  
["6392017","Arizona","04"],  
["37253956","California","06"],
```

Each query response will include an HTTP status code. The table below lists the status codes and what they mean.

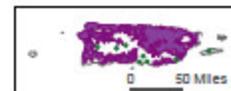
HTTP Status Code Descriptions

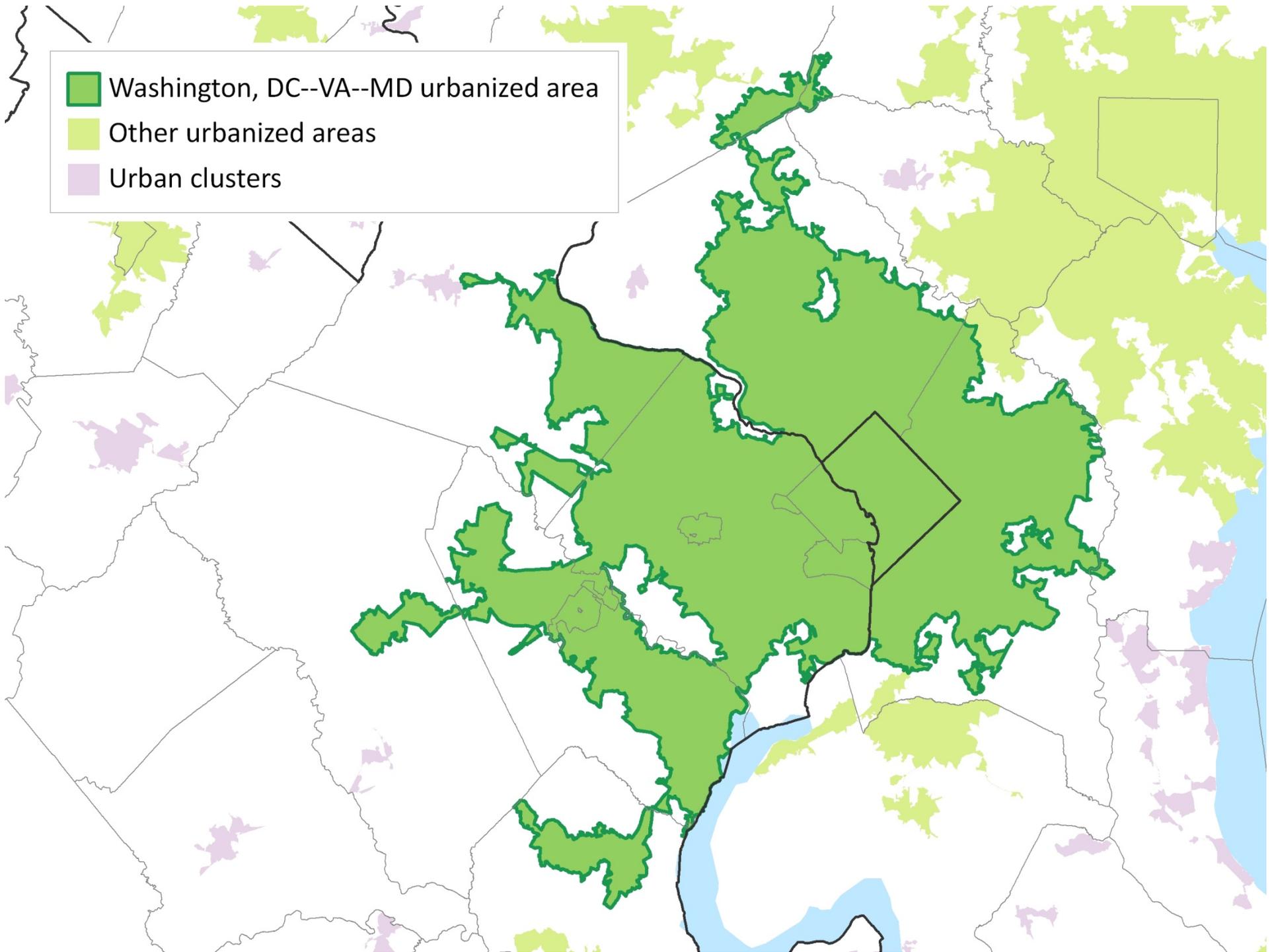
Urbanized Areas and Urban Clusters: 2010



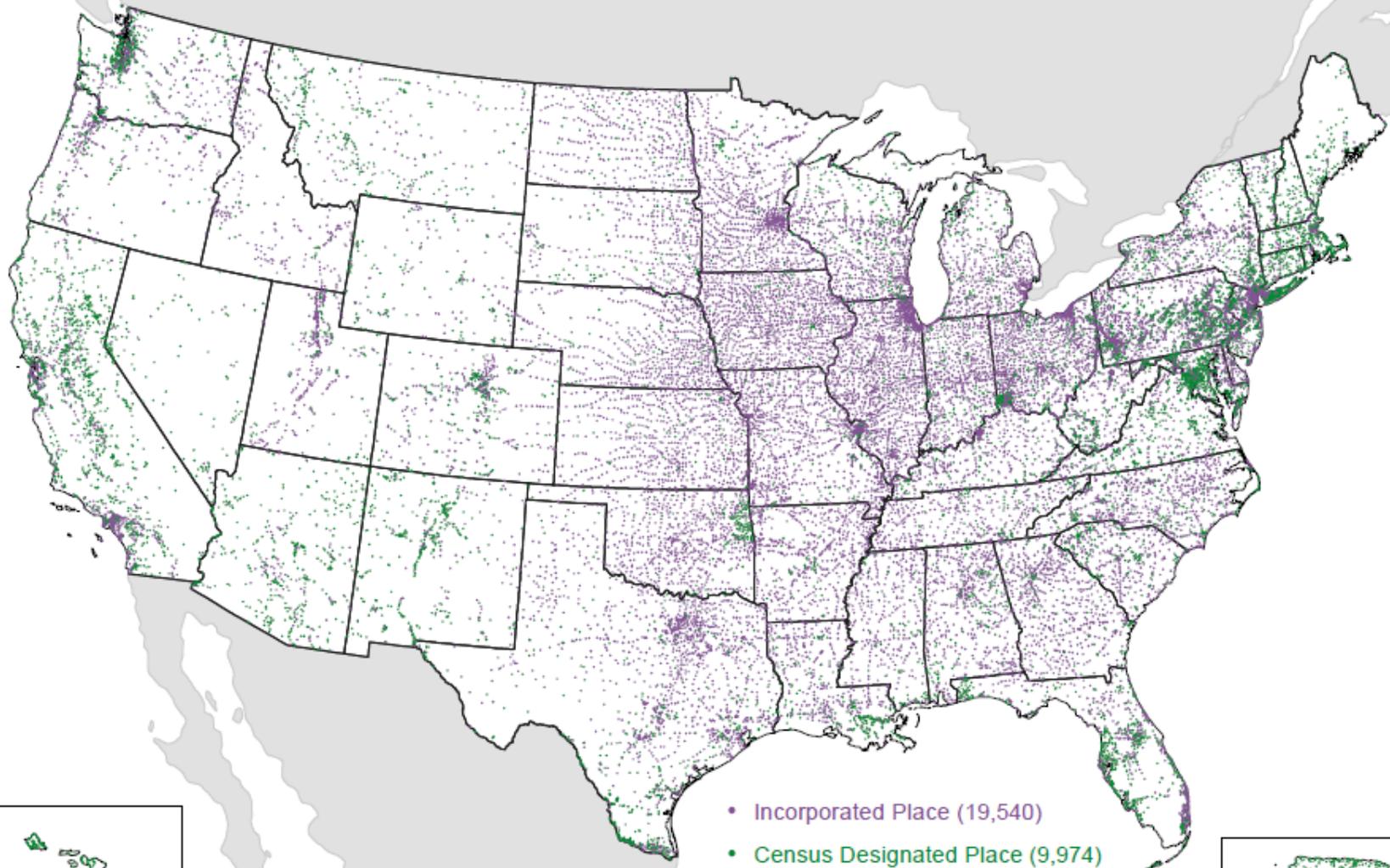
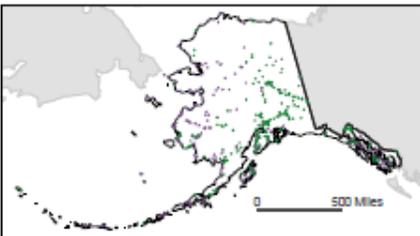
United States
Census
Bureau

Source: U.S. Census Bureau, 2010 Census Urban Area Delineation Program

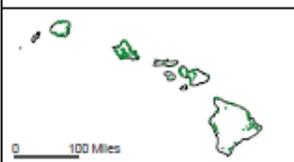




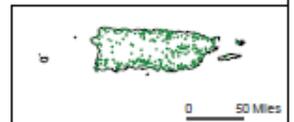
2010 Census Distribution of Places



- Incorporated Place (19,540)
- Census Designated Place (9,974)



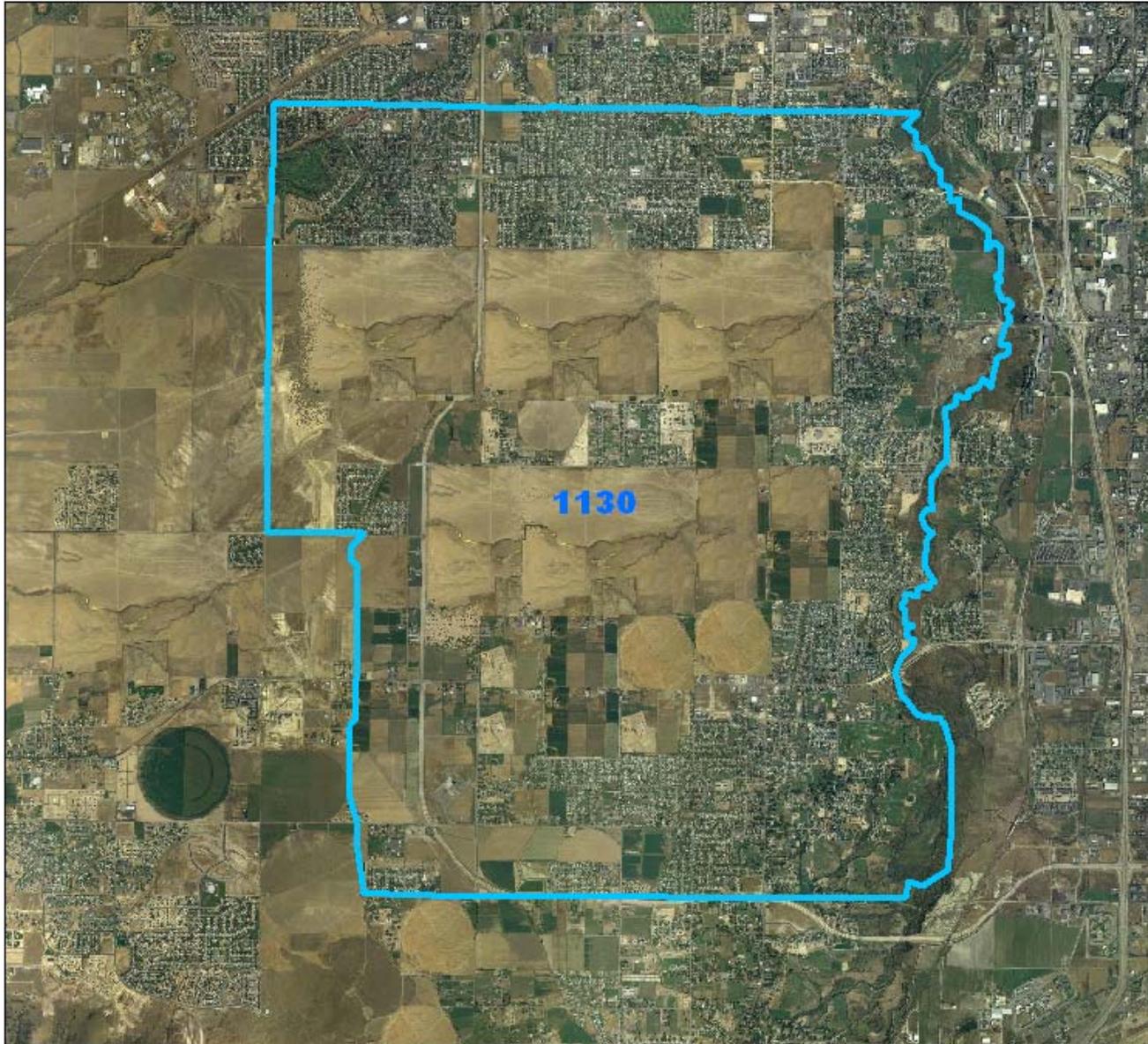
United States
Census
Bureau



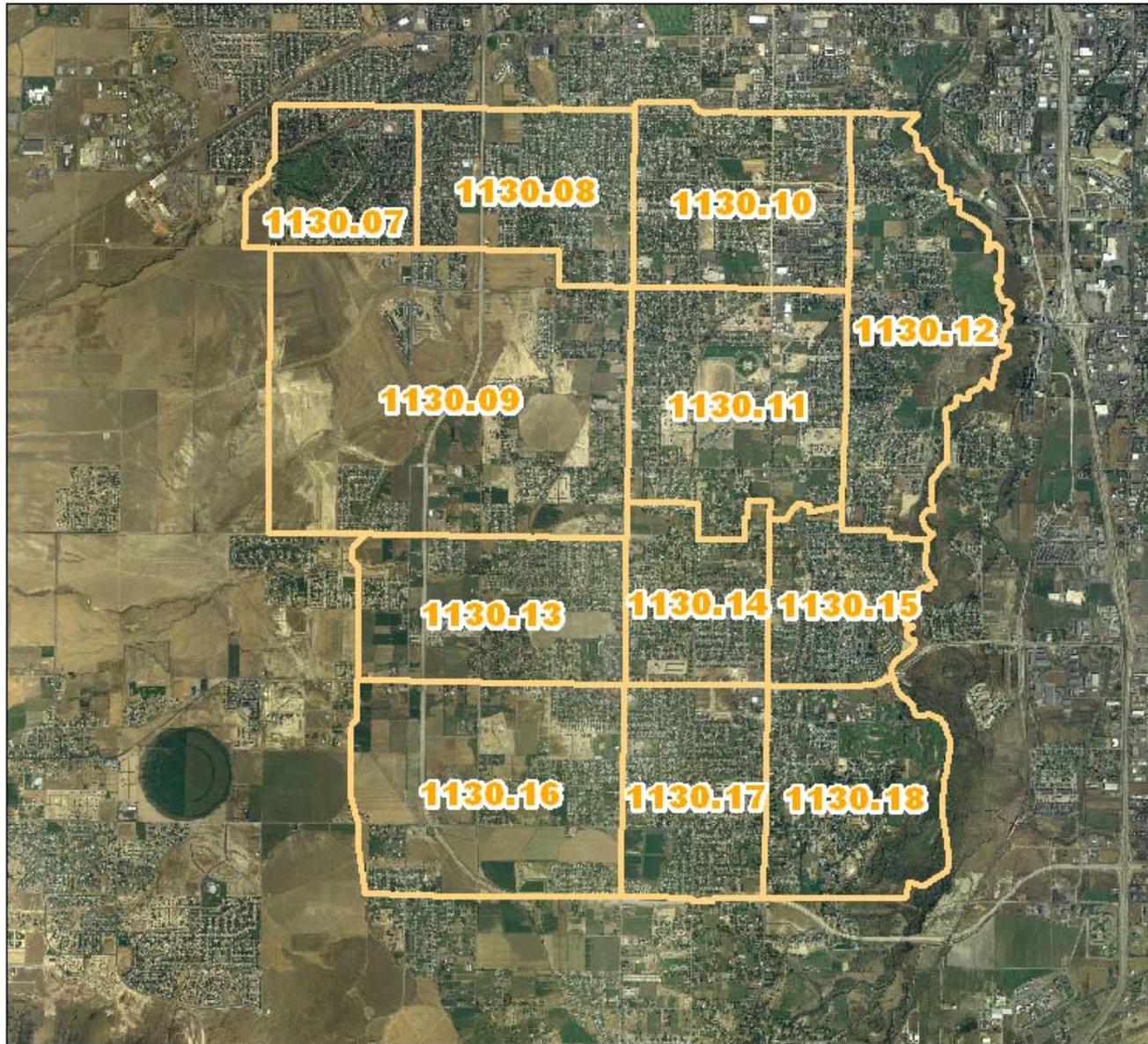
Census Tracts

- Census tracts are small, relatively permanent statistical subdivisions of a county.
 - Uniquely numbered in each county with a numeric code
- Census tracts average about 4,000 inhabitants
 - Minimum Population – 1,200
 - Maximum Population – 8,000

1970 Census Tracts



2000 Census Tracts



Questions? Need more information?

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