

# Census Tracts

Geographic Products Branch  
U.S. Census Bureau



# Overview

- Definition of a census tract
- History of census tracts
- How census tracts are updated each decade
- How to compare census tract boundaries decade to decade

# Definition

- 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

Census tracts are small, relatively permanent statistical subdivisions of a county. Census tracts nest within the county and are given a numeric code that is unique within the county. The minimum population for a census tract is 1,200 and the maximum is 8,000. Most census tracts average about 4,000 people.

# Map of census tracts



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This figure displays an example of what census tracts look like. The black outline represent the county boundaries in Alabama. The different colored polygons represent the census tracts. The census tracts shown above are from 2000.

# History of the Census Tract

1790	First census
1890	First delineation of small geographic areas called sanitary districts
1906	Dr. Walter Laidlaw suggested the delineation of permanent, small geographic areas that would retain their boundary census to census
1910	Dr. Laidlaw divided NYC into “districts” and asked Census to do the same for seven other cities
1920	Dr. Laidlaw published data by district for NYC
1930	Howard Wipple became chairman of the Committee on Census Enumeration Areas and promoted the use of census tracts



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Here is some history of the census tract:

1790: The first recorded Census occurred in 1790.

1890: The first recorded instance of the delineation of small geographic entities, called sanitary districts. 1890 also marks the first time the U.S. Census Bureau worked with local officials to delineate geography.

1906: Dr. Walter Laidlaw, director of the Population Research Bureau of the New York Federation of Churches, suggested the U.S. Census Bureau delineate permanent, small geographic areas that would retain their boundary census to census. He had tried to perform research in New York, but was having trouble because the boundaries he was using were not consistent from census to census.

1910: Dr. Laidlaw divided New York City into 40-acre tracts called “districts.” He also persuaded Census to do the same for seven other cities that had a population over 500,000.

1920: Dr. Laidlaw published data by district for New York City.

1930: Howard Whipple Green, a statistical consultant, helped promote the idea of census tracts. He was having some of the same data problems as Dr. Laidlaw. Many cities decided to define their own census tracts. Mr. Green became chairman of the newly formed Committee on Census Enumeration Areas, promoting census tracts. When he retired, the Census Bureau took on the responsibility of getting the word out about census tracts.

# History of the Census Tract

1940	The census tract became an official geographic entity for which the Census Bureau would publish data for. Census tracts covered major cities and block number areas (BNAs) covered many other cities
1970	The number of BNAs increased and the criteria of the BNA matched the census tract
1980	
1990	Census tracts and BNAs covered the entire nation
2000	The BNA concept was retired and census tracts were defined nationwide.
2010	100 <sup>th</sup> anniversary of the census tract

1940: The census tract became an official geographic entity to be included in the data tables of standard publications. Census tracts were now in major cities and block numbering areas (BNAs) were delineated for cities where tracts did not exist.

1970-1980: The number of BNAs increased and the criteria of BNAs changed to match the criteria for census tracts.

1990: Census tracts and BNAs now covered the entire nation.

2000: The BNA concept was retired and census tracts were defined nationwide.

2010: 2010 marks the 100<sup>th</sup> anniversary of the census tract. Census tracts continue to be an important geographic entity for data tabulation.

# Updating Census Tracts

- Participant Statistical Areas Program (PSAP)
  - Program offered once every 10 years
  - Local involvement in delineating statistical areas
  - Census tracts are split or merged, depending on population change
  - The new 2010 census tracts were released as part of the 2010 TIGER/Line Shapefiles beginning in December 2010.



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Census tracts are updated, along with other statistical areas such as census block groups and census designated places, through the Participant Statistical Areas Program (PSAP). The program is currently only offered once a decade, so census tracts are only updated once a decade. The U.S. Census Bureau partners with local governments, usually council of governments or associations of governments. PSAP asks participants to splits tracts that now have more than 8,000 people, or merge tracts that no longer meet the minimum population requirement of 1,200 people. The participants will usually meet with different parties, such as city governments, researchers, and others that uses the data, to have input on the census tract plan.

The new 2010 census tracts became available to the public beginning in December 2010, when the 2010 TIGER/Line Shapefiles were released.

# Updating Census Tracts

- Census tracts are designed to be relatively permanent over time.
  - Any changes are documented so data can be compared from decade to decade.
- Census tracts with more than 8,000 people are split into 2 or more tracts and are given an extension to their existing numeric code
- Census tracts with less than 1,200 people are merged with a neighboring tract and are given a new numeric code
- Small boundary corrections are sometimes allowed as well.

Census tracts are designed to be relatively permanent over time, so that data can be compared from decade to decade. Therefore, changes to census tracts are documented and the outline of the original tract is usually maintained.

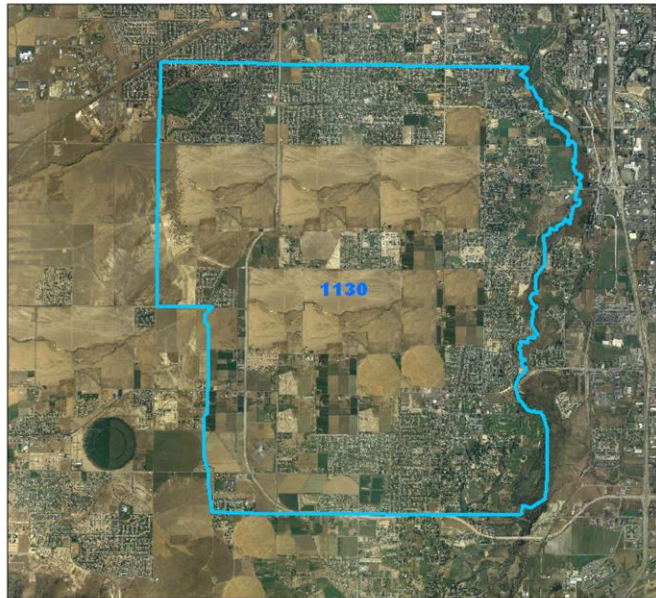
In areas where population has increased, if the census tract now has more than 8,000 people, the census tract is split into two or more tracts so that the population requirements are met.

In areas where population has decreased, if the census tract now has less than 1,200 people, the census tract is merged with a neighboring tract so that the population requirements are met.

In other areas, small revisions to the census tract boundary are allowed, but the boundary change cannot affect a large amount of the population in the tracts affected. Sometimes small boundary changes have occurred so that the census tract boundary can follow a visible feature such as a road or river.



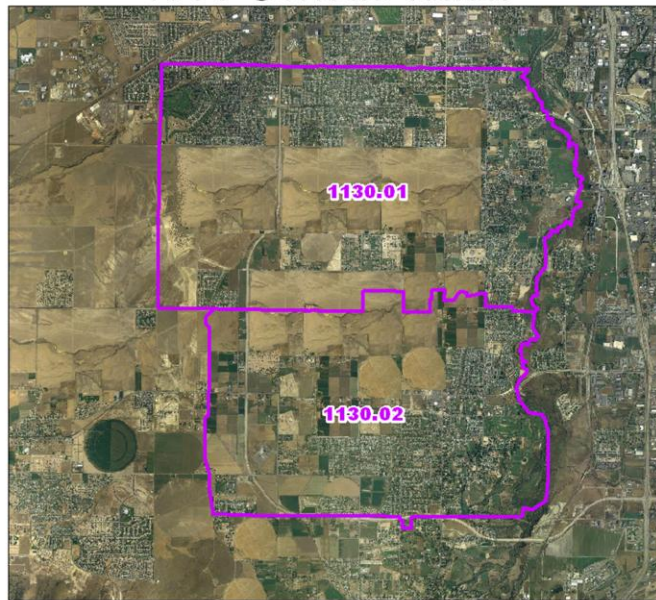
## 1970 Census Tracts



The next few slides show an example of an area where population continues to grow and therefore the census tract is split over the decades.

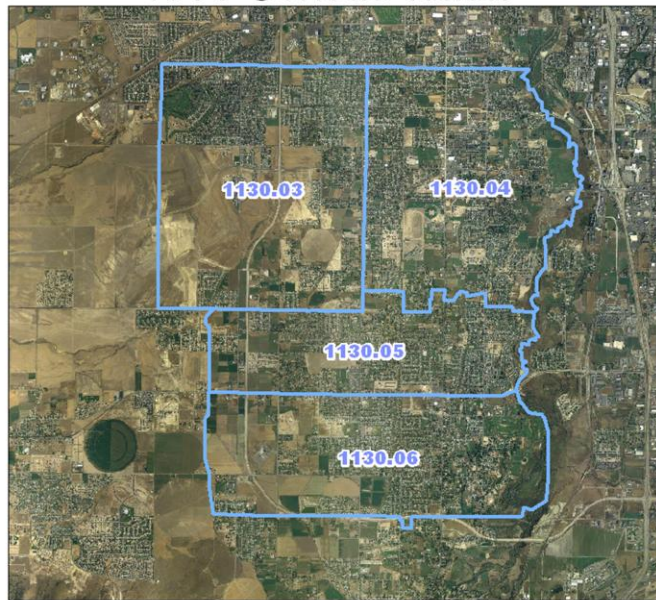
This is the original tract 1130 in South Jordan City, Utah during the 1970 Census

## 1980 Census Tracts



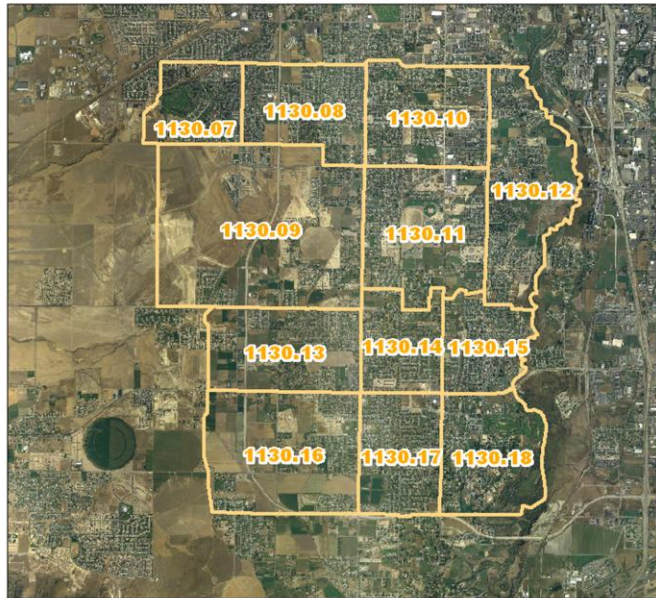
For the 1980 Census, enough growth occurred to split the original tract 1130 into two new pieces. Note the tract suffixes .01 and .02.

## 1990 Census Tracts



For the 1990 Census, growth has again continued at an accelerated pace requiring the two tracts from 1980 to be split further. Notice the original suffixes are no longer used and new ones are provided.

## 2000 Census Tracts



Finally in the 2000 Census, the four tracts from 1990 had to be further sub-divided. Once again, the tract suffixes from 1990 are no longer used and new ones are given. You can see that the original outline of tract 1130 still exists, so you can compare the data from 2000 to the same geographic area in 1970.

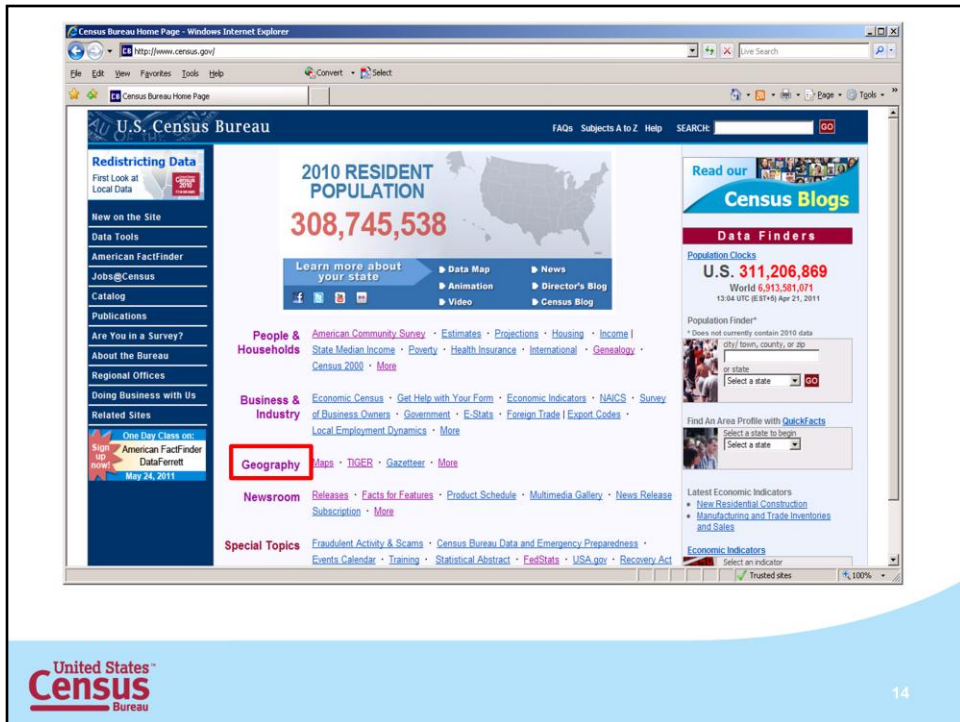
## Census Tract Relationship Files

- Files that show how 2000 census tracts relate to 2010 census tracts
- One record per each 2000 census tract/2010 census tract spatial set
  - The area that is uniquely shared between a 2000 census tract and a 2010 census tract
- Three sets of files
  1. Census Tract Relationship File with population and housing unit information and area measurement (both national and state-based files)
  2. Substantially Changed 2000 Census Tract Files (both national and state-based files)
  3. Substantially Changed Census 2010 Census Tract Files (both national and state-based files)

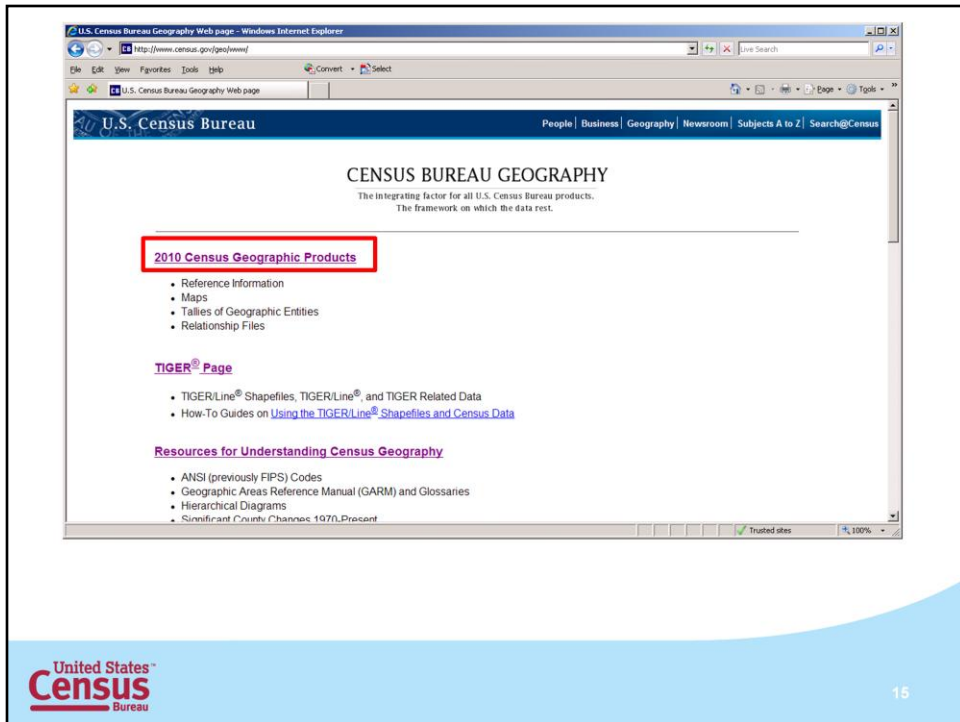
Another way to see the changes made to census tracts over the decade is through the census tract relationship files. These files show how the 2000 census tracts relate to the 2010 census tracts. There is one record per each 2000 census tract/2010 census tract spatial set showing the area that is uniquely shared between a 2000 census tract and a 2010 census tract.

There are three sets of relationship files available for download from our website. The first set of files include population and housing unit information as well as area measurement. The second and third set of files represent the census tracts that exhibit a 2010 population change of 2.5% or greater – where no single part has at least 97.5% of the total respective tract, and also those tracts where the unique identifiers between 2000 and 2010 are different regardless of population change.

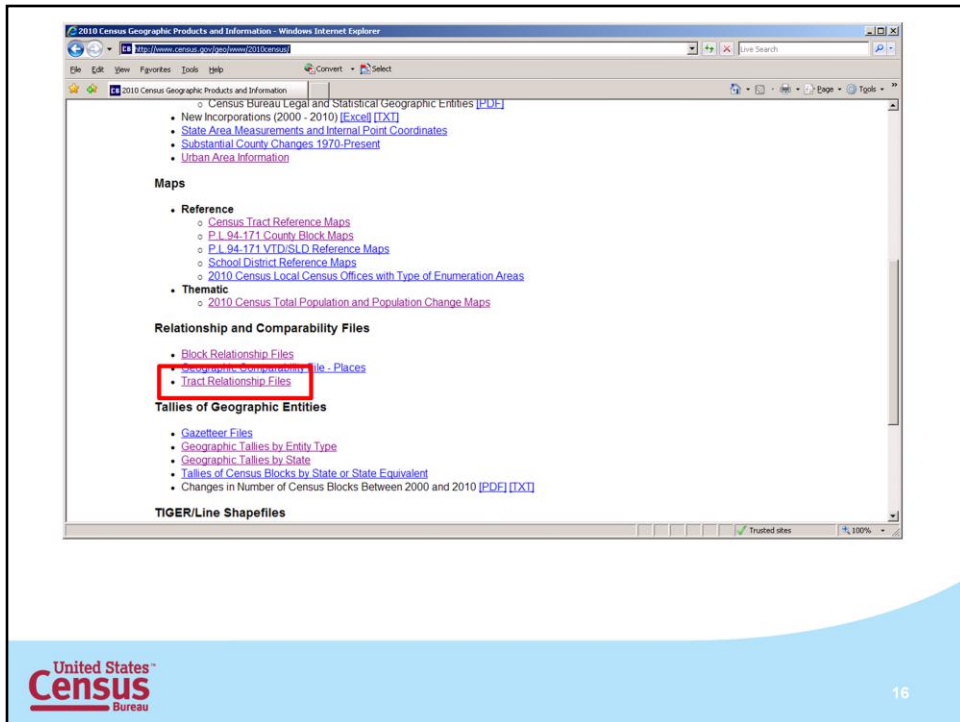




In order to access the relationship files, go to [www.census.gov](http://www.census.gov) and click on Geography.

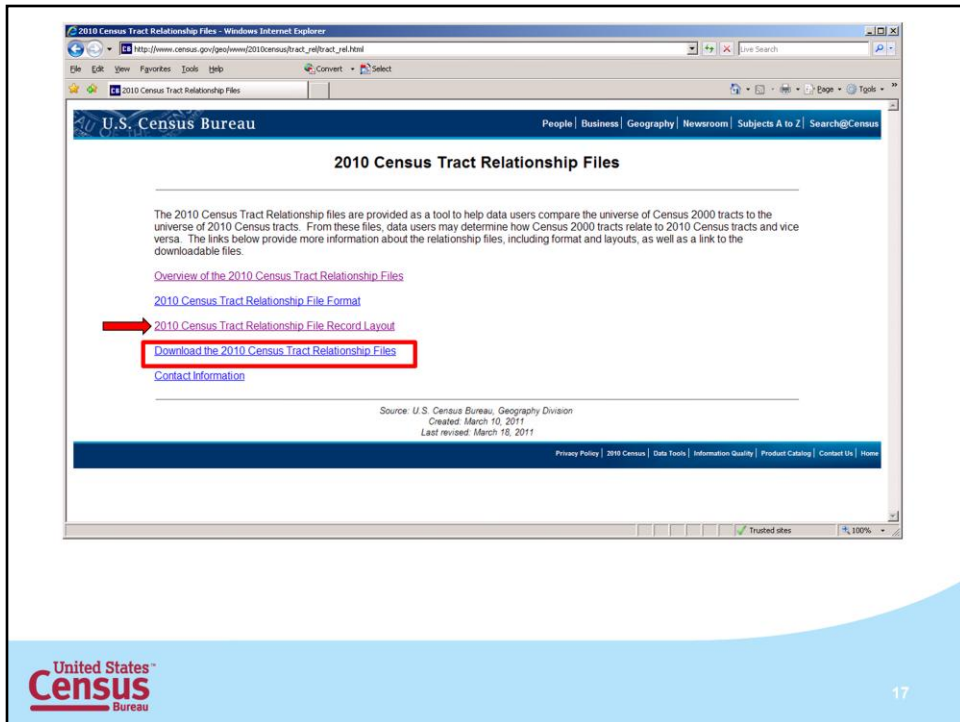


Next, click on 2010 Census Geographic Products.

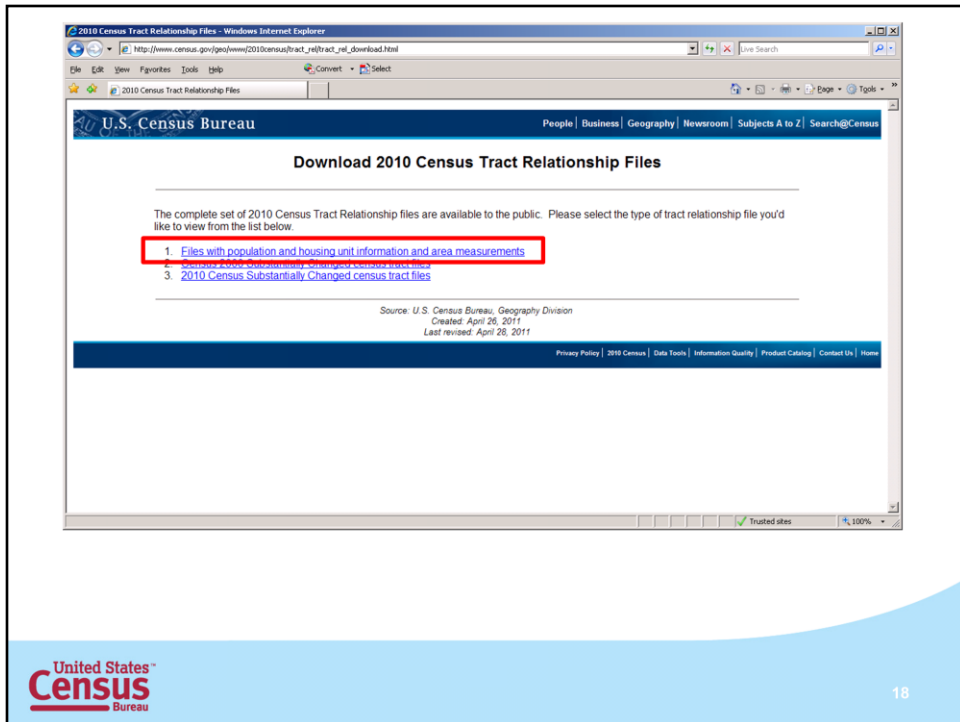


Scroll to the bottom of the page and under Relationship and Comparability Files click on the Tract Relationship Files.

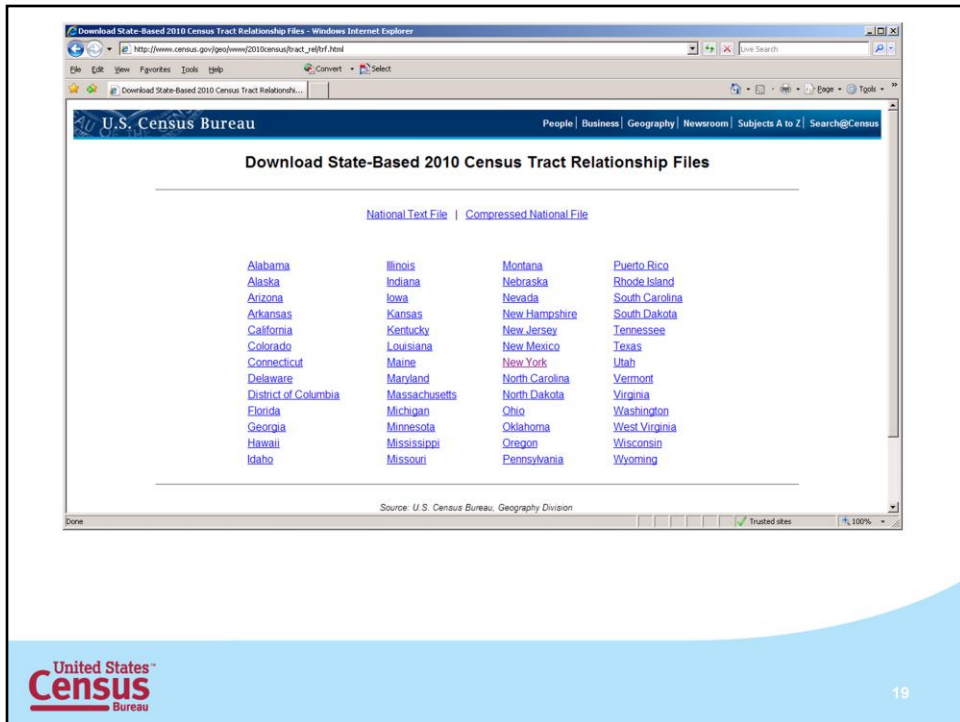




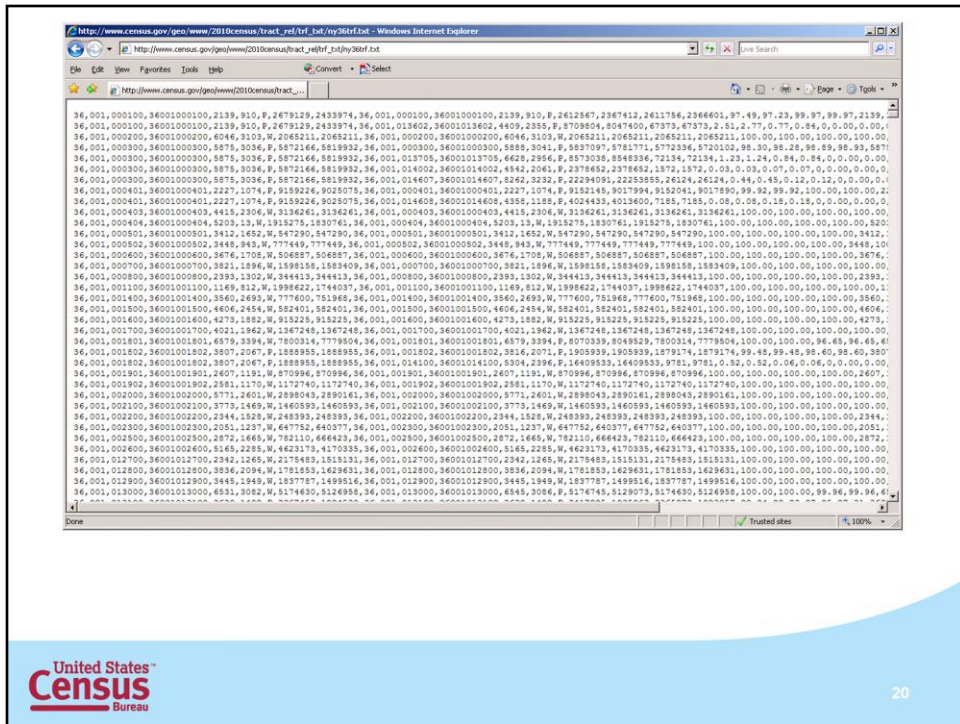
Now click on Download the 2010 Census Tract Relationship Files. Please also note that you can download the File Record Layout from this page as well.



Then, click on Files with population and housing unit information and area measurements.

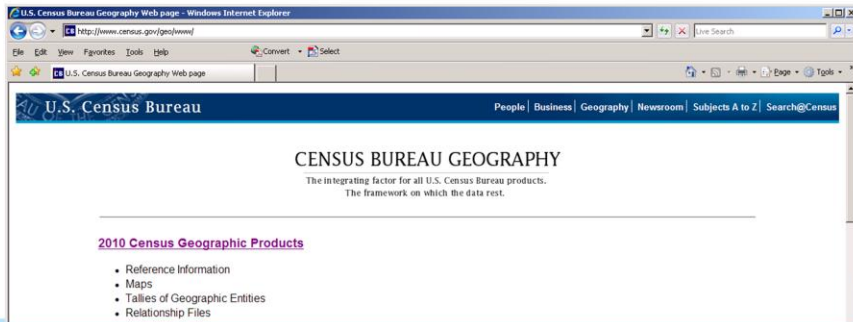


Next, choose the state you are working in. If you would like to download the tract relationship file for the entire nation, you can choose the National File at the top.



The results are a comma-delimited ASCII file that you can view in your internet window or save to your computer so you can open the file in Excel or Access.

- To visualize the tract relationship files, you can use our TIGER/Line shapefiles or the tract outline PDF maps.
- Both of these products are available from our main Geography page: <http://www.census.gov/geo/www/>





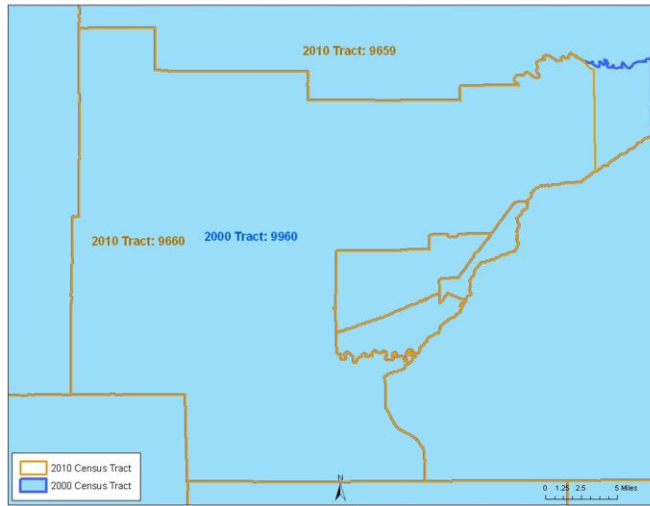
In the following examples, we have overlaid the 2000 census tracts (in blue) with the 2010 census tracts (in orange) using the 2010 TIGER/Line shapefiles.

In this example, the census tract from 2000 is exactly the same as the 2010 census tract. The unique identifier and boundary are the same.

There is one corresponding record in the tract relationship file:

STATE00: 08  
 COUNTY00: 029  
 TRACT00: 965000  
 GEOID00: 08029965000  
 POP00: 5017  
 HU00: 2465  
 PART00: W  
 AREA00: 827553078  
 AREALAND00: 824172988  
 STATE10: 08  
 COUNTY10: 029  
 TRACT10: 965000  
 GEOID10: 08029965000  
 POP10: 5017  
 HU10: 2465  
 PART10: W  
 AREA10: 827553078  
 AREALAND10: 824172988  
 AREAPT: 827553078

# Revision



In this example, the census tract from 2000 has been slightly revised for 2010. Small boundary corrections were allowed, as long as they did not affect a large amount of the population. Since the 2000 census tract now crosses over into two 2010 census tracts, there are two records in the tract relationship file. You can see in the records below that this boundary change only affected 4.05% of the 2010 population, moving 95 people from 2000 census tract 9960 to 2010 census tract 9659.

## Record 1

STATE00: 08  
COUNTY00: 075  
TRACT00: 996000  
GEOID00: 08075996000  
POP00: 2343  
HU00: 1063  
PART00: P  
AREA00: 1412988519  
AREALAND00: 1399653228  
STATE10: 08  
COUNTY10: 075  
TRACT10: 965900  
GEOID10: 08075965900  
POP10: 1090  
HU10: 562  
PART10: P  
AREA10: 1428587152  
AREALAND10: 1425550434

## Record 2

STATE00: 08  
COUNTY00: 075  
TRACT00: 996000  
GEOID00: 08075996000  
POP00: 2343  
HU00: 1063  
PART00: P  
AREA00: 1412988519  
AREALAND00: 1399653228  
STATE10: 08  
COUNTY10: 075  
TRACT10: 966000  
GEOID10: 08075966000  
POP10: 2248  
HU10: 1020  
PART10: W  
AREA10: 1364022078  
AREALAND10: 1350695753

# Merged



In this example, 2000 census tracts 1 and 2 merged together to form 2010 census tract 6. In 2010, each census tract did not meet the population criteria since census tract 1 had a population of 857 and census tract 2 had a population of 751. So, the two census tracts merged and census tract 6 now has a population of 1608, which meets the minimum population threshold.

## Record 1

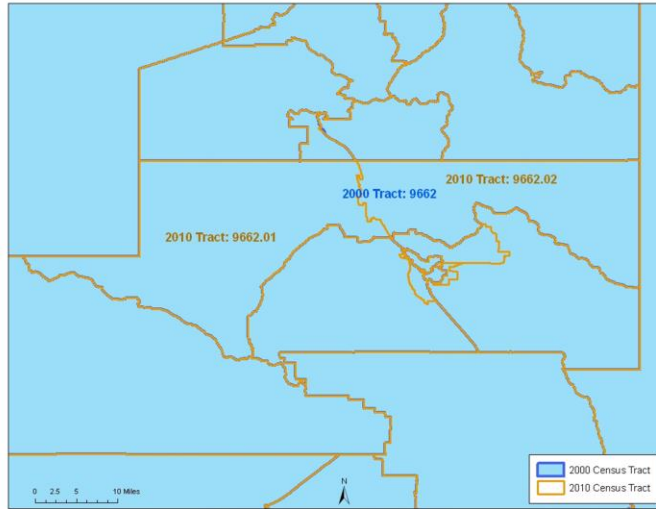
STATE00: 08  
COUNTY00: 081  
TRACT00: 000100  
GEOID00: 08081000100  
POP00: 857  
HU00: 532  
PART00: W  
AREA00: 8956127151  
AREALAND00: 8942176703  
STATE10: 08  
COUNTY10: 081  
TRACT10: 000600  
GEOID10: 08081000600  
POP10: 1608  
HU10: 1015  
PART10: P  
AREA10: 11884327258  
AREALAND10: 11866359033  
AREAPT: 8956127151

## Record 2

STATE00: 08  
COUNTY00: 081  
TRACT00: 000200  
GEOID00: 08081000200  
POP00: 751  
HU00: 483  
PART00: P  
AREA00: 2928158060  
AREALAND00: 2924140283  
STATE10: 08  
COUNTY10: 081  
TRACT10: 000600  
GEOID10: 08081000600  
POP10: 1608  
HU10: 1015  
PART10: P  
AREA10: 11884327258  
AREALAND10: 11866359033  
AREAPT: 2928144943



# Split



In this example, 2000 census tract 9662 has been split into two 2010 census tracts: 9662.01 and 9662.02. In 2010, the population of 2000 census tract 9662 was 7332, so that is enough to make two census tracts. Therefore, now we have two census tracts in the same area. 9662.01 has a population of 2906 and 9662.02 has a population of 4426.

## Record 1

STATE00: 08  
COUNTY00: 085  
TRACT00: 966200  
GEOID00: 08085966200  
POP00: 7332  
HU00: 2876  
PART00: P  
AREA00: 1627788676  
AREALAND00: 1624886476  
STATE10: 08  
COUNTY10: 085  
TRACT10: 966201  
GEOID10: 08085966201  
POP10: 2906  
HU10: 1190  
PART10: P  
AREA10: 972474984  
AREALAND10: 972024739  
AREAPT: 972467993

## Record 2

STATE00: 08  
COUNTY00: 085  
TRACT00: 966200  
GEOID00: 08085966200  
POP00: 7332  
HU00: 2876  
PART00: P  
AREA00: 1627788676  
AREALAND00: 1624886476  
STATE10: 08  
COUNTY10: 085  
TRACT10: 966202  
GEOID10: 08085966202  
POP10: 4426  
HU10: 1686  
PART10: W  
AREA10: 655320683  
AREALAND10: 652868728  
AREAPT: 655320683

# Questions?

Call us at 301-763-1128

Email us at [geo.geography@census.gov](mailto:geo.geography@census.gov)