

# Geographic Programs An Update

California State Data Center  
Meeting  
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# Geographic Programs An Update

## Public Use Microdata Area Criteria

Urbanized Areas

Count Question Resolution Program

2010 Geographic and Cartographic Products

2020 Geography Support System Proposed Initiative:  
2011 and Beyond



# What is a PUMA?

- PUMAs are statistical geographic areas that have been defined for the tabulation and dissemination of Public-Use Microdata Sample (PUMS)

- PUMS – sample information about individual persons and households

<http://www.census.gov/main/www/pums.html>

- PUMAs are published for the decennial census as well as for the American Community Survey (ACS)
- PUMA boundaries are updated for every decennial census.



# PUMA and PUMS Usage Today

- Currently, 2010 PUMAs are being used, or are planned to be used in the publication of
  - 2010 Census PUMS files
  - ACS 1-year, 3-year, and 5-year PUMS files
  - ACS 1-year, 3-year, and 5-year estimates (ie.Pop Estimates)
- For more information about PUMS, see ***A Compass for Understanding and Using American Community Survey Data: What PUMS Data Users Need to Know (Feb 2009)***  
[www.census.gov/acs/Downloads/handbooks/ACSPUMS.pdf](http://www.census.gov/acs/Downloads/handbooks/ACSPUMS.pdf)

# Proposed Criteria for 2010 PUMA Types

- Only one level of standard PUMAs (5% from Census 2000)
- Place of work PUMAs (POW PUMAs) and migration PUMAs (MIG PUMAs) are proposed to be county-based consisting of
  - a single PUMA for county-based PUMAs
  - a combination of adjacent tract based-PUMAs so that together the PUMAs compose one or more complete counties



## Proposed Criteria for 2010 Population Thresholds

- Each PUMA must contain a minimum population of 100,000 and up to 200,000
- The minimum population must be met at the time of delineation and throughout the decade
  - Identify each PUMA currently experiencing or expected to experience population decline above the minimum threshold to accommodate the decline throughout the decade
  - PUMAs that fall “significantly below” the 100,000 person threshold will be combined with one or more adjacent PUMAs for ACS PUMS
- PUMAs may be named by local participants



## Proposed Criteria for 2010 PUMA Composition

- All PUMA types (standard, POW, and MIG) must nest within states
- PUMAs will be based on aggregations of counties and 2010 census tracts only
  - Tract based PUMAs may cross county boundaries, provided that each PUMA county part meets a minimum population of 2,400
- Should be contiguous (with exceptions)



# Review of PUMA Criteria - Feedback

- Census Bureau notified the SDCs, CICs and Regions and received comments on the proposed criteria that were published on the Census Bureau website
- General support for the use of census tracts and counties as the only building blocks but...
- Support for the use of incorporated places in certain states
- Desire among the transportation community to be included in the delineation process





# Draft Schedule

- **February 28, 2011:** Comment period ended for PUMA proposed criteria
- **Spring 2011:** Final PUMA delineation criteria and guidelines distributed
  - Tutorial published to Census website
  - PUMA software requirements sent to contractor
- **September 2011:** Materials sent to SDCs for PUMA delineation
- **September-October 2011:** PUMA delineation software training
- **Late December 2011/early January 2012:** Return deadline for submissions
- **Fall 2011-Spring 2012:** Review of PUMA submissions and insertion into TIGER database
- **Spring-Summer 2012:** Creation of geographic products containing PUMAs for use in 2010 Census PUMS and ACS

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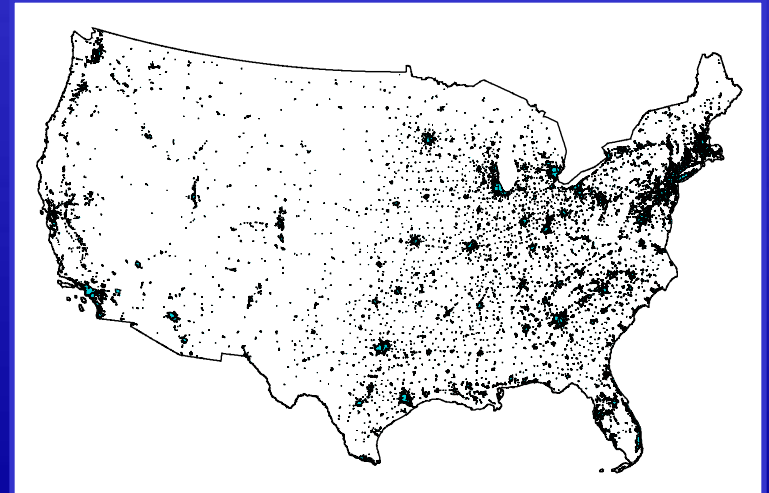


# Urban and Rural Classification

- The Census Bureau has officially defined urban areas since the 1910 census
- The Census Bureau identifies urban and rural population, housing, and territory solely for the purpose of statistical presentation and comparison
- Urban areas are defined following each decennial census using population counts

# Urban Areas

- Urban areas represent densely developed territory, encompassing residential, commercial and other non-residential urban land uses
- Structure has been defined on population counts and residential population density
- Two types of urban areas
  - Urbanized areas of 50,000 or more population
  - Urban clusters of 2,500 – 49,999



# 2010 Urban Area Program

- Remain committed to an objective, equitable and consistent nationwide urban area delineation
- Retain decennial comparability by building upon 2000 criteria
- All potential modifications are refinements, or supplements to address deficiencies encountered for Census 2000



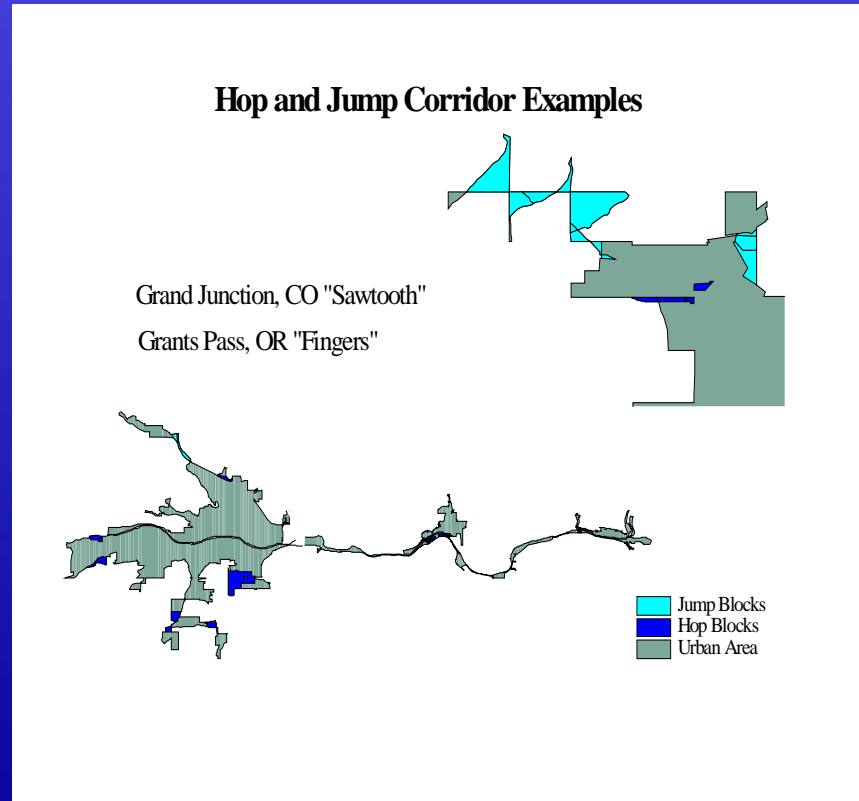


# Initial Core Using Census Tracts as Analysis Units

- During initial core delineation for 2000, used BGs and blocks as the “analysis units” to initially identify territory that qualified as urban according primarily to population density and area measures
- Retain all density requirements
- Maximum size threshold for qualifying census tracts during initial urban area core delineation will be 3 square miles instead of 2
- This change captures roughly the same amount of area as the 2 square mile threshold when using census tract as analysis unit

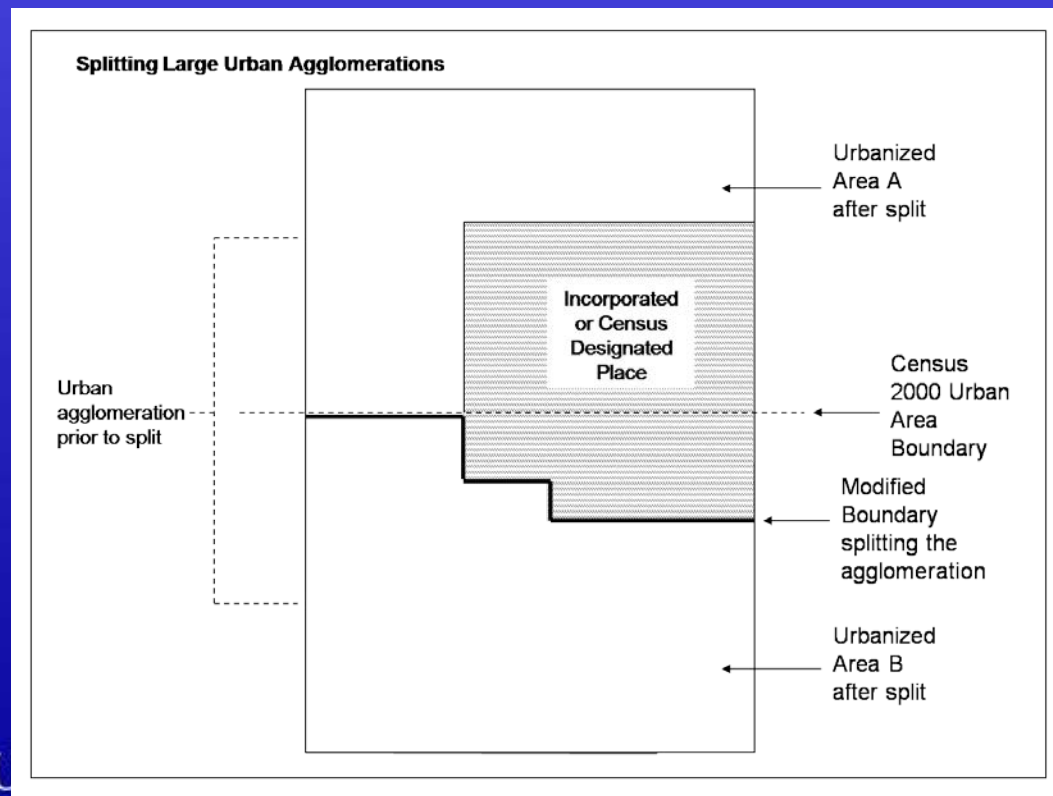
# Jump Distance Threshold

- Maximum jump distance threshold was increased for the Census 2000 to 2.5 miles to account for more restrictive definitions of what is considered "undevelopable" territory as well as changing planning practices
- Proposed reverting the maximum jump distance threshold back to 1.5 miles to mitigate the overextension or urban area territory and creation of oddly shaped patterns
- We likely will retain the 2.5 mile threshold to provide decennial consistency




# Splitting Large Urban Agglomerations

- The automated nature of the delineation often results in large urban “agglomerations” consisting of multiple urban areas defined separately for the Census 2000
- We propose to use the 2000 boundaries as a guide and modify where appropriate
- This case modifies the current boundary to retain the entire CDP or incorporated place within the same urban area







# Other Urban Area

## Changes under consideration

- Use of land use/land cover information to identify:
  - Impervious surfaces
  - Wetlands
- Add airports with 2,500 or more enplanements when adjacent to urban area
- Require urban areas to have at least 1,500 persons residing outside institutional GQs
- Eliminate central place concept



# Urban Areas Draft Schedule

- **Spring 2011-** Final Criteria published
- **Spring 2011:** Begin delineation of Urban Areas
- **Spring 2012:** Delineation Complete
- **Spring-Summer 2012:** Final 2010 Urban Areas published in the Federal Register
- **October 2012:** Block level Urban/Rural population and housing unit data released
- **Fall 2012:** Urban/Rural TIGER files released
- **Fall 2012:** Urban Area/Urban Cluster Reference Maps

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# Count Question Resolution Program

- CQR is the mechanism for state, local, and tribal officials to challenge the 2010 Census counts of housing units, group quarters, and/or group quarters population counts
- Begins June 1, 2011 through June 1, 2013
- Research will be concluded by September 30, 2013



# Acceptable CQR Challenges

- Boundary
  - Inaccurate reporting or inaccurate recording of boundaries legally in effect on January 1, 2010
- Geocoding
  - Challenges affecting the placement of living quarters and associated population
- Coverage
  - Challenges resulting in the addition or deletion of specific living quarters and persons associated with them identified during the census process, but erroneously included as duplicates or excluded due to processing errors.



# CQR

## Investigative Process

### ➤ Initiation

- Highest elected official of state, local or tribal government or designated person
- Challenges sent to Census Headquarters
- Documentation Required

### ➤ Research

- Challenge Documentation
- Existing Census Records



# Challenge Outcomes

- Reinstate a HU/GQ and associated population count
- Delete a HU/GQ and associated population count
- Update a geographic boundary
- Update a HU/GQ geocode
- No change



# Challenge Results

## ➤ Successful

- Corrections sent to all affected jurisdictions
- Changes documented through errata on AFF
- Corrections reflected in the base for post-census population estimates (starting Dec. 2012)
- Changes updated in the Master Address File/TIGER database
- No changes to 2010 Apportionment, Redistricting counts or data products





# Challenge Results

## ➤ Unsuccessful

- Census will maintain documentation for future address file update work and no changes to data or geography are made
- If due to insufficient documentation, challenger is asked to provide more information

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# What is TIGER?

## Topologically Integrated Geographic Encoding and Referencing

### TIGER Content

Streets and their names

Lakes, streams, and their names

Railroads

Geographic entity boundaries, names, and codes (for governmental units, census tracts, census blocks, etc.)

Housing unit locations

Key geographic locations (for airports, schools, etc.)

ZIP Codes and address ranges

**Part of the Master Address  
File /TIGER Database**



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# What are TIGER/Line Shapefiles?

- Extracts of selected geographic and cartographic information
- Contains no sensitive data
- Nationwide coverage
- Are designed for use with GIS software
- Contains geographic linear, areal, and point features, including attribute information
- Geographic entity boundaries
- The legal and statistical areas for which Census tabulates data



# TIGER/Line Shapefiles Release Schedule

- 2010 Census-based geography
  - State-by-State for Redistricting – **All Released**
    - Sent on DVD to state officials – available on website only
  - National in early-mid 2011
  - Urban/Rural in late 2012
  - 113<sup>th</sup> Congressional Districts in early 2013
  - New Core Based Statistical Areas in mid 2013
- Releases timed with 2010 Census data availability
- Future Releases

# New 2010 TIGER/Line Shapefiles Features

- Individual Road, Rail, and Linear Water shapefiles
  - National Primary and State Primary and Secondary Roads
  - County all Roads
  - National Rail
  - County Linear Water
- Additional state-based shapefiles
- National Congressional Districts

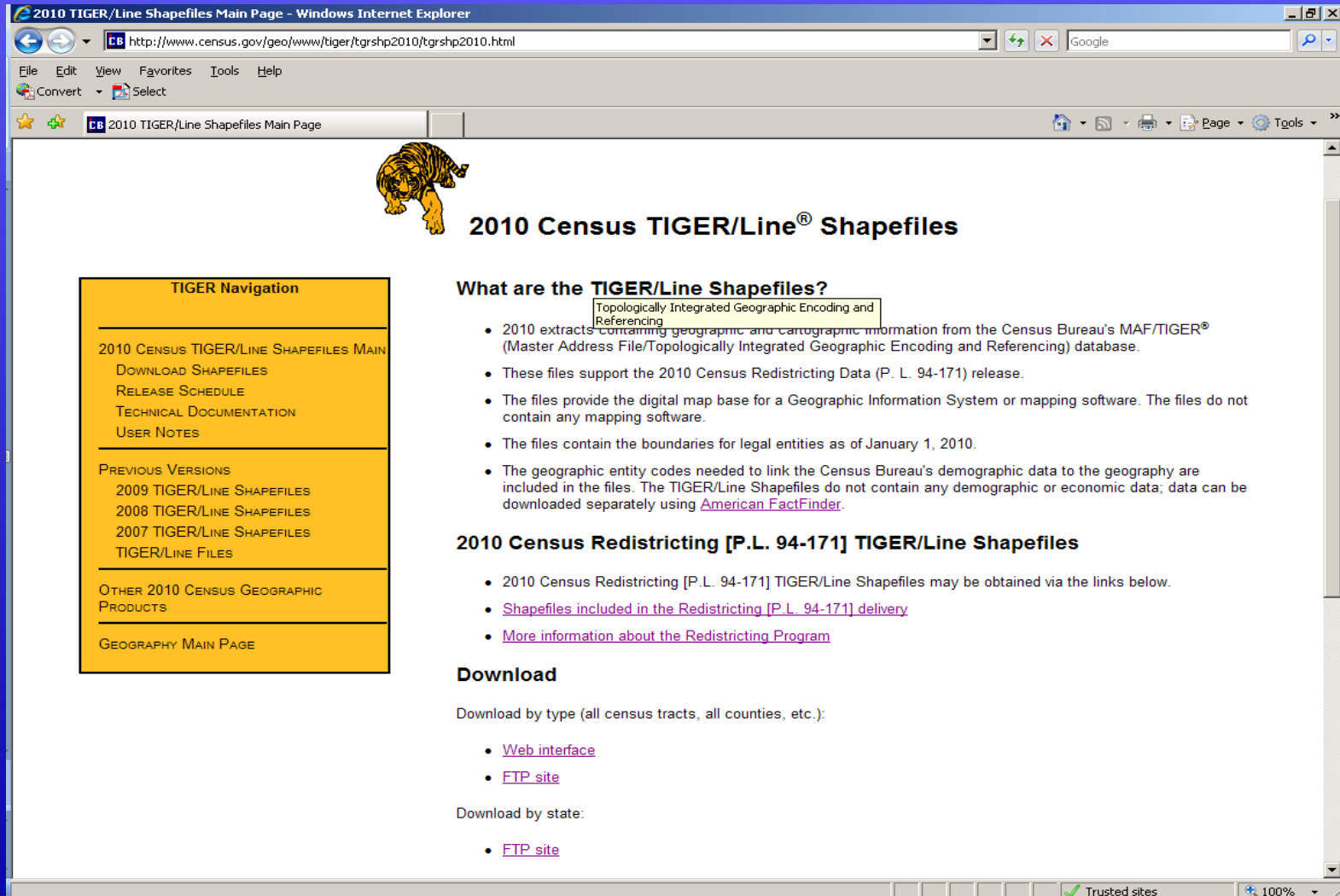
# New 2010 TIGER/Line Shapefiles

- Results of Address Canvassing and Other Update Operations
  - Updated address ranges
  - New street features





<http://www.census.gov/geo/www/tiger/tgrshp2010/tgrshp2010.html>



The screenshot shows a web browser window titled "2010 TIGER/Line Shapefiles Main Page - Windows Internet Explorer". The address bar shows the URL <http://www.census.gov/geo/www/tiger/tgrshp2010/tgrshp2010.html>. The page features a tiger logo and the title "2010 Census TIGER/Line® Shapefiles".

**TIGER Navigation**

- 2010 CENSUS TIGER/LINE SHAPEFILES MAIN
  - DOWNLOAD SHAPEFILES
  - RELEASE SCHEDULE
  - TECHNICAL DOCUMENTATION
  - USER NOTES
- PREVIOUS VERSIONS
  - 2009 TIGER/LINE SHAPEFILES
  - 2008 TIGER/LINE SHAPEFILES
  - 2007 TIGER/LINE SHAPEFILES
  - TIGER/LINE FILES
- OTHER 2010 CENSUS GEOGRAPHIC PRODUCTS
- GEOGRAPHY MAIN PAGE

**What are the TIGER/Line Shapefiles?**

Topologically Integrated Geographic Encoding and Referencing

- 2010 extracts containing geographic and cartographic information from the Census Bureau's MAF/TIGER® (Master Address File/Topologically Integrated Geographic Encoding and Referencing) database.
- These files support the 2010 Census Redistricting Data (P. L. 94-171) release.
- The files provide the digital map base for a Geographic Information System or mapping software. The files do not contain any mapping software.
- The files contain the boundaries for legal entities as of January 1, 2010.
- The geographic entity codes needed to link the Census Bureau's demographic data to the geography are included in the files. The TIGER/Line Shapefiles do not contain any demographic or economic data; data can be downloaded separately using [American FactFinder](#).

**2010 Census Redistricting [P.L. 94-171] TIGER/Line Shapefiles**

- 2010 Census Redistricting [P.L. 94-171] TIGER/Line Shapefiles may be obtained via the links below.
- [Shapefiles included in the Redistricting \[P.L. 94-171\] delivery](#)
- [More information about the Redistricting Program](#)

**Download**

Download by type (all census tracts, all counties, etc.):

- [Web interface](#)
- [FTP site](#)

Download by state:

- [FTP site](#)



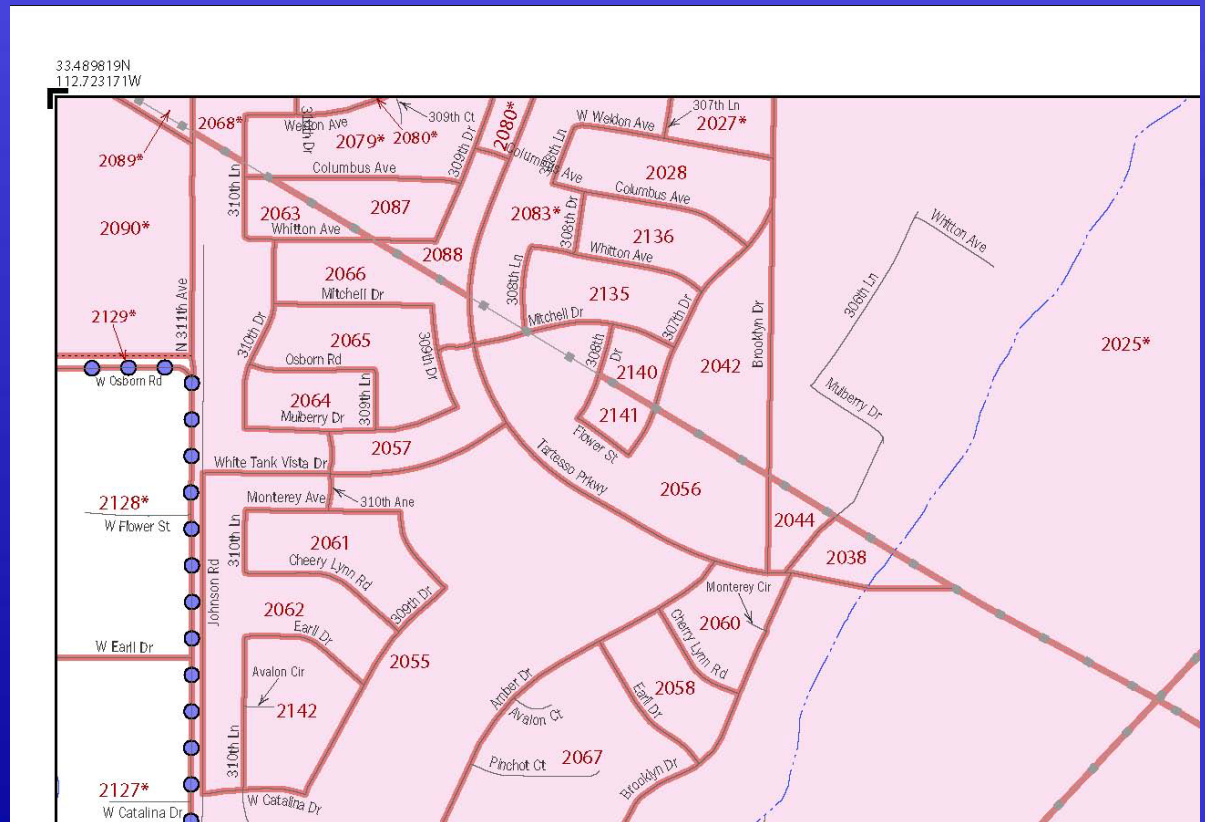


# Additional 2010 Census Geographic Products

- Public Law 94-171 Geographic Redistricting Products
- Geographic Products to Accompany Summary Data Files
- Reference Maps
- Thematic Maps
- Reports
- Other Geographic Products

# County Block Maps

- PDF – available on website in mid-March
- DVD to state officials





# Block Assignment Files/Name Look-up Tables

- Listings of blocks and the corresponding geographic entity codes for a specific geographic entity type
  - [http://www.census.gov/geo/www/2010census/baf/baf\\_main.html](http://www.census.gov/geo/www/2010census/baf/baf_main.html)
- Name Look-up Tables list all codes and names for a specific geographic entity type
  - [http://www.census.gov/geo/www/2010census/baf/nlt\\_main.html](http://www.census.gov/geo/www/2010census/baf/nlt_main.html)

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**Proposed Initiative: 2011 and Beyond**

# What is the Proposed Geographic Support System (GSS) Initiative?

- A budget increase over our base funding for:
  - Address coverage and source improvement
  - Feature maintenance (roads and attributes)
  - Quality Improvements



# Why Do We Need the GSS Initiative?

- Between 2003 – 2009 we worked with you and other partners to update and improve the positional accuracy of TIGER and update our address list
- This was a significant investment that we want to build upon
- Now focus is on improving our address coverage and quality and maintaining the spatial data



# GSS Initiative - Addresses

- Currently, our primary sources for address updates:
  - USPS Delivery Sequence File (DSF)
  - Field updates from censuses and surveys
- For FY 11 and beyond, additional sources will focus on best available data from partnership and commercial files

# GSS Initiative - Addresses

- Beyond the annual American Community Survey, current surveys will be using the Master Address File to support their statistical frames and surveys
- Positively impacts the address frame for sample surveys





# GSS Initiative - Features

- Continuous update of street network and attributes
- Sources will focus on best available data from partnership and commercial files
- Working relationships must be
  - Least intrusive
  - Most efficient
  - Ensure complete and quality data



# Supporting a Targeted Address Canvassing

- There will be a shift in focus
  - from canvassing each street to a targeted canvassing
  - establishing an acceptable address list for each level of government
- What defines “acceptable” will be a partnership collaboration between governments and the Census Bureau
- Data quality will be an important component



# Where are we now?

- Status of FY 11 budget
- Working groups formed to address specific aspects of the GSS
  - Address coverage
  - Address and spatial data sources
  - Policy
  - Partnerships
  - Quality assessment and evaluation
  - Research and Development
  - Technology



# For the Geographic Support System Initiative to be Successful

- Partners are important
  - SDC/FSCPE/CIC
  - Federal, state, local, and tribal governments
- Educate your stakeholders as to the importance of updated TIGER and Census address file
  - Stress the importance of address and spatial standards
  - Encourage the update of the GIS Inventory  
<http://gisinventory.net>
- Recommend government officials to participate in our initial fact finding discussions

# Thank You!

# For More Information

## PUMA and UA questions

Geography Division, Geographic Standards and Criteria Branch

UA: [Geo.geography@census.gov](mailto:Geo.geography@census.gov)

[www.census.gov/geo/www/ua/2010urbanruralclass.html](http://www.census.gov/geo/www/ua/2010urbanruralclass.html)

PUMA: [geo.puma@census.gov](mailto:geo.puma@census.gov)

[www.census.gov/geo/puma/puma2010.html](http://www.census.gov/geo/puma/puma2010.html)

## Count Question Resolution Program

Decennial Management Division

U.S. Census Bureau

Washington, DC 20233

CQR Branch number: 301-763-9329

CQR FAX number: 301-763-9321

CQR Email: [dmd.cqr@census.gov](mailto:dmd.cqr@census.gov)

[2010census.gov/about/cqr](http://2010census.gov/about/cqr)

## Geographic Products

[www.census.gov/geo/www/2010census](http://www.census.gov/geo/www/2010census)



## Everything else...

Los Angeles Regional  
Census Center  
Geography Dept  
818-717-6701

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