Census Geographic Programs
An Update

- Geographic areas
- TIGERweb
- Count Question Resolution program
- Geographic data products
- Geographic Support System Initiative
New TIGER/Line Shapefiles

• **2011 TIGER/Line**
  – Legal boundary changes as of January 1, 2011
  – 2010 Statistical Areas
  – 2010 School Districts
  – Address Range/Feature Name shapefile (better geocoding!)

• **2010 TIGER/Line with UAs**
  – 2010 Urbanized Area boundaries

• **2010 TIGER/Line with Pop and Housing data**
  – Includes block-level 2010 population and housing unit counts

New TIGER Products

- **2010 KMLs**
  - For use with Google Earth or Google Maps
  - 2010 Census Geography (counties and census tracts available now)
  - Limited attribution (GEOIDs)
  - You can help!
  - [http://www.census.gov/geo/www/tiger/kml/kml.html](http://www.census.gov/geo/www/tiger/kml/kml.html)

- **Cartographic Boundary Files**
  - Generalized boundary files suitable for small-scale mapping
# New Census Map Products

## Reference Maps
- Major Acquisitions of Territory by the U.S. Map: Oct 2011
- American Indians / Alaska Natives of the U.S. Wall Map: Nov 2011
- Census Regions and Divisions Map: Nov 2011
- Counties of the U.S. Wall Map: Nov 2011
- County Subdivision Outline Maps: Apr - Aug 2012
- County Subdivision Wall Maps: Dec 2012
- 113th Congressional District Maps: Feb - May 2013
- Core Based Statistical Areas Maps: Jul - Aug 2013

## Statistical Thematic Maps
- Apportionment of the U.S. House of Representatives Map: Dec 2010
- Percent Change in Population by County: 2000 to 2010 Map: Feb - Mar 2011
- Total Population by County Map: Feb - Mar 2011
- Mean Center of Population Map: Apr 2011
- Median Center of Population Map: Apr 2011
- Population Density by County Map: May 2011
- Population Profile Maps: Dec 2011

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[Map of the United States and Puerto Rico showing 2010 Census Results]
2010 Census: California Profile

Population Density by Census Tract

2010 Census Profiles

State Race Breakdown

- White or Non-Hispanic
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Other Pacific Islander

Approximately 37.6% of the state population is of Hispanic origin.

Population by Sex and Age

- Total Population: 37,253,856

Housing Tenure

- Owner Occupied: 51.9%
- Renter Occupied: 48.1%

Average Household Size of Owner Occupied Homes: 2.9 people
Average Household Size of Renter Occupied Homes: 2.8 people

People per Square Mile

- 4,100 to 6,000
- 2,000 to 4,000
- 1,000 to 2,000
- Less than 1,000

United States Census Bureau
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• Count Question Resolution program

• Geographic data products

• Geographic Support System Initiative
The Geographic Support System Initiative

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California State Data Center Meeting
May 31, 2012
Census Geographic Support – Major Initiatives Over Time

For the 1990 Census – Introduced TIGER (Topologically Integrated Geographic Encoding and Referencing system)

For the 2000 Census – Introduced the MAF (Master Address File)

For the 2010 Census – conducted the MAF/TIGER Enhancement Program

For the 2020 Census – The GSS Initiative
‘Why’ the GSS Initiative?

• Stakeholder and oversight recommendations:
  – The General Accountability Office, the Office of the Inspector General, and the National Academies of Science identified as issues:
    • The lack of a comprehensive geographic update program between censuses
    • Associated negative impact on ongoing programs such as the American Community Survey, other current surveys, and small areas estimates programs
Why the GSS Initiative?

- **A logical next step, building upon:**
  - Accomplishments of the MAF/TIGER Enhancement Program (MTEP)
    - MAF/TIGER Accuracy Improvement Project (MTAIP)
    - Improved positional accuracy of TIGER
  - Contributions of our partners
    - GIS files & imagery between 2003 to 2008 for MTAIP
    - 2010 Local Update of Census Addresses (LUCA) Program
  - The recommendations of our stakeholder and oversight communities

- **Supports a targeted Address Canvassing in preparation for the 2020 Census**
What is the GSS Initiative?

- An integrated program consisting of:
  - Improved address coverage
  - **Ongoing** address and spatial database updates
  - Enhanced quality assessment and measurement
Major Components of 2010 Census Address List Development

1. Bi-annual Updates from USPS
2. 2007-2008 Local Update of Census Addresses (LUCA)
3. 2009 Address Canvassing

Master Address File

2010 Census Enumeration Address List
2010 Address Canvassing Facts

• Number of housing unit addresses that needed verification: 145 million

• Number of census workers hired for Address Canvassing: 140,000

• Number of hand-held computers used: 151,000

• Number of local census offices that managed operations: 151

• Dates of operation: March 30 - Mid-July 2009
Goal: A Shift in Focus for the 2020 Census

- From a **complete** Address Canvassing to a **targeted** Address Canvassing
  - Hinges on establishing an acceptable address list for each level of government
Why a “Targeted” Address Canvassing?

- $$$! It is **VERY** expensive
  - Field an **ARMY** of address canvassers
  - “Walk” **EVERY** street in the nation…

- Goal: developing on-going update and change detection processes

- Result: “Target” only areas with uncertainty
  - Quality of Addresses
  - Currency of Addresses
Goals of the GSS Initiative

**Address improvement**: explore methodologies to achieve complete coverage and a current address list

**Feature improvement**: ongoing update of the street network and attributes to improve the matching of addresses to their correct geography

**Quality improvement**: broaden quality assessments and provide quantitative measures

**Improved Partnerships**: strengthen existing and develop new partnerships
Address Improvement Goals

- Complete and current address coverage
- Additional emphasis on change detection
- Expanded address sources for MAF update, especially in areas without city-style addresses
- American Community Survey (ACS) and current surveys need current and complete coverage
Feature Improvement Goals

• Ongoing street network and attribute updates
• Best available data from partners and commercial files
• Imagery for change detection and source evaluation
Quality Assurance Goals

1: Establish quantitative measures of address and spatial data quality

2: Assign Quality Indicators to MAF/TIGER data

3: Monitor and Improve the quality of the:
   - Geographic products output from the MTDB
   - Existing MAF/TIGER Data
   - IT processes for updating the MTDB
Improved Partnerships

Volunteered Geographic Information (VGI)
Web-based Address Management Tools
Data upload systems
TIGERweb

Enhanced collaboration
Expand Existing Partnerships
Engage New Partners

Enhanced collaboration
Enhanced Feedback

Build on and Expand MTAIP Feedback for Spatial Features
Address Feedback TBD, but adhering to Title 13 confidentiality laws

Utilize new tools and programs to acquire address and spatial data in the most efficient and least intrusive ways
Who are the stakeholders?

- U.S. Census Bureau
- Other federal agencies (U.S. Postal Service, U.S. Geological Survey, Environmental Protection Agency)
- Tribal, State, County, and Local governments
- Commercial data providers
- National Advocacy Groups, such as NSGIC, URISA, NENA, and NAPSG
Partnerships are Key!

• You are the authoritative sources for address and spatial data!

• Expanding our Partnerships is Critical
  – Key step towards establishing an accurate and up-to-date address list
What’s in it for you?

- **Improved** address and feature coverage
  - support current survey samples, including the American Community Survey.
- More **current** data and **improved** process flows
  - should minimize the impact of programs like LUCA
- Taxpayer **savings**
- A more **accurate** 2020 Census
  - with all the benefits therein (increased funding, etc.)
- Our evaluations & feedback may help you improve **your** data.
Using your Data

• Fiscal Year 2012
  – Process Development

• 2013-2020:
  – Change detection
  – Completeness/coverage testing
  – Updates to the MAF/TIGER System
Minimum Address Assumptions

• Sample rules for acceptable addresses:
  • All required fields must have data
    • Address Number, Street Name, and ZIP Code OR Tract/Block OR City/State
  • Must meet predefined business rules
    • For example, ZIP Code is numeric, five digits
  • Unit designations

• Minimum Address/Feature guidelines will be issued soon
Address Metadata

• In addition to the Federal Geographic Data Committee (FGDC) Address Standard metadata, we would like to collect:
  – What is the source of the address (assessor, utility, emergency management)?
  
  – Is the address used for mailing and/or locating the structure?
  
  – Is the address for a Group Quarters (prison, college dorm)?
  
  – What type of structure does the address represent (single-family home, trailer, multi-unit apartment building)?
  
  – Is it a commercial, residential, or other type of address?
  
  – When was the house built and/or addressed?
Feature Requirements

Forthcoming…
Check our GSS-I webpage for updates as they occur:

http://www.census.gov/geo/www/www/gss/
GIS Inventory (aka Ramona)

http://www.gisinventory.net/
GIS Inventory: California Status

Places That Produce:
- Registered Users with Data of Any Type
- GIS Data
- National Cadastral Data Infrastructure

Data Categories
- Transportation

Data Layers
- Roads/Street Centerlines

Can't find your data layer?

Legend
- City/Town
- County
- Complete
- In progress
- Planned
County Consolidated BAS
Boundary & Annexation Survey

- BAS: January 1\textsuperscript{st} of each year
- Many entities still participating on paper boundaries, \textit{relatively} correct
- (Most) counties can participate digitally
- Have you reviewed the boundaries for accuracy? (MTAIP Realignment!)

2013 C-BAS sign-up deadline: 8/1/12
County Consolidated BAS
Boundary & Annexation Survey
Action Items:

1) Create a Ramona Account and register your data (www.gisinventory.net)
2) Counties: Establish a County Consolidated BAS with us
3) Review the FGDC Address Standard and get your data in shape...
Summary

• Goals of the GSS initiative
  – Ongoing update of the MAF/TIGER database
  – Improve address coverage, feature coverage, and quality in the MAF/TIGER database
  – Facilitate a targeted Address Canvassing operation for the 2020 Census

• Aligns with our commitment to provide high quality products and data
Current Census Regional Office Structure
Future Regional Office Structure
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May 31, 2012