

GIS-Transportation Symposium

U.S. Census Bureau
Geography Update

March 29, 2006

U S C E N S U S B U R E A U

Topics

MAF/TIGER Accuracy Improvement Project

- § Current status
- § Maintenance

Road to 2010 Census

- § Partnership programs
- § FIPS to ANSI transition
- § Geographic products

Geospatial Data – TIGER

- § **Built for the 1990 Census - The First Nationwide Digital Street Centerline File**
- § **For 2010 - Improved Nationwide Digital Street Centerline File**
 - § **Support improvement in the determination of the spatial location of each 2010 Census response**
 - § **Realign street centerlines to 7.6 meters or better to be consistent with GPS**

MTAIP Vision

A seamless digital map of the United States where street centerlines are based on State/Tribal/County/Local GIS files and the digital features are publicly available via standard OGC protocols

Realign street centerlines to 7.6 meters or better to be consistent with GPS

- § Use existing state/local/county/tribal GIS files as available**
- § Complete before FY 2009 Address Canvassing operation**

MTAIP Source Acquisition Strategy

State/Tribal/County/Local GIS Files:

- § **Must pass 7.6 meter CE95 spatial accuracy**
- § **No restrictions on derivative products**
- § **We recognize that it takes labor for state/tribal/regional/local partners to provide the data to Census**
 - § We will make available an external hard drive to make the transfer of data easier (no need to cut CDs or DVDs)

Governmental Sources

(Entire Counties)

- § **Over 2,000 counties acquired**
- § **Evaluated over 1,500 counties**
 - § Two/Thirds of the counties evaluated are 7.6 meters CE95 or better in spatial accuracy

Thank-You

- § Delaware Department of Transportation
- § Kentucky Office of Technology /
Transportation Cabinet
- § Missouri Department Of Transportation
- § South Dakota Department of Transportation

What About The Failed Files?

They have attributes that can improve TIGER

Planned:

- § **Develop new software**

 - § **To utilize the attributes**

 - § **Case-by-case basis after evaluation**

An Option For Failed Files (Spatially Enhanced)

Improve these files so they meet the spatial accuracy requirement

§ **Source Provider May Rework**

§ **Harris Corporation May Improve Spatial Accuracy**

§ **Must be less expensive than other options, such as a commercial GIS file or extraction from imagery**

§ **Census Bureau must be able to obtain permission from the source provider**

MTAIP Source Acquisition Strategy

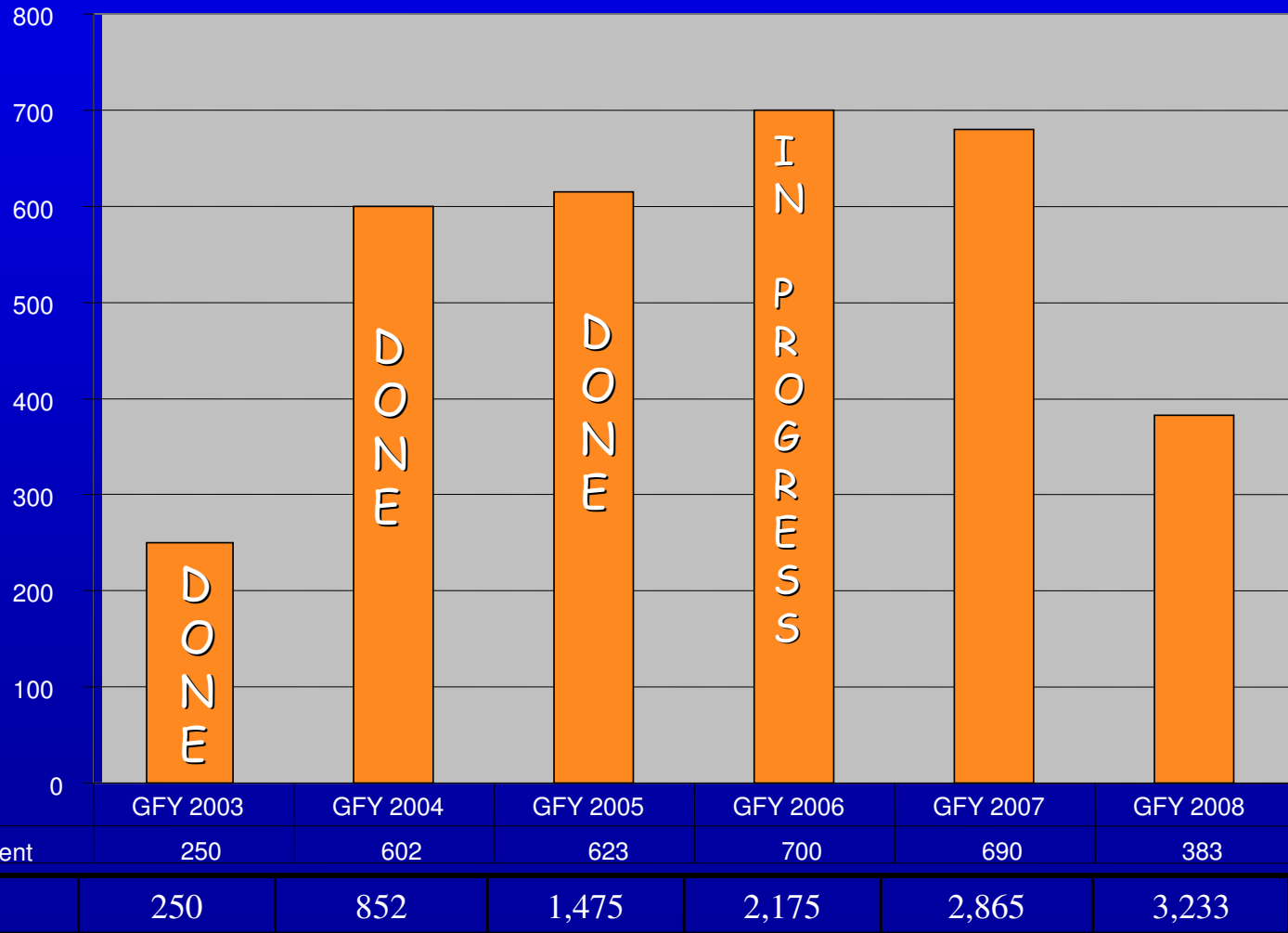
Harris Corporation responsible for all remaining source acquisition

- § **Existing imagery (especially NAIP)**
 - § Subcontracts for centerline extraction
- § **Existing commercial GIS files**
- § **Last resort:**
 - § Subcontract for Street Centerline collection
 - § New Imagery Collection where total cost less than Street Centerline collection

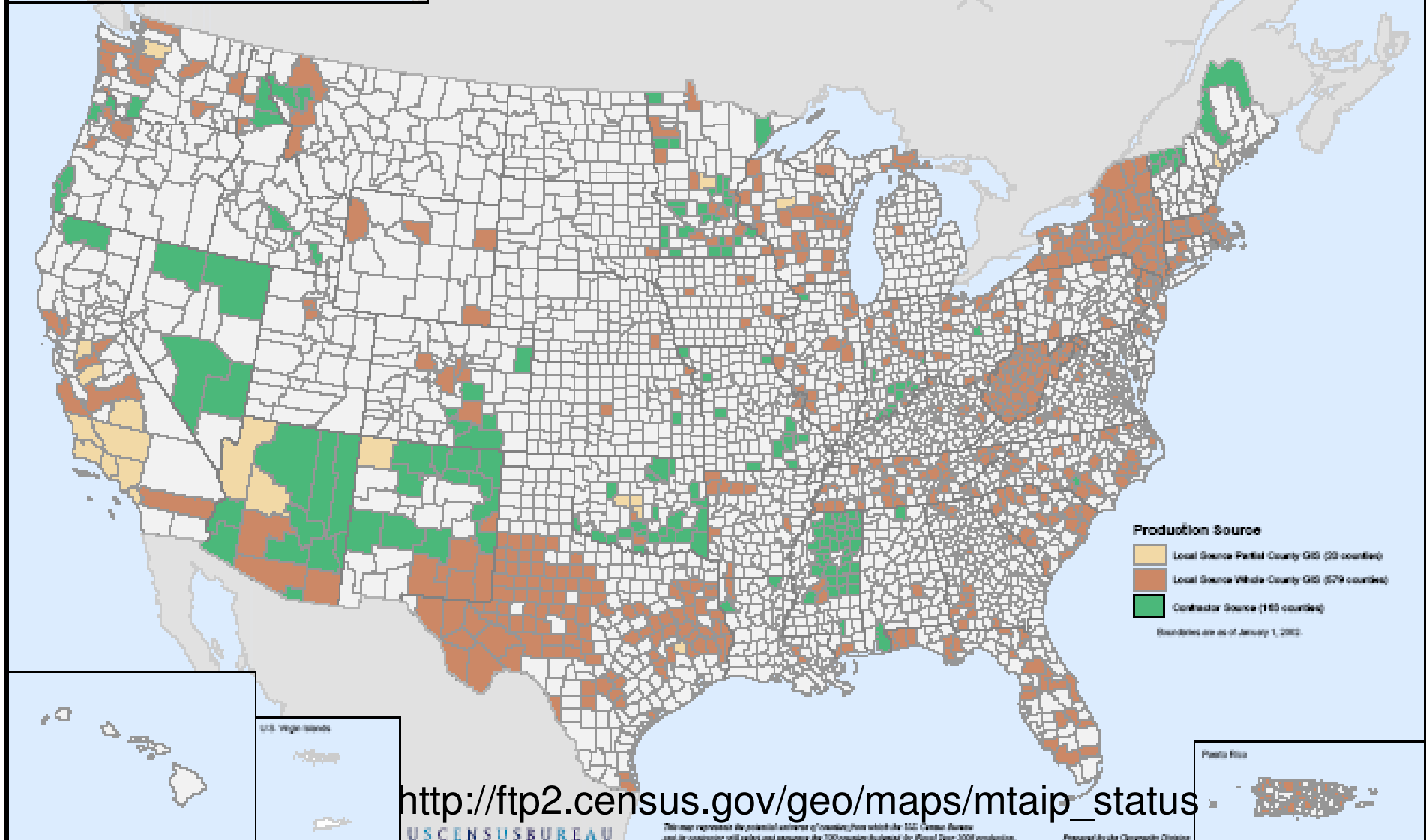
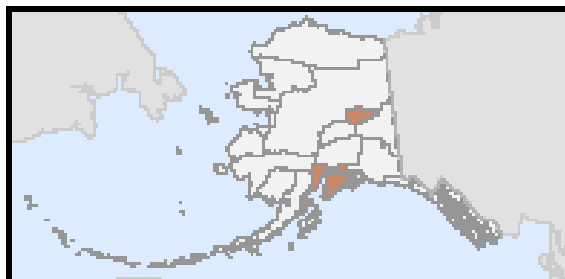
FY07-FY08 Planning

- § **Estimating where we will have existing GIS files**
- § **Last files must be ready to go to Harris during FY07**
- § **All counties must be back from Harris by April, 2008**
 - § Necessary to allow for processing and preparation for Address Canvassing Operations

Objective 1 MTAIP Production Schedule



MAF/TIGER Accuracy Improvement Project Potential Production for Fiscal Year 2006 Status as of March 20, 2006



Production Source

- Local Source Partial County GIS (20 counties)
- Local Source Whole County GIS (279 counties)
- Contractor Source (185 counties)

Boundaries are as of January 1, 2002.

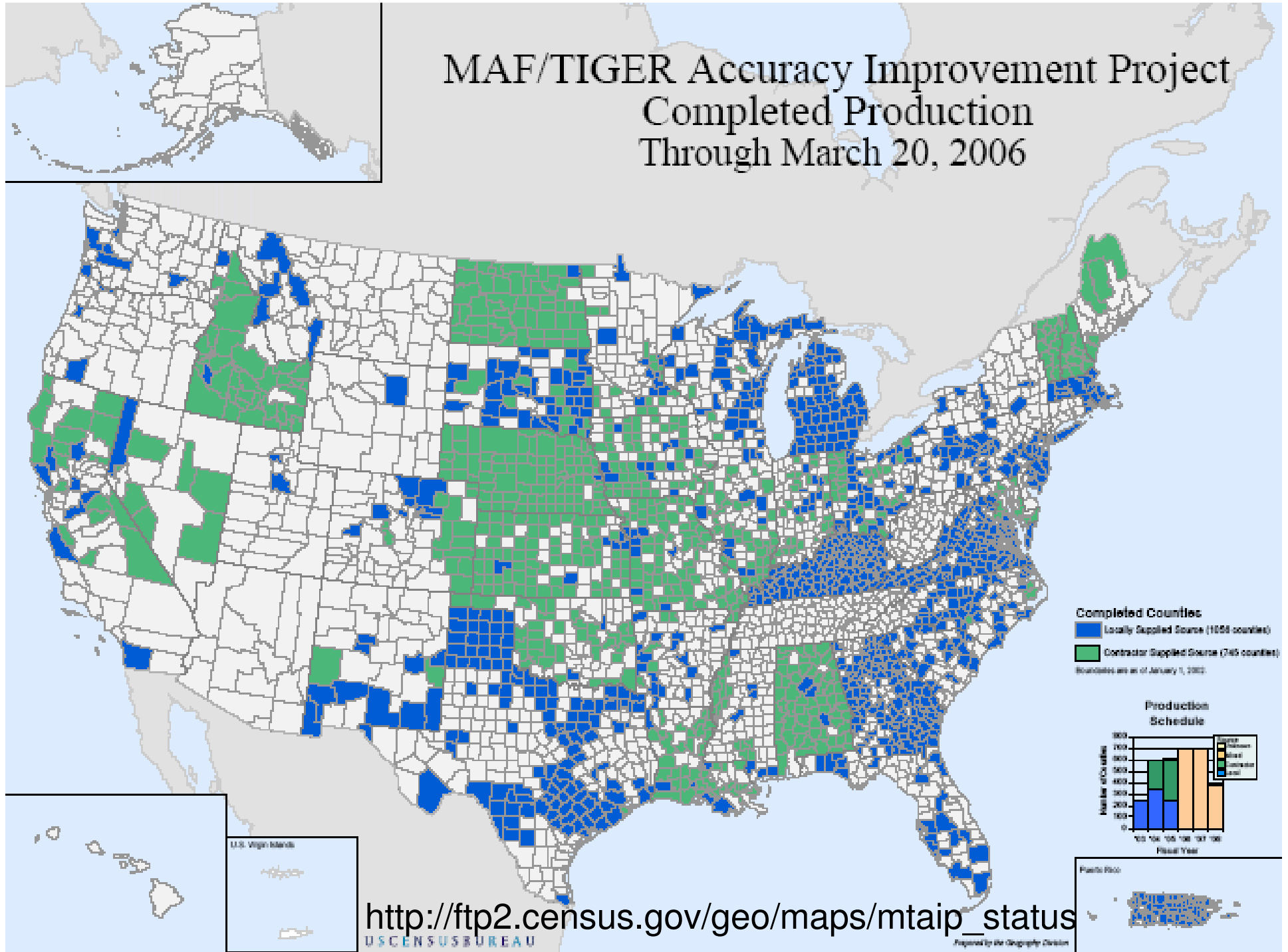
http://ftp2.census.gov/geo/maps/mtaip_status

USCENSUSBUREAU

This map represents the potential sources of counties from which the U.S. Census Bureau and its contractor will collect and measure the 100 counties included for Fiscal Year 2006 production.

Prepared by the Operations Division

MAF/TIGER Accuracy Improvement Project Completed Production Through March 20, 2006



Maintenance

Where possible, we would like to obtain a later version of the State/County/Local/Tribal files to further update TIGER

§ This processing would be done by the Census Bureau

As part of the 2010 Census, there will be a complete address canvass that will:

§ **Capture Master Address File “structure” points**

§ This is Confidential (Title 13) Information

§ **Capture new street features using a GPS-equipped device**

§ Will be available in future releases of TIGER

After the 2010 Census, staff will use GPS equipped devices to continue to locate new housing units/MAF structure points

Road to the 2010 Census

Partnership programs:

- § Local Update of Census Addresses (LUCA)
- § Boundary and Annexation Survey (BAS)
- § Participant Statistical Areas Program (PSAP)

FIPS to ANSI transition

Geographic Products

Personal Computer-Based Geographic Update Tool

- § To be contractor-developed, acquisition underway
- § For use by tribal, state, and local governments participating in geographic partnership programs
- § Support statistical areas delineation, boundary updates (BAS), road updates, and the LUCA program

Personal Computer-Based Geographic Update Tool

- § Import local/state GIS files and/or imagery with defined projection to aid in review
- § Web-based collaborative review component
- § Available for start of LUCA in 2007

2010 LUCA

Local Update of Census Addresses

Schedule

- § Send promotional materials – Fall/Winter 2006
- § Send LUCA invitation letters – Spring 2007
- § Participants perform LUCA review – Fall/Winter 2007
- § Participants return materials no later than March 2008
- § Address Canvassing to Confirm LUCA submissions – Spring 2009
- § Feedback late Summer/early Fall 2009

Participant Statistical Areas

Criteria

- § **Currently Under Review**
- § **Census Tracts**
 - § All tracts to meet the same minimum population / housing unit thresholds
- § **Block Groups**
 - § Increase population / housing unit threshold
- § **Census County Divisions**
 - § Optional?
- § **Census Designated Places**
 - § Establish a minimum housing unit threshold

Federal Register Notice with Proposed Criteria

§ **Summer 2006**

U S C E N S U S B U R E A U

Boundary and Annexation Survey

Obtains information on legal boundaries and corporate status

Survey universe varies by year to support the 2010 Census

- § **Calendar Year 2006 – places of 2,500+**
- § **Calendar Year 2007 – places of 5,000+**
- § **Calendar Year 2008 and beyond – all places / MCDs/counties/American Indian areas**

Digital BAS for realigned areas

- § **Essential to reexamine boundaries for those areas through MTAIP**

Boundary and Annexation Survey

Boundary Validation Program

- § Summer of 2010
- § Boundaries to be used for data tabulation
 - § **Based on responses by April 1, 2010 to 2010 BAS**

ACS/Population Estimates

- § Based on boundaries received as of April 1 each year

ANSI FIPS Equivalent Codes

5-2, States, the District of Columbia and the Outlying Areas of the United States, and Associated Areas,

6-4, Counties and Equivalent Entities of the United States, Its Possessions, and Associated Areas, and

9-1, Congressional Districts of the United States.

New ANSI Codes

<u>Geographic Entity</u>	<u>Length</u>	<u>Range</u>
Metropolitan Statistical Areas	5 digits	10000-59999
Micropolitan Statistical Areas	5 digits	10000-59999
Metropolitan Divisions	5 digits	10004-59994*
New England City and Town Areas	5 digits	70000-79999
NECTA Divisions	5 digits	70004-79994*
Combined Statistical Areas	3 digits	100-599
Combined NECTAs	3 digits	700-799

***Metropolitan divisions and NECTA divisions are distinguished from metropolitan and micropolitan statistical areas and NECTAs by codes that end in "4."**

FIPS 55-3 Place Codes

USGS has stopped maintaining FIPS 55-3

Place codes will be based on the GNIS

- § **1-8 digits, permanent**
- § **GNIS IDs are assigned sequentially starting with “1” and are stored in a right-justified, variable-length, numeric field without leading zeroes**

Geographic Products

TIGER/Line Files – End of an Era?

- § Will Produce
 - § First/Second Edition 2005 TIGER/Line
 - § First/Second Edition 2006 TIGER/Line

Release of Improved Street Centerlines

- § Semi-Annual release of TIGER/Line Files
 - § 2005 First Edition TIGER/Line Files Released
 - § Boundaries as of January 1, 2005
 - § Supports the Population Estimates Program
 - § Supports the American Community Survey
 - § 1046 Realigned counties included
 - § 2005 Second Edition TIGER/Line Files
 - § Estimated Release Early Summer, 2006

Geographic Products

TIGER will be available over the Internet

- § Web Feature Server
- § Web Map Server

TIGER/GML

Shapefiles

**Paper Maps – Are they needed or just
PDFs?**

Questions?

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