# Talking Points

- ↖ **21st Century MAF/TIGER Enhancements**

  - ↖ **Industry Day**

    - ↖ by the
  - ↖ **U.S. Census Bureau**

    - ↖ **Robert W. Marx**
  - ↖ **Chief, Geography Division**

    - ↖ April 3, 2001

# In order to be useful, U.S. Census Bureau statistics must be:

**correct**

data accuracy
location

government, census tract, census block

**reliable**

data accuracy
location

government, census tract, census block

# What is TIGER?

**Topologically Integrated Geographic Encoding and Referencing System**

**A "digital map" (geographic data base) of the United States, Puerto Rico, and the associated Island Areas**

TIGER Content

Streets and their names

Lakes, streams, and their names

Railroads

Geographic entity boundaries and names (governments, census tracts, census blocks, etc.)

Housing unit locations

Key geographic locations (airports, schools, etc.)

ZIP Codes and address ranges for city-style addresses

# TIGER Has Mixed/Variable Accuracy

Large non-uniform differences in spatial errors in a relatively small area
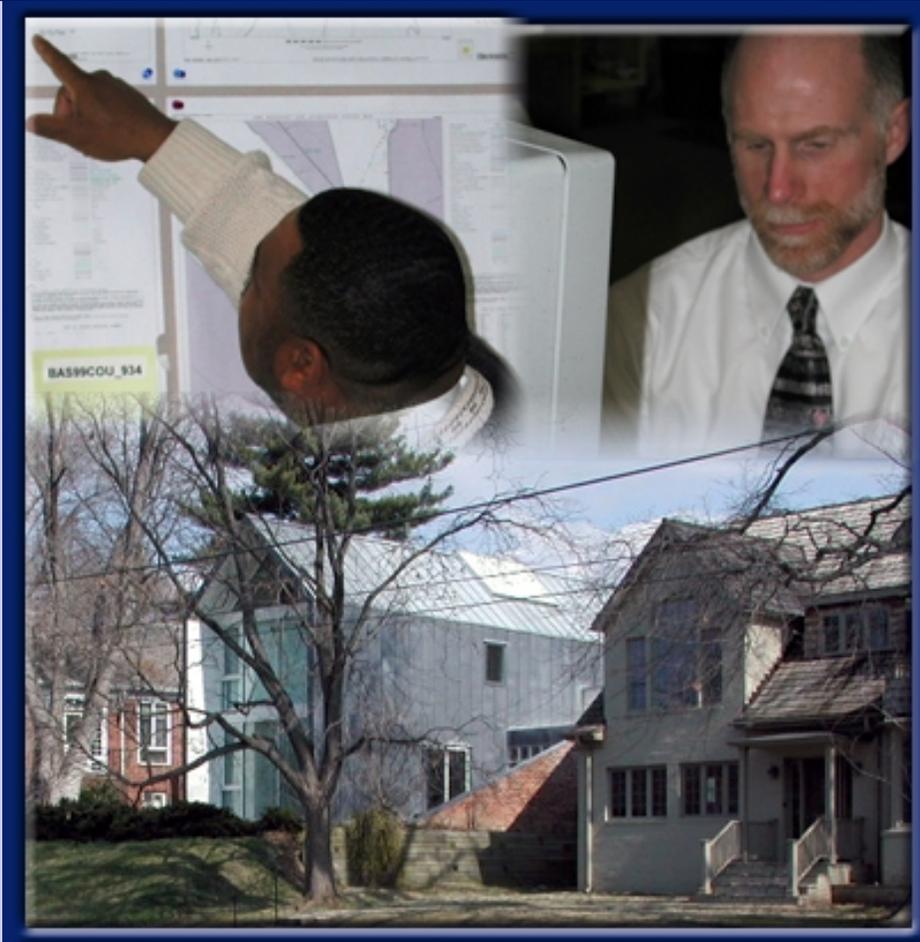
# What is the MAF?

## Master Address File



An accurate and up to date inventory of all living quarters in the United States and its associated Island Areas.

The content of the MAF is:

-Mailing address, if one exists

-Descriptive address, if no
   mailing address is known

-Census geographic location

-Source and history data

All addresses and locations MUST be kept confidential.

# Major MAF/TIGER Functions



## Mapping

Maps (and address lists) for field operations, such as Block Canvassing

Maps for data user reference

## Geocoding

Determines geographic location of every structure

Identifies areas that need MAF/TIGER update

## Data Products

Provides names of entities for data tabulation

TIGER/Line fuels the commercial GIS industry

# WHAT IS THE MAF/TIGER SYSTEM?

- **An aging national resource**

- **"Home-grown" database and applications software that is:**

  * **Time-proven/fast/accurate**

  * **Limiting in terms of flexibility and development time**

  * **Nonconforming**

# FOUR OBJECTIVES FOR MAF/TIGER Modernization

1.  **Correct street/other locations in TIGER and housing unit locations in the MAF; implement automated change detection methods - the primary purpose for today's meeting**

2.  **Develop/deploy a new processing environment based on COTS and GIS tools**

3.  **Expand and encourage geographic partnership programs**

4.  **Implement periodic evaluation activities**

# Major Issues

**Roads in TIGER/housing units in MAF not in "true" geographic locations**

Constrains efforts to form more effective local/tribal geographic partnerships using web-based review and updating methods
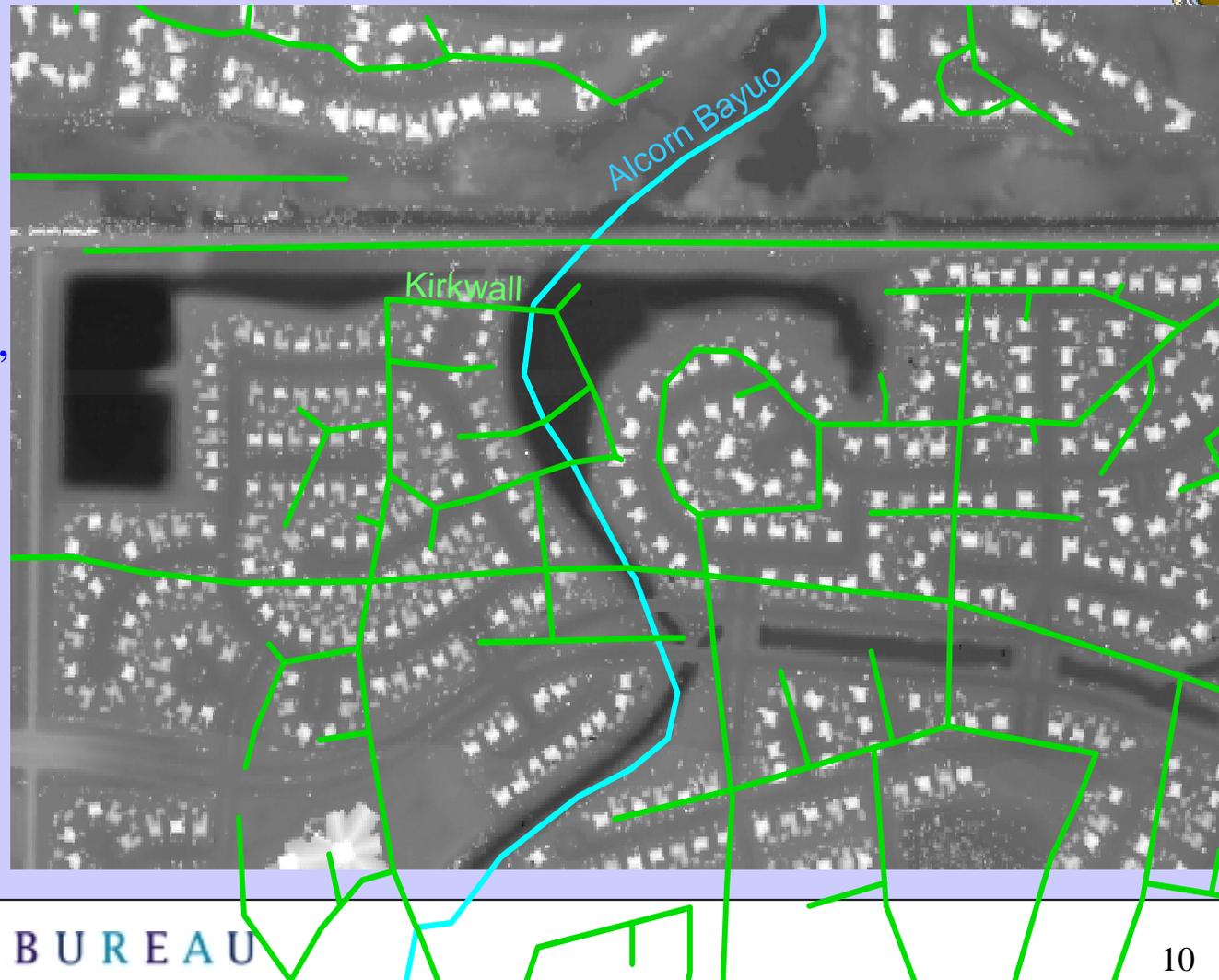
— TIGER
— Extracted

# Major Issues

## "Truth" Contradicts Existing Feature Topology

- Roads and stream mistakenly crossed each other forming "census blocks" that do not exist

- How to show correctly while maintaining an historical link to Census 2000 block numbers
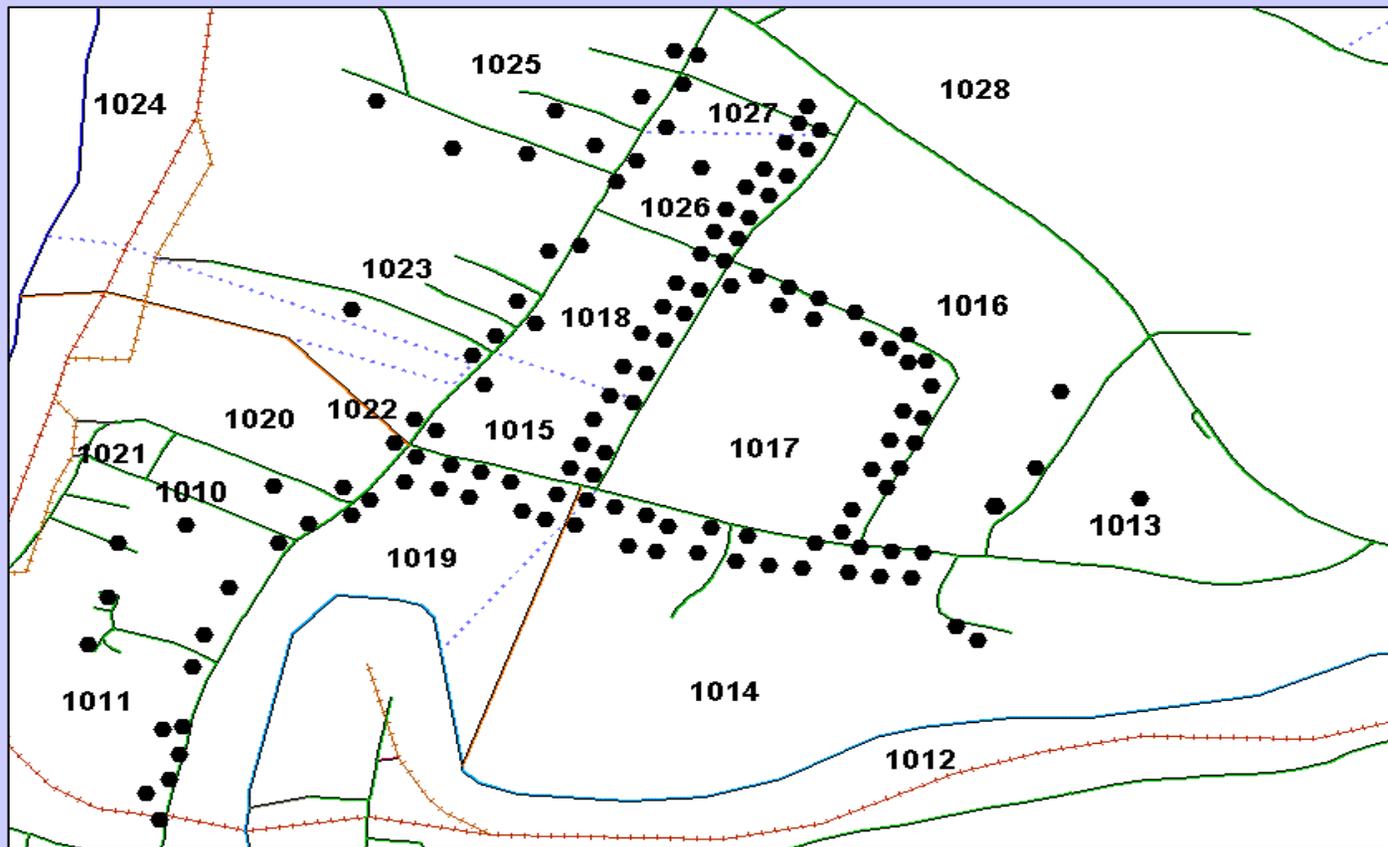
# Major Issues

Inaccurate locations preclude adopting GPS locational technology for the American Community Survey and the 2010 Census
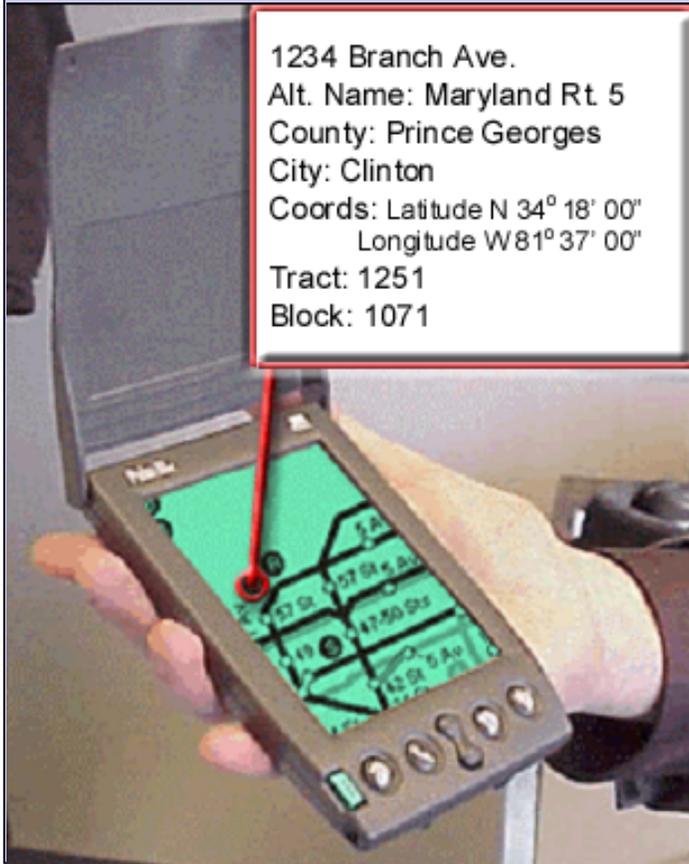
Good GPS data over incorrect TIGER data puts houses on the wrong side of the street

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# Major Issues

## Finding the Correct House



1234 Branch Ave.
Alt. Name: Maryland Rt. 5
County: Prince Georges
City: Clinton
Coords: Latitude N 34° 18' 00"
         Longitude W 81° 37' 00"
Tract: 1251
Block: 1071

GPS allows the enumerator to collect information at the correct address.

# Maintaining TIGER

Images from different dates allow the Census Bureau to quickly find new houses and new streets.



1998

2000

# Duplicate Addresses

Correct MAF/TIGER location information will allow the Census Bureau to identify structures that appear in the MAF twice with different addresses.

Main Street

King Street

?

107 King St.

**Latitude N 34° 18' 00"**

**Longitude W 81° 37' 00"**

Same Point

324 Main St.

**Latitude N 34° 18' 00"**

**Longitude W 81° 37' 00"**

Can help solve the confusion of two addresses on the list by providing a single coordinate for each structure.

# Questions?