

FEDERAL METADATA COORDINATORS' WEBINAR:  
**ISO GEOSPATIAL METADATA  
IMPLEMENTATION  
USE CASE: U.S. CENSUS  
BUREAU**

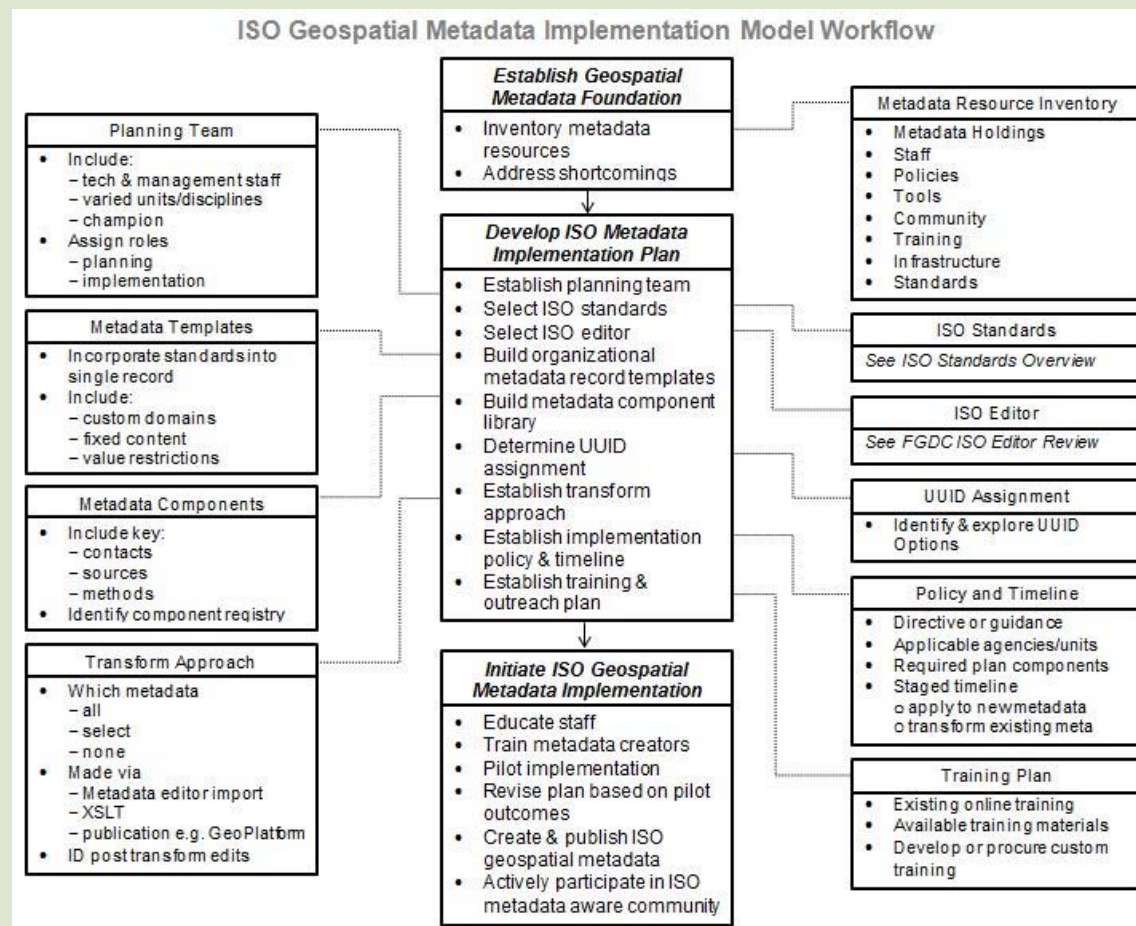
Day Two  
*ISO Geospatial  
Metadata  
Implementation*

Wednesday  
April 17, 2013  
12:00-4:00 PM

# U.S. CENSUS BUREAU BACKGROUND

- **The Census Bureau's mission**
  - To serve as the leading source of quality data about the nation's people and economy.
  
- **Geography Division (GEO)**
  - Geography is central to the work of the Census Bureau, providing the framework for survey design, sample selection, data collection, tabulation, and dissemination.
  - GEO produces geospatial data to support the Census and for public consumption
  
- **Data Production Environment for Public Products**
  - TIGER/Line shapefiles – automated process for metadata
  - Cartographic Products – semi-automated process for metadata
  - TIGERweb – currently manual process for metadata

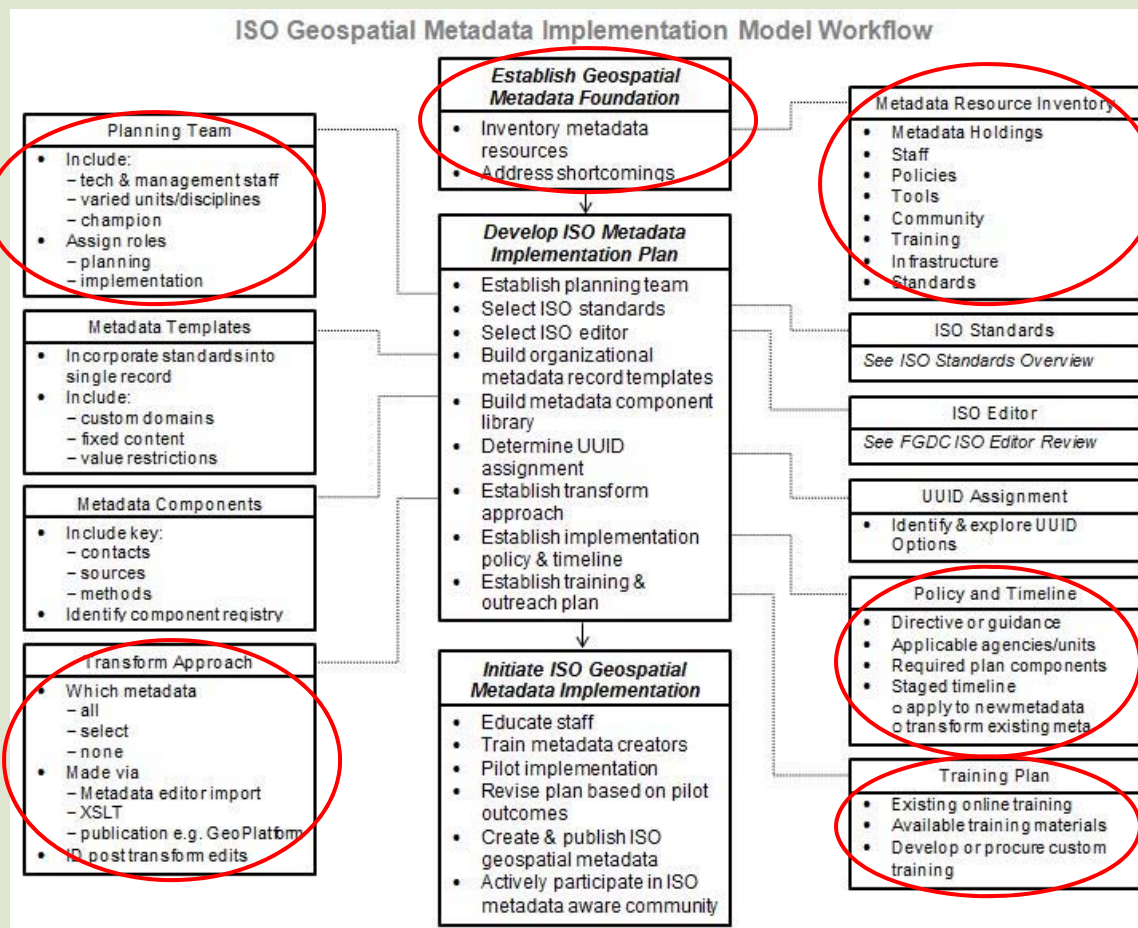
# IMPLEMENTATION MODEL WORKFLOW



# IMPLEMENTATION APPROACH THEME

- **The Path of Least Resistance**
  - Postponed as many decisions as possible in order to just get started
  
- **We did make one decision immediately**
  - Just transform new metadata into ISO format

# OUR FIRST STAGE ACTIVITIES



# METADATA FOUNDATION – POLICY AND STAFFING

- We have a Geography Division Product Metadata Standard (GPMS)
  - References OMB and internal mandates
  - States that metadata must be produced for public products
  - Identifies mandatory elements based on our products and consumers
  
- Shortcomings
  - Need to update the GPMS to refer to ISO instead of CSDGM
  - GAO said we need Department of Commerce level metadata policies
  - We will be preparing DOC level metadata policies in FY13
  
- Metadata coordination and implementation staff
  - Implementation manager, metadata content subject matter staff, and programmer contained within one organizational unit

# METADATA FOUNDATION - TRAINING

- We took advantage of every training opportunity
  - FGDC CAP grant sponsored training by Westat 2010/2011
  - NOAA Data Documentation workshop June 2011
  - FGDC Metadata Summit October 2011
  - NOAA Webinar series spring 2012
  - NOAA Webinar series winter 2013

# METADATA FOUNDATION – COMMUNITY AND INFRASTRUCTURE

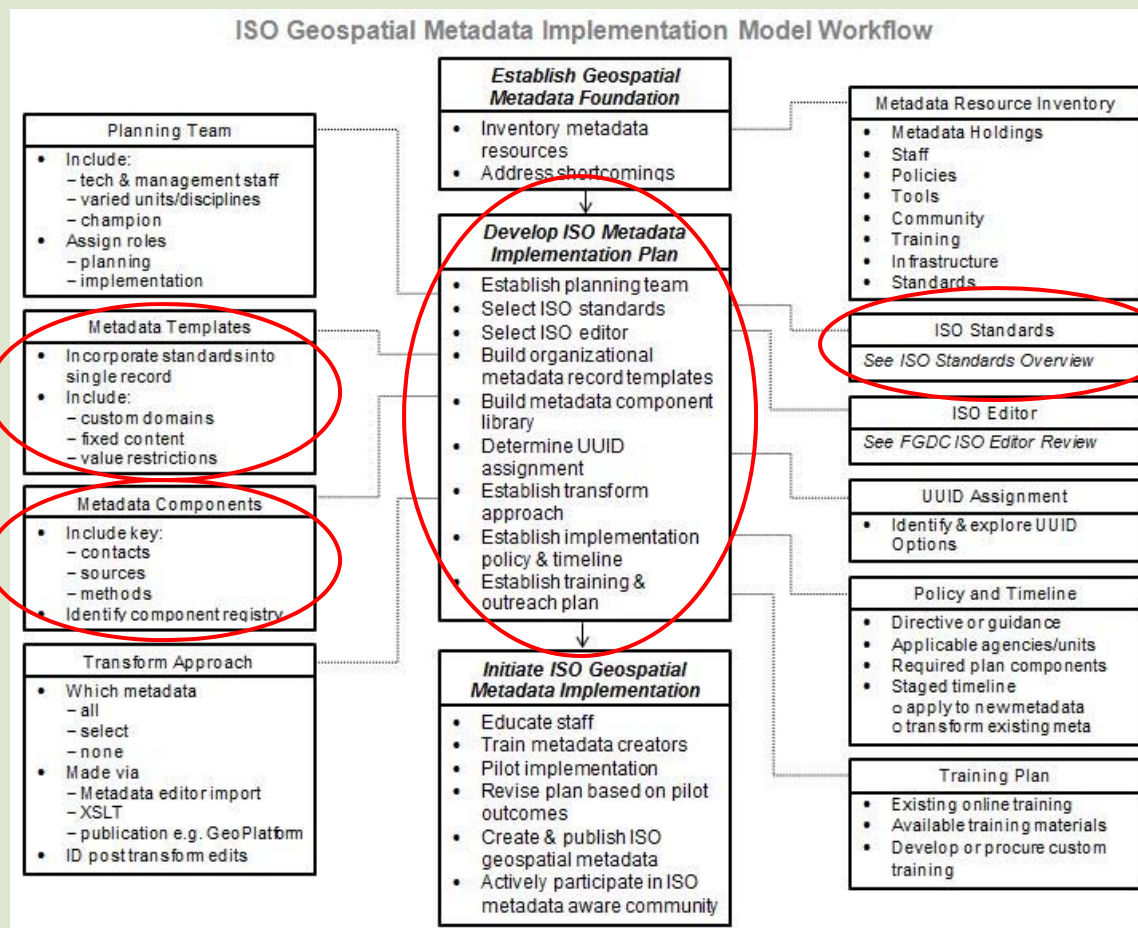
- We regularly participate in FGDC Working Group activities
- We stay engaged with our product leads and software support team within GEO to continuously review and improve our content and procedures
  - Made significant improvements to TIGER/Line metadata content in 2012
  - Working with software support team to have a user interface to review and specify requirements
- Infrastructure
  - Requirement specifications drive the production process



# METADATA FOUNDATION – HOLDINGS AND TOOLS

- **Metadata holdings**
  - CSDGM publishing process in place
  - Metadata files consolidated in Web Accessible Folders (WAF)
  - Accessible to geo.data.gov harvesting
  
- **Tools**
  - Stylus Studio XML editor
  - oXygen XML editor
  - Saxon software for production validation
    - Open Source XSD and XSLT processor

# OUR SECOND STAGE ACTIVITIES



# IMPLEMENTATION PLANNING – STANDARDS AND TIMELINE

- We chose to implement ISO 19115-2
  - The transforms were available
- We wanted to implement 19110
  - Postponed until other pieces were in place
- We knew we needed to implement 19119 for web services
  - TIGERweb
- We set a goal to produce ISO metadata in FY12
  - We were minimally successful in meeting that goal
  - Now on target for ISO metadata for FY13 products

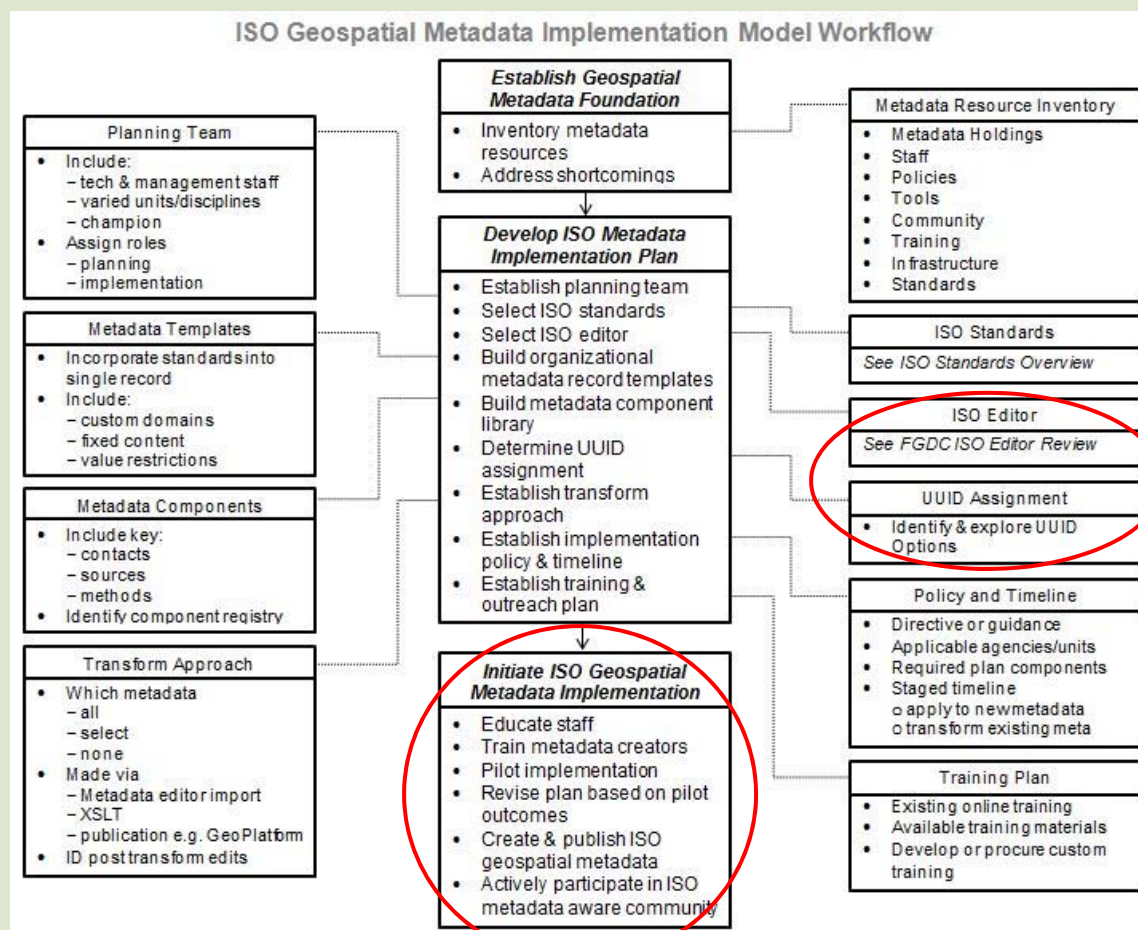
# IMPLEMENTATION PLANNING – COMPONENTS AND TEMPLATES

- **Three steps for creating our components**
  - **First – translated one existing CSDGM metadata into ISO format**
  - **Second – create a basic record that met our minimum requirement per the GPMS**
  - **Third - refine to leverage incorporate advanced capabilities**

# SAVINGS WITH RE-USABLE COMPONENTS

- Reduced the size of the 19115 file by a third using re-usable components for contact info
- A tenfold reduction in file size (from over one thousand lines to less than a hundred lines) by using re-usable components for contact info and entity attributes in the 19110 file

# OUR THIRD STAGE ACTIVITIES



# INITIATE ISO IMPLEMENTATION

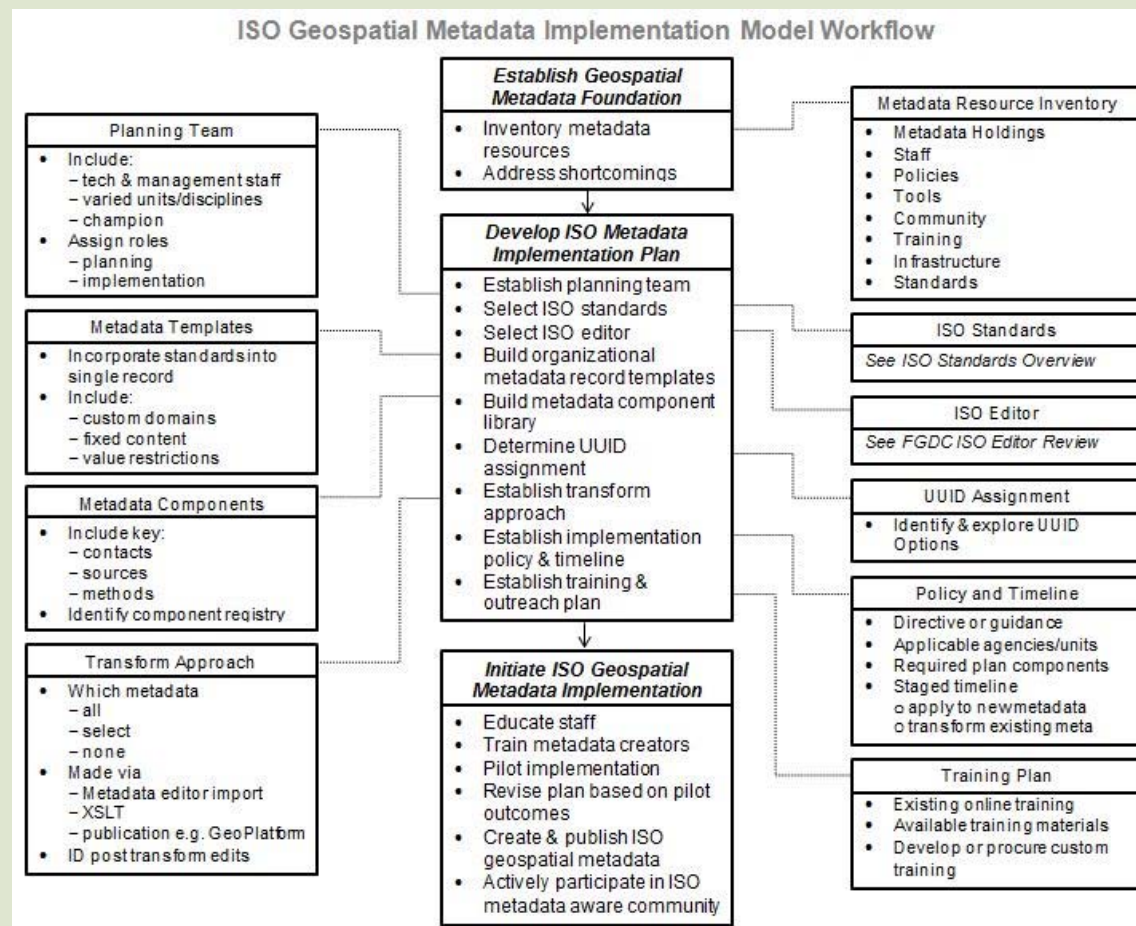
- **Planning and finalizing**
  - Re-usable components/UUID implementation
  - Entity and attribute approach
  - Projection registration
  
- **Our pilot implementation will be in May – June timeframe**
  - Will produce both CSDGM and ISO metadata for products
  - TIGERweb being the exception – just ISO metadata
  
- **Choose ISO metadata editor tool**
  - Low priority

# IMPLEMENTATION DECISIONS

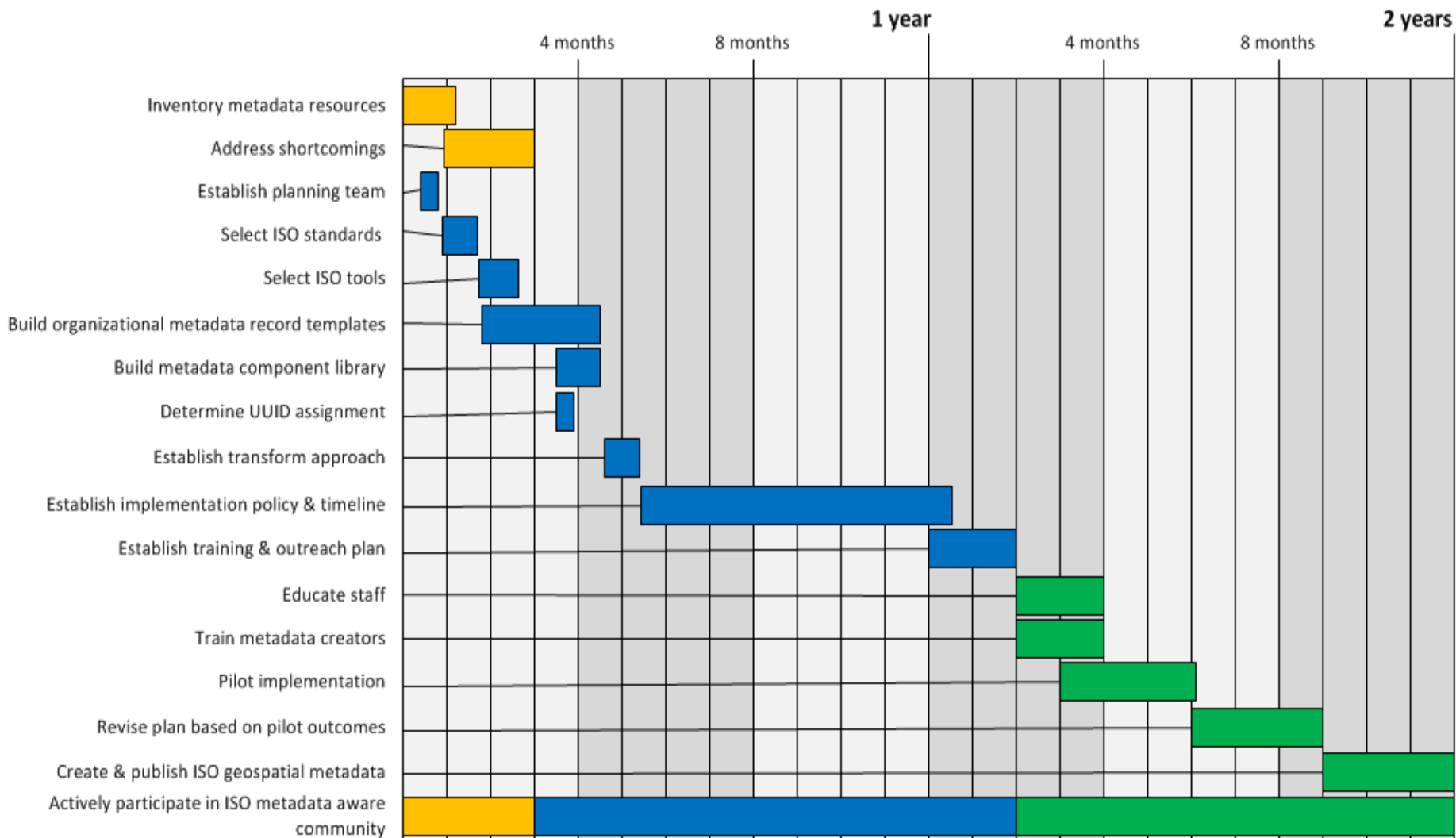
Issue	Implementation Approach
19115 or 19115-2	Chose 19115-2 due to availability of transformation/translation files
Convert existing metadata	Will prepare ISO metadata for new products only
Re-usable components	Will use for contact related info
Detailed entity and attribute information	Will implement ISO 19110 and plan to leverage re-usable components
Projections	Plan to register our projections
Hierarchical format	Want to investigate as it applies to <a href="http://geo.data.gov">geo.data.gov</a> and <a href="http://data.gov">data.gov</a>



# IMPLEMENTATION MODEL WORKFLOW

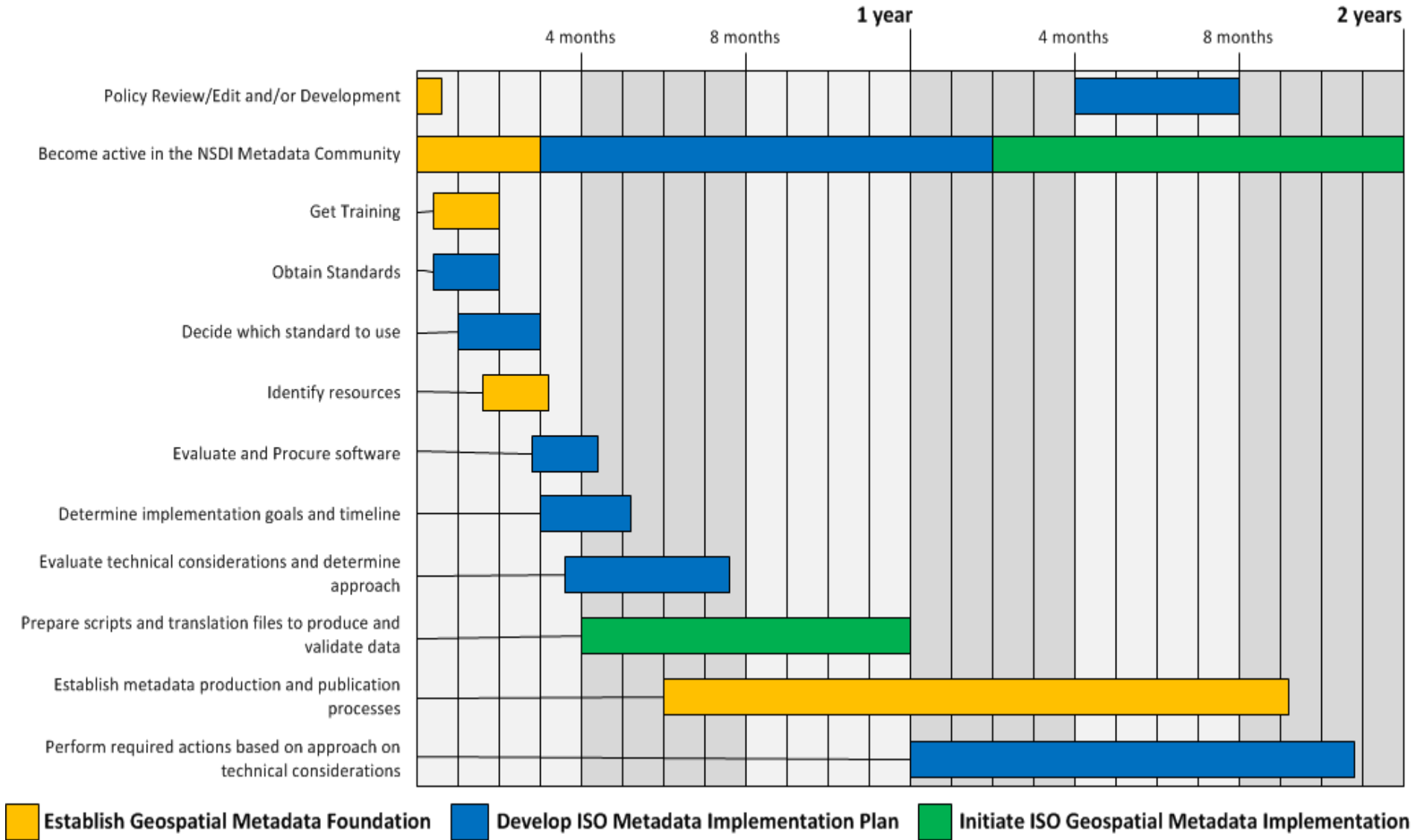


# ISO Geospatial Metadata Implementation Model Workflow




■ Establish Geospatial Metadata Foundation
 ■ Develop ISO Metadata Implementation Plan
 ■ Initiate ISO Geospatial Metadata Implementation


# Census Bureau ISO Geospatial Metadata Implementation Timeline




# ACCOMPLISHMENTS AND GOALS



**Our first published ISO metadata file was for our TIGERweb services in 2012**




**Our next will be ISO metadata for our 2013 cartographic data products (early summer 2013)**



**Then we will have ISO metadata for the 2013 TIGER/Line shapefiles (late summer 2013)**

# NEXT STEPS




**Conduct a lessons learned and move into a second phase of implementation**



**Create ISO metadata directly rather than translating from CSDGM**



**Make adjustments to our process if needed, to align with upcoming DOC policies**



**If needed, adjust process to align with geo.data.gov and data.gov needs**

# USE CASE: CENSUS BUREAU

- Questions?
- Comments?