

# 2020 Census Program Management Review

## Geographic Programs-Related Projects Maryann Chapin, Program Manager

3.101/3.102 – Master Address File (MAF) Error Model/  
Independent MAF Quality Assessment

3.103 – Local Update of Census Address (LUCA) Program  
Improvement

4.107 – Non-ID Processing

8.101 – Improving Quality Control

8.108 – *Field Staff Training\**

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# WBS 3.101 – Master Address File (MAF) Error Model

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## Project Description:

Create a model that results in predictions of where MAF coverage error occurs and where it does not. This model will incorporate data that have been found to be correlated with coverage.

## Project Objective:

Identify, test, and refine options that construct an address coverage model in order to gauge the ongoing quality of the census frames.



# 3.101 – Master Address File (MAF) Error Model (Cont.)

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## Recent Accomplishments:

- Completed data collection, using existing systems and infrastructure, to test preliminary hypotheses about coverage error indicators.
- Agreed with various stakeholders on January 2014 start date for the MAF Error Model Validation Test.



# WBS 3.101 – Master Address File (MAF) Error Model

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## Risk Highlights:

- Cancellation of the MAF Error Model Validation Test.
- Maturity/readiness of the data collection application to support the MAF Error Model Validation Test.



# WBS 3.101 – Master Address File (MAF) Error Model (Cont.)

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## Challenges:

- A new data collection application is in development. Understanding the development schedule and when needed software capabilities will be available is critical to the MAF Error Model Validation Test.
- Determination of sample/site test design for the MAF Error Model Validation Test – staffing, acquisition of devices, etc.

## Near-term Project Focus Items:

- Model development through data mining and incorporation of additional data.
- Sample design/site selection for the MAF Error Model Validation Test based on model results.



# WBS 3.102 – Independent MAF Quality Assessment

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## Project Description:

Create measures of coverage of the MAF that work in concert with related measures resulting from the Geographic Support System Initiative to create a picture of the quality of the MAF.

## Project Objective:

Identify, test, and refine options that:

- Assess the coverage of the MAF using the MAF error model.
- Develop understandable and useful statements of MAF coverage.



# WBS 3.102 – Independent MAF Quality Assessment (Cont.)

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## Recent Accomplishments:

- Determined that quality/coverage measures will be created from the MAF Error Model, rather than the MAF Error Model Validation Test output.

## Near-term Project Focus Items:

- Determine if sample size is sufficient for model testing.



# WBS 3.103 – Local Update of Census Address (LUCA) Program Improvement

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## Project Description:

The objective is to select a new LUCA operational design by September of 2014 based on recommendations resulting from research and feedback on those recommendations from tribal, state and local governments.

The primary question being addressed is what improvements to the 2020 LUCA Program are desired or required that are cost-effective and yield high data quality given:

- plans to implement intercensal address partnership activities as part of the Geographic Support Systems Initiative (GSS-I)?
- potential plans for a targeted address canvassing operation?
- additional analysis from 2010?
- input from local governments through focus groups on potential models for 2020 LUCA (in lieu of Test 19 which was cancelled)?



# WBS 3.103 – Local Update of Census Address (LUCA) Program Improvement (Cont.)

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## Recent Accomplishments:

- Conducted a match of 2010 LUCA records and the 2010 Administrative Records database to determine if administrative records can be used to validate LUCA records.
- Compiled information and data about previous LUCA and related partnership programs from assessments, surveys and lessons learned documents in order to learn what worked well and what needs improvement for 2020 LUCA.



# WBS 3.103 – Local Update of Census Address (LUCA) Program Improvement (Cont.)

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## Risk Highlights:

- Administrative records of sufficient quality may not be available for all geographic areas.
- LUCA is planning to utilize tools developed for the GSS-I. This is dependent on the GSS-I developing software and processes to ingest files from partners.

## Challenges:

- Close coordination and integration is needed between the 2020 and GSS-I programs in order to inform recommendations for the 2020 LUCA operational design.



# WBS 3.103 – Local Update of Census Address (LUCA) Program Improvement (Cont.)

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## Near-term Project Focus Items:

- Conduct address level research from the 2010 LUCA to Administrative Records match to understand why enumerated LUCA records did not match to administrative records and why LUCA records that matched to administrative records were not enumerated.
- Research if the USPS could be used to help validate LUCA records.
- Research how/if GSS-I quality indicators for MAF/TIGER can be used when validating LUCA records.



# WBS 4.107 – Non-ID Processing

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## Project Description:

- Determine options for enhancing automated address matching and geocoding processes for responses lacking a Census identification code.
- Establish options for operational cost savings by decreasing workload for Clerical Non-ID Processing and any associated field verification work.



# WBS 4.107 – Non-ID Processing (Cont.)

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## Objectives:

- Identify, test, and refine options that lead to matching a Non-ID case to an existing address record in the Census living quarters inventory.
- In the case of a non-match, provisionally add the address for the Non-ID case to the inventory, along with determining its physical location and the associated geographic codes.
- Determine methods for verifying the existence and location of nonmatching addresses by other means than field work.



# WBS 4.107 – Non-ID Processing (Cont.)

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## Key Knowledge Management Recommendations

1. Assuming greater speed and efficiency in processing census responses, as well as automated field operations in the 2020 Census, workload could go to field verification on a flow basis.
2. Conduct research to quantify the number of times cases were incorrectly geocoded during 2010 Non-ID Processing, which led to the deletion of the case.

# WBS 4.107 – Non-ID Processing (Cont.)

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## Recent Accomplishments:

- Completed testing regarding the use of internet protocol (IP) address for determining a respondent's location.
- Delivered requirements for a prototype interactive geocoding interface that could be integrated with the internet questionnaire and telephone interviewer instrument.
- Provided address data capture requirements to the Optimizing Self Response team for the internet instrument for the 2013 Census Test.

# WBS 4.107 – Non-ID Processing (Cont.)

## Risk Highlights:

Risk Statement	Mitigation
IF budget constraints scale back the scope of 2020 tests THEN testing and implementation of new Non-ID Processing applications and methods could be negatively affected.	Mitigation is being addressed at the 2020 Program level.
IF there is no measure by which the Non-ID team may assess the quality of the administrative record data to be used during testing THEN any application of these data to Non-ID Processing cannot be effectively evaluated or recommended.	There are 2020 teams researching administrative record files and evaluating them for quality. Any files not assessed for quality prior to testing will be compared to similar files to establish a quality measure



# WBS 4.107 – Non-ID Processing (Cont.)

## Risk Highlights:

Risk Statement	Mitigation
<p>IF address data collected from various modes are not consistent by the end of the 2020 R&amp;T phase, THEN the Non-ID team will be unable to measure the true impact of the modifications to automated Non-ID Processing because the inconsistent address data could affect the results.</p>	<p>The Non-ID team has met/will meet with representatives of the relevant response modes in order to establish criteria for the collection of address data in a standard format. The Non-ID team has already provided requirements for the internet questionnaire and telephone interview instruments.</p>
<p>IF workload management is not a real-time application during the 2020 R&amp;T phase THEN an assessment of the use of real-time matching and geocoding cannot be achieved, which could severely limit the team's ability to obtain adequate data/metrics on which 2020 plans could be reasonably based</p>	<p>The Non-ID team provided the 2020 Workload Management System (WMS) team with requirements for real-time Non-ID data transfers, and will continue to work with the WMS team to facilitate planning and implementation of a system design that can support real-time processing</p>

# WBS 4.107 – Non-ID Processing (Cont.)

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## Near-term Project Focus Items:

- Prepare requirements for automated and matching processing for the 2013 Census Test.
- Use 2010 datasets to test proposed enhancements for automated Non-ID processing.
- Work with Geography Division to clarify requirements for an interactive geocoding interface.



# WBS 8.101 – Improving Quality Control

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## Project Description:

- Research ways to improve Quality Control for field data collection, by:
  - Using administrative records to focus field work on suspicious cases and/or reduce field work for both listing and enumeration operations.
  - Using GPS data to spot potential falsification
  - Detecting falsification or deviations from procedures at the LCO level, and
  - Automating Observation Checklists.
- We are currently involved in three field tests:
  - Quality Control Test, primarily an instrument test with some GPS research, conducted by HQ staff.
  - MAF Error Model Validation Test, during which we will test our listing QC ideas.
  - 2014 Census Test, during which we will test our enumeration/reinterview ideas.

# WBS 8.101 – Improving Quality Control (Cont.)

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## Recent Accomplishments:

- Developed quality-related requirements for the listing application and nonresponse followup enumeration application.
- Developed requirements for listing and reinterview QC instruments.
- Kicked off contract to support Matching, Review, and Coding System (MaRCS) simulation using administrative records.
- Conducted analysis on potential falsification at the LCO level.
- Developed requirements for the Automated Observation Form.



# WBS 8.101 – Improving Quality Control (Cont.)

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## Risk Highlights:

- Budgets and our field tests: The MAF Error Model Validation Test and the 2014 Census Test are our sole opportunities to test our theories. If either test is canceled or severely reduced, we will have lost our best chances to test our theories prior to the end of the R&T phase.
- Instrument development: If priority is given to production instruments over QC instruments, we may not have QC instruments available for our testing.



# WBS 8.101 – Improving Quality Control (Cont.)

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## Challenges:

- Balancing our test planning with our research work.
- Readiness of the listing and enumeration instruments for the Quality Control Test.



# WBS 8.101 – Improving Quality Control (Cont.)

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## Near-term Project Focus Items:

- Quality Control Test: Testing of enumeration and listing instruments, both production and reinterview/QC.
- Designing an automated observation instrument.
- Analysis of administrative records data to test our theories.



# WBS 8.108 – Field Staff Training

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## Project Description:

To improve the efficiency of training field staff to better utilize advanced training techniques to get better data at lower costs.

## Project Objectives:

- a) Improve field staff understanding of operational goals.
- b) Better prepare field staff for expected exceptions and problems inherent to geographic areas (e.g. specific training modules).
- c) Ensure training is conducive to adult learning and allows interaction with supervisors, but maintains cost efficiency.
- d) Provide more consistent training across operations, which can be referenced after training is complete.
- e) Integrate with field automation technologies and procedures.
- f) Research training techniques used by private sector companies and other government agencies.