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## Major Revision Change History

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<td>Sherrell Goggin</td>
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<td>Keith Harmon</td>
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Reading and Understanding the Model

Example Activity Model

**BPM Purpose**
- Describe Census Operations business processes — activities, resources and key milestones
- Provide the details necessary for non-subject matter experts to understand the business process
- Contribute to the requirements development process
- Facilitate the linkage of business processes to IT capabilities
- Capture Operations inputs and outputs

### Activities
- **Determine Universe for Mailing**
- **Identify Respondents**
- **Write Specs for Mailout**
- **Prepare Paper Surveys and Envelopes for Mail**
- **Process Postcards**
- **Prepare Paper Surveys and Envelopes for Mail**
- **Go Live with Online Survey**
- **Label & Mail all Survey Related Information**
- **Conduct Follow-Up**

### Data Objects
- **Input**
- **Output**

### Data Object — Input
This represents any incoming data (e.g., files, data, etc.) to the activity.

### Data Object — Output
This represents any outgoing data (e.g., files, data, etc.) from the activity.

### Gateway — exclusive decision gateway
This represents that the process must go one way or the other but not both at once.

### Gateway — Parallel merge gateway
This represents the end of activities that happen in parallel. All incoming flows must complete before triggering the outgoing flow.

### Gateway — Parallel split gateway
This represents the start of activities that happen in parallel.

### Sequence Flow
This represents the direction of the process’ flow.

### Intermediate Timed Event
This represents an event that waits for the specified timeframe to occur before proceeding to the next activity.

### Key:
- **Events**
  - Start:
  - End:
  - Intermediate Timed Event:
    - Flow continued on another page:
    - Flow continued from another page:

- **Activities**
  - Activity at atomic level:
    - Activity involving:
      - USER interacting with a system or software:
      - SENDING a message:
      - RECEIVING a message:
      - RECEIVING steps:
      - ACTIVITY involving a sub process:
      - Optional Activity Numerator:

- **Gateways**
  - Exclusive:
  - Parallel:
  - Event Based:

- **Data Objects**
  - Input:
  - Output:

- **Other**
  - Sequence Flow:
  - Association:

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**Legend**

2020 Census 13. Non-ID Processing Operation (NID) BPM.vsdm
2020 Census 13. Non-ID Processing Operation (NID)

Purpose: Make it easy for people to respond anytime, anywhere to increase self-response rates by providing response options that do not require a unique Census ID.

Context Model

13-1 Real-Time Non-ID Processing Phase
- Perform Real Time Non-ID Processing
- Triggered by arrival of Non-ID address from Internet Self Response (ISR) processing (includes both ISR Respondent and CQA Agent interactions) Results of this process are returned to ISR

13-1.1 Conduct Planning and Preparation for Real-Time Non-ID User Interface

13-1.2 Perform Real-Time Non-ID Processing

13-2 Post Real-Time Non-ID Processing Phase
- Address Matched & Geocoded? (15)
  - Yes [Return Code*=1]
  - No [Return Code*=3]

13-2.1 Perform Asynchronous Non-ID Processing

13-2.2 Perform Manual Non-ID Processing
- Triggered by arrival of Non-ID address from Response Processing

13-2.3 Conduct Office-Based Address Verification (OBAV)
- Results from OBAV
- Field Verification Needed? (45)
  - Yes
    - Update Field Verification Workload for NRFU
  - No

13-2.4 Send Results to Response Processing

Return Codes:
- 0 = Unable to match address to a MAFID and unable to geocode
- 1 = Matched address to a MAFID with a confirmed geocode
- 2 = Matched address to a MAFID with an unconfirmed geocode
- 3 = Matched address to a MAFID with an ungeocoded record, but was able to geocode
- 4 = Matched address to a MAFID, but was not able to geocode
- 5 = Unable to match address to a MAFID, but was able to geocode

Status of Matching & Geocoding Address? (25)
- Return Code*=1, 2
- Return Code*=3, 5
- Case Requires Office Validation? (35)
- Results From Asynchronous Non-ID
- Results from Real Time Non-ID
- Results From Manual Non-ID
- Results from OBAV
- Send Results to Response Processing
- Update Field Verification Workload for NRFU
- Yes
- No (Codes*=0,1,2,4)
10 Perform Real-Time Non-ID Processing

Purpose: To match and geocode Non-ID addresses.

13-1.2 Perform Real-Time Non-ID Processing

13-1.2.1 Perform Real-Time Address Standardization
- Receive Collected Address
- Standardize Address
- Recollect Address from Respondent/CQA Agent

13-1.2.2 Perform Real-Time Non-ID Matching and Geocoding
- Standardized Address Accepted by Respondent or CQA Agent? (10.25)
- Address Recollected More Than Once? (10.35)
- Address Recollected More Than Twice? (10.28)
- Address Matched? (10.42)
- Address Geocoded? (10.45)
- Perform Automated Geocoding

- Provide Results to ISR

Internet Self Response (incl Respondent and CQA Agent)
20 Perform Asynchronous Non-ID Processing

Purpose: To associate Census identification numbers with completed respondent-generated questionnaires that do not have a pre-assigned Census identification number, but do have a respondent-provided address. Includes in-house review and resolution.
20.20 Perform Automated Geoprocessing

Purpose: To match and geocode addresses in batch mode (paper, enumerator, and Internet Response with no RTNP).

### Process Flow

1. **Start Sub-process**
2. **20.20.10 Standardize Address**
   - 13-2.1.2.1 Perform Address Standardization
3. **20.20.20 Perform Address Matching to MAF**
   - 13-2.1.2.2 Perform Automated Matching and Geocoding
   - Address Matched? (20.20.25)
     - Yes
     - Address Geocoded? (20.20.27)
       - Yes
       - End Sub-process
       - No
         - No
         - 20.20.30 Perform Automated Geocoding
           - End Sub-process
20.30 Perform Unmatched Post Collection
Purpose: To match and geocode unmatched responses.

13-2.1.3 Perform Unmatched Post Collection

Start Sub-process

Send 20.30.10 Address to AdRec Matching for Processing

Receive Address from AdRec Matching

Was Address Enhanced? (20.30.18)

Yes

Perform Address Matching to MAF

Address Matched? (20.30.21)

Yes

Address Geocoded? (20.30.27)

Yes

Send Address to AdRec Matching for Processing

Receive Address from AdRec Matching

No

Prior results from RTNP are already known.

Perform Automated Geocoding

End Sub-process

13-2.1.3.1 Perform AdRec Matching

13-2.1.3.2 Perform Post AdRec Automated Matching and Geocoding

This is provided by the matching service in PEARSIS.
30 Perform Manual Non-ID Processing
Purpose: To document those processes needed to manual resolve ungeocoded responses.

13-2.2 Perform Manual Non-ID Processing

13-2.2.1 Perform Manual Address Correction

13-2.2.2 Perform Manual Matching and Geocoding

13-2.2.3 Perform Non-ID Quality Control
**30.60 Contact Respondent**

*Purpose:* To resolve cases by reaching out to the respondent, if suitable contact information is available.

**Business Process Modeling & Analysis Toolkit**

### 30.60.1 Contact Respondent

- **30.60.10** Call Respondent
  - **30.60.11** Respondent Answered Call?
    - Yes: **30.60.20** Collect Address Data
    - No: **30.60.12** 3 Call Limit Reached? (30.60.17)
  - No: Calls are queued.

### 30.60.2 Contact Address Data

- **30.60.20** Collect Address Data
  - Yes: **30.60.30** Make Address Correction
  - No: **30.60.21** Address Correction Provided by Respondent?(30.60.25)

### 30.60.3 Contact Address Correction

- **30.60.30** Make Address Correction
  - Yes: **30.60.40** Attempt to match address to MAF record
  - No: **30.60.31** Match Found? (30.60.45)

### 30.60.4 Contact Address Matching

- **30.60.40** Attempt to match address to MAF record
  - Yes: **30.60.50** Clerk Selects MAF Record
  - No: **30.60.41** MAFID Has Confirmed Geocode? (30.60.55)

### 30.60.5 Contact Geocode

- **30.60.50** Clerk Selects MAF Record
  - Yes: **30.60.60** System Applies Existing MAFID & Geocode
  - No: **30.60.51** System Applies Existing MAFID

### 30.60.6 Contact Geocode

- **30.60.60** System Applies Existing MAFID & Geocode
  - Yes: **30.60.70** Geocode Obtained?
  - No: **30.60.61** Conduct Research (to Determine Geocode)

### 30.60.7 Contact Research

- **30.60.70** Conduct Research (to Determine Geocode)
  - Yes: **30.60.80** System Applies Obtained Geocode
  - No: **30.60.71** System Applies Existing MAFID

### 30.60.8 Contact Geocode

- **30.60.80** System Applies Obtained Geocode
  - Yes: **30.60.90** Clerk Matches Address Range or Basic Collection Unit
  - No: **30.60.81** Geocode Obtained?

### 30.60.9 Contact Address Range

- **30.60.90** Clerk Matches Address Range or Basic Collection Unit
  - Yes: **30.60.100** System Applies Obtained Geocode
  - No: **30.60.91** Geocode Obtained?

### 30.60.10 Contact Outcomes

- **30.60.100** System Applies Obtained Geocode
  - Yes: **30.60.110** Capture Outcome of Call
  - No: 30.60.111 End Sub-process

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**Notes:**

- Calls are queued.
- Research is performed interactively, approximate duration of research is 5 to 6 minutes.
Perform Quality Control

Purpose: To perform quality control activities for a selected number of cases.

QC Sampling Rules (10% or 100% based on pass/failed from previous bundle)

A QC bundle contains no more than 50 records. The first bundle is subject to 100% QC sample, subsequent bundles are subject to 10% QC sample as long as the previous bundles continue to pass QC.
40 Perform Office-Based Address Verification (OBAV)
Purpose: To verify addresses and block geocodes in an office-based operation.

Cases that come to OBAV:
- Code 3 (Matched address to a MAFID with an ungeocoded record, but was able to geocode)
- Code 5 (Unable to match address to a MAFID, but was able to geocode)