United States Census 2020

Study Plan for the 2018 End-to-End Census Test Update Leave Operational Assessment

Update Leave Integrated Project Team

United States Census Bureau

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Version 0.4

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I. Introduction

The 2018 End-to-End Census Test is an important opportunity for the Census Bureau to ensure an accurate count of the nation's increasingly diverse and rapidly growing population. It is the first opportunity to apply much of what has been learned from census tests conducted throughout the decade in preparation for the nation's once-a-decade population census. The 2018 End-to-End Census Test will be held in three locations, covering more than 700,000 housing units: Pierce County, Washington; Providence County, Rhode Island; and the Bluefield-Beckley-Oak Hill, West Virginia, area.

The 2018 End-to-End Census Test will be a dress rehearsal for most of the 2020 Census operations, procedures, systems, and field infrastructure to ensure there is proper integration and conformance with functional and nonfunctional requirements. The test also will produce prototypes of geographic and data products. Note that the 2018 End-to-End Census Test results are based on three sites that were purposely selected and cannot be generalized to the entire United States.

This study plan documents how the Update Leave (UL) operation will be assessed, as guided by questions to be answered. The objectives of the 2018 End-to-End Census Test UL operation are to update address information and spatial data in-person for housing units in geographic areas with special enumeration needs and to hand-deliver questionnaire packages to those housing units. The operation was designed to support the enumeration of areas where the Census Bureau had concerns about accurate mail delivery and to determine the Census block location of each housing unit. The operation will be conducted in areas where housing units:
- Do not receive mail through a city-style address (house number/street name) for the majority of housing units in the area.
- Receive mail at a Post Office (P.O.) Box.
- Have a city-style address but share a mail drop-off point with other housing units.

The UL operation will only occur in Providence County and will consist of a production phase and a quality control (QC) phase. The production phase begins on March 19, 2018, and ends on April 13, 2018. During this time, enumerators visit each living quarter in their assigned Basic Collection Unit[1] (BCU), update the address, and leave a questionnaire package at living quarters designated as housing units. The questionnaire package contains a paper questionnaire for the residents to complete and mail back, as well as materials that instruct residents on how to complete the survey online or over the telephone. The estimated workload for the UL operation is around 2,000 housing units. The QC phase begins on March 26, 2018, and ends on April 20, 2018. During this time, different enumerators will verify the work that occurred during production by revisiting a sample of addresses to check the accuracy of the address information.

II. Background

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[1] A Basic Collection Unit is a single, nationwide set of small geographic units for data collection. It replaces collection blocks and assignment areas (AAs) that were used before, and during, the 2010 Census.

The following sections discuss the design of the Update/Leave operation from the 2010 Census and the design of the Update Leave operation for 2018.

2010 Census Update/Leave Operation

The last time an Update Leave operation occurred was during the 2010 Census. The objectives of the 2010 Census Update/Leave operation were to:
- Verify addresses and map features.
- Make corrections, additions, and deletions of addresses and map features to update the Master Address File (MAF)/Topologically Integrated Geographic Encoding and References (TIGER) database (MTdb).
- Hand-deliver 2010 Census questionnaires to all housing units in Update/Leave areas.

The 2010 Census Update/Leave operation consisted of a production phase and a QC phase. During production, enumerators were equipped with a binder with lists of all known living quarters. Enumerators updated the list as they canvassed all blocks in their assignment areas (AAs). Enumerators visited every structure they found in their AAs to look for housing units and to attempt to contact an occupant at every address. If the address was a housing unit, and an occupant was available, the enumerator provided a questionnaire labeled with the address for the housing unit. If an occupant was unavailable, the enumerator placed the questionnaire in a plastic bag and left the labeled questionnaire where it could easily be seen by the occupant. In both cases, the occupant was asked to complete the questionnaire and return it by mail.

During the QC phase, a separate group of QC enumerators conducted Dependent Quality Control (DQC), where they checked a sample of addresses in each AA to determine if enumerators in Update/Leave production completed their work correctly. If the AA failed DQC, the same QC enumerator recanvassed the entire AA. Assignment areas that passed DQC or underwent any necessary recanvassing were then sent to the local census office (LCO), where office clerks reviewed each AA binder for legibility, completeness, and consistency. If an AA binder failed the office clerk's review, the AA was sent back to the field to be recanvassed by the QC enumerator.

After the data capture of questionnaires returned by mail, the nonresponding housing units were identified and sent to either the Nonresponse Followup (NRFU) operation or the Vacant Delete Check (VDC) operation. If the Census Bureau did not receive enumeration response data for a housing unit that was part of the original universe of address records for Update/Leave, the nonresponding address was included in the NRFU operation. If the Census Bureau did not receive enumeration response data for a housing unit that was added during the Update/Leave operation, the nonresponding address was sent to the VDC operation.

The actual workload for the 2010 Census Update Leave operation was 12,552,247 housing units. Ultimately, the final number of housing units after MAF/TIGER processing was 12,526,032. The final status of those processed housing units are as follows:

- Verify – 8,867,753 (70.8 percent)
- Correction – 2,199,370 (17.5 percent)
- Add – 573,405 (4.6 percent)
- Delete – 449,015 (3.6 percent)
- Uninhabitable – 222,830 (1.8 percent)
- Duplicate – 91,162 (0.7 percent)
- Empty mobile home sites – 75,226 (0.6 percent)
- Nonresidential – 47,271 (0.4 percent)

The records that were in the actual workload but were not processed were either rejects or were not flagged as Update/Leave updates (after updating the block information). During the QC phase, about 6.0 percent of the AAs failed DQC, while about 5.0 percent of AA binders failed the office review.

Some of the key recommendations from the 2010 Census Update/Leave operation included:
- Automating the Update/Leave operation in 2020.
- Developing and using a bar coded system to record the processing ID on the questionnaire for added housing units.
- Increasing the amount of time dedicated to testing.

2018 End-to-End Census Test Update Leave Operation

Originally, an Update Leave operation was not part of the 2018 End-to-End Census Test design. An Update Enumerate (UE) operation was originally planned, but because of managerial decisions and technology capability constraints, the Decennial Census Management Division (DCMD) and the Field Division (FLD) suggested adding an Update Leave operation. The areas in the test sites that were originally supposed to be enumerated via UE are now part of the UL operation. An Update Enumerate[2] operation will still take place in the 2020 Census, but it will be restricted to remote areas of Alaska, Maine, other areas that are hard to access, and specifically designated areas (such as American Indian and Alaskan Native tribal lands).

For the most part, the UL operation procedures for production and QC will be the same as the 2010 Census Update/Leave operation. The one major change will be the use of an automated instrument to update the address list, which was a key recommendation from 2010. Enumerators will use the Listing and Mapping Application (LiMA) to update the address list and feature data. The QC phase will also utilize LiMA. The other key recommendation from 2010 to develop and use a bar coded system to record processing IDs was discussed throughout the decade. While LiMA does not have the functionality to scan a barcode, enumerators will be able to type the processing ID from the questionnaire package directly into LiMA, thus creating a link between a questionnaire package and a housing unit.

III. Assumptions

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[2] Update Enumerate verifies the address and attempts to enumerate the household in-person, instead of leaving a questionnaire for the household to mail back.

The 2018 End-to-End Census Test Update Leave operation assumes:
- The 2018 End-to-End Census Test will occur in three test sites: Pierce County, Washington; Providence County, Rhode Island; and the Bluefield-Beckley-Oak Hill, West Virginia, area.
- The estimated Update Leave workload is around 89,000 HUs between the three test sites.
- LiMA will handle address updates and updates to feature data.
- Paradata and payroll data will provide the necessary information to calculate budget-related metrics.
- The MAF Extract (MAFX) will provide the necessary address feature data.
- The Sampling, Matching, Review, and Coding System (SMaRCS) will select the housing units for the QC reinterview.
- Connectivity in rural areas works as expected.
- Integrations between all systems will work properly.

IV. Scope of Assessment Content and Questions-To-Be-Answered

The following questions will be answered:
1. How many addresses and BCUs were sent to Update Leave production? How many of those addresses were worked? How many of those BCUs were worked? How many BCUs were completed (had all of their addresses worked)?
2. How many addresses were worked during Update Leave production? What was the final field action outcome for each worked address?
3. Summary of Update Leave Costs
   a. What was the total cost of Update Leave training and production? How does this compare to the total budgeted cost?
   b. What were the detailed sources of the total cost of Update Leave training and production? How does this compare to the total budgeted costs for each source?
   c. What was the cost per address worked during production?
4. Summary of Update Leave Enumerator Productivity Metrics
   a. What was the enumerator production rate (addresses worked per hour)?
   b. How many miles did an enumerator drive per address worked?
5. Summary of the Update Leave Quality Control Operation?
   a. How many addresses and BCUs were selected for the QC operation? What percentage of addresses within the BCU were selected for the QC operation?
   b. How many BCUs passed the QC operation? How many BCUs failed the QC operation?
   c. What is the distribution of failed BCUs, by enumerator?
6. What were the major findings from debriefings and observation reports?
7. What were the key lessons learned and recommendations for the future?

V. Methodology

Update Leave Production Methodology

Enumerators will be responsible for listing all living quarters in their assigned BCUs using LiMA. Field procedures for UL will be similar to the Address Canvassing operation field procedures. Enumerators will attempt to contact a knowledgeable person at each housing unit to verify the address. If a knowledgeable person is unavailable, the enumerator will list the address by observation. If an enumerator encounters an address that is not on their list, they will add the address to their list. After updating the address, the enumerator will leave a questionnaire package at the housing unit.

Addresses of known group quarter (GQ) structures and transitory locations (TLs) will be listed on the enumerators address list, but the enumerator will not work these types of addresses. They will not update the address, and they will not leave a questionnaire package at GQs or TLs. If an enumerator encounters a GQ or TL that is not on their address list, they will add the address to their list and will identify the address as a GQ or TL. They will not leave a questionnaire package at the added GQ or TL.

Update Leave Quality Control Methodology

The QC phase of Update Leave will be conducted by different enumerators than the production phase. These QC enumerators will also use LiMA.

The QC plan will rely on a scoring system in which each BCU will be assigned a specific point score (details are TBD). A BCU that receives a high point score will be more likely to be selected for QC. Additionally, a random sampling of BCUs with low point scores and average point scores will be selected for QC.

The Sampling, Matching, Review, and Coding System (SMaRCS) will select the BCUs to be worked and a random starting location from which the enumerator will start work. SMaRCS will also determine the number of housing units to check within each BCU, as well as the number of allowable addresses with errors in each BCU. SMaRCS will also select a sample of addresses marked as "Delete" or "Duplicate" to be verified. The sample sizes of addresses and the allowable number of errors will vary based on the size of the BCU.

There will be two phases to the QC operation: a String Check phase and a Delete Check phase. During the String Check, the enumerator will follow normal listing rules to list addresses until the sample size is met. BCUs that fail the String Check will be entirely reworked (recanvassed) by the QC enumerator. If the BCU passes the String Check, the QC enumerator will begin the Delete Check phase and check a sample of addresses that were marked as "Delete" or "Duplicate." If the BCU fails the Delete Check, the QC enumerator will recanvass all addresses marked as "Delete" or "Duplicate" in the BCU. If the BCU passes the Delete Check, the QC enumerator is finished with the BCU.

Questions-To-Be-Answered Table Shells

1. How many addresses and BCUs were sent to Update Leave production? How many of those addresses were worked? How many of those BCUs were worked? How many BCUs were completed (had all of their addresses worked)?

   Source(s): MAF Extract, GRF

Total Number of BCUs	
Total Number of Addresses	

BCU	Total Number of Addresses in BCU	Percent of Total Number of Addresses

BCU	Total Number of Addresses in BCU	Total Number of Addresses in BCU Worked	Percent of Addresses in BCU Worked	Was the BCU Completed?

2. How many addresses were worked during Update Leave production? What was the final field action outcome for each worked address?

   Source(s): Address Update File, UTS Reports

Field Action Outcome	Number of Addresses	Percent of Addresses
Verify		
Correction		
Add		
Delete		
Nonresidential		
Uninhabitable		
Duplicate		
Empty Mobile Home/Trailer Sites		
Total		

3. Summary of Update Leave Costs
   a. What was the total cost of Update Leave training and production? How does this compare to the total budgeted cost?

      Source(s): DAPPS Data, UTS Reports

	Total Budget	Actual Cost	Percent of the Total Budget Used
Training			
Production			
Total			

b. What were the detailed sources of the total cost of Update Leave training and production? How does this compare to the total budgeted costs for each source?

Source(s): DAPPS Data, UTS Reports

	Budgeted Hours	Actual Hours	Percent of Budgeted Hours Used	Budgeted Labor Costs	Actual Labor Costs	Percent of Budgeted Labor Costs Used
Training						
Production						
Total						

	Budgeted Miles	Actual Miles	Percent of Budgeted Miles Used	Budgeted Miles Cost	Actual Miles Costs	Percent of Budgeted Miles Costs Used
Training						
Production						
Total						

	Budgeted Other Costs	Actual Other Costs	Percent of Budgeted Other Costs Used
Training			
Production			
Total			

c. What was the cost per address worked during production?

Source(s): DAPPS Data, UTS Reports, Address Update File

Total Production Cost	
Total Number of Addresses Worked	
Average Cost per Address Worked	

4. Summary of Update Leave Enumerator Productivity Metrics
   a. What was the enumerator production rate (addresses worked per hour)?

Source(s): DAPPS Data, UTS Reports, Address Update File

Total Number of Addresses Worked	
Total Number of Hours Worked	
Average Number of Addresses Worked per Hour	

b. How many miles did an enumerator drive per address worked?

Source(s): DAPPS Data, UTS Reports, Address Update File

Total Number of Miles Driven	
Total Number of Addresses Worked	
Average Number of Miles Driven per Address	

5. Summary of the Update Leave Quality Control Operation?
   a. How many addresses and BCUs were selected for the QC operation? What percentage of addresses within the BCU were selected for the QC operation?

   Source(s): SMaRCS

Total Number of BCUs	
Total Number of BCUs Selected	
Percentage of BCUs Selected	

Total Number of Addresses Worked	
Total Number of Addresses Selected	
Percentage of Addresses Selected	

   b. How many BCUs passed the QC operation? How many BCUs failed the QC operation?

   Source(s): SMaRCS

Outcome of BCUs that were Selected	Number	Percent
Pass		
Fail		
Total		

   c. What is the distribution of failed BCUs, by enumerator?

   Source(s): SMaRCS

Number of Failed BCUs	Number of Enumerators	Percent
0		
1		
2		
3		
4		
Total		

Data Requirements

Data Source	Description	Date of Availability
Decennial Response File (DRF)	Response data used for postprocessing.	TBD
Decennial Applicant Personnel and Payroll System (DAPPS)	Payroll data related to operational costs.	TBD
Universal Tracking System (UTS) reports	High-level reports used by managers to evaluate the operation.	TBD
Listing and Mapping Application (LiMA) data and paradata	All address update and feature information and other data not needed for response-processing purposes.	TBD
Master Address File Extract (MAFX)	Address information and feature data about the addresses in the operation.	TBD
Address Update File	Address information and field action codes.	TBD
Sampling, Matching, Review and Coding System (SMaRCS)	All reinterview data and paradata.	TBD
Enumerator and supervisor debriefing reports	Feedback from enumerators and supervisors about various aspects of the operation.	TBD
Observation reports	Reports created after shadowing enumerators in the field.	TBD
Field Staff Data	Data that links enumerators to supervisors.	TBD

VI. Risks/Limitations

Risks
1. Limited resources are in place to design and develop the necessary systems and instrument(s) to conduct QC in the field for UL. If priorities are not set appropriately for QC design and development, then a statistically sound QC program for the 2018 End-to-End Census Test may not be implemented and an outgoing level of quality for data cannot be ensured for UL.
2. Natural disasters in the form of hurricanes, floods, epidemics, etc., are uncontrolled events that could affect the willingness and ability of the population in non-UL type of enumeration areas (TEAs) to participate in the 2018 End-to-End Census Test. If a natural disaster occurs in a non-UL TEA at or around the time of the 2018 End-to-End Census Test, and the decision is made to redesignate the area as a UL TEA (transferring the workload to the UL operation), then UL will need the ability to be expanded in time to provide full coverage of the impacted geographic area.
3. The cost of the UL operation can be greatly impacted by the prevailing economic conditions at the time of the 2018 End-to-End Census Test. If the economic

conditions are relatively strong at the time of the 2018 End-to-End Census Test, then the costs to recruit and hire qualified employees may increase.

4. Enumerator hiring is estimated to be a 60-day process. If, because of unanticipated attrition, or other factors, the UL operation needs to hire more enumerators than projected, then the time required for hiring would adversely affect UL's ability to complete the operation on time, and there may be a need to recruit, and get clearance for, more enumerators than are initially hired.

5. If any aspects of the UL operation currently planned for the 2018 End-to-End Census Test are descoped, then the results from the 2018 End-to-End Census Test may not accurately model the performance of the UL operation for the 2020 Census.

Limitations

The 2018 End-to-End Census Test Update Leave operation will take place in particular local areas. The results cannot be generalized to the entire nation.

VII. Measures of Success

The following criteria will be used to determine the success of the 2018 End-to-End Census Test Update Leave operation:

- The 2018 End-to-End Census Test is completed with no corruption or confusion of data from the different phases of Update Leave within LiMA.
- Questionnaire IDs linked using LiMA are sent to OCS and accessible for incoming responses.
- Update Leave production is completed on schedule.
- Update Leave QC is completed on schedule.
- The actual cost of Update Leave production did not exceed the budget.
- The actual cost of Update Leave QC did not exceed the budget.
- Address updates from Update Leave were accepted by GEO.
- Housing units that self-respond before the initial NRFU universe is created are not part of the initial NRFU universe.
- New addresses that were added during production are successfully removed from the enumeration universe if a self-response is received.
- New addresses that were added during production are successfully sent to NRFU if a self-response is not received.
- Addresses that were marked as GQs or TLs were removed from the UL and NRFU universe and sent to the appropriate followup operation.

VIII. Division Responsibilities

Division	People	Responsibilities
Decennial Census Management Division (DCMD)	Julia Lopez Andrey Fomil Bruce Barr	Keeping the milestone schedule. Updating the risk register. Defining the measures of success. Assisting with study plan and analysis report

		writing. Assisting with data acquisition;
Decennial Statistical Studies Division (DSSD)	Robert Fitzsimmons Ryan King Mary Frances Zelenak Rafael Morales RJ Marquette	Writing the study plan and assessment report. Acquiring all data. Analyzing response data. Analyzing instrument data. Analyzing quality control data.
Field Division (FLD)	Karen Field Darlene Griffith Kim Canada	Develop field training instruments.
Population Division (POP)	Warren Davis Kristin Koslap Rochelle Brown	Provide subject matter expertise on residence rules, coverage, and demographic and housing unit characterstsics.
Geography Division (GEO)	Tanya Ann Sadrak Alexandra T Zablotny	Provide address and spatial data.

IX. Milestone Schedule

Below are the standard schedule activities for the development of the study plan and operational assessment report. Regard those highlighted in bold block-face as the key milestone activities. Definitions of acronyms are noted in the glossary section.

Activity ID	Activity Name	Orig Duration	Start	Finish
Update Leave Assessment Study Plan				
First Draft				
18UET-20620	Prepare First Draft of Update Leave Assessment Study Plan	**6**	5/19/17	5/26/17
18UET-20630	**Distribute First Draft of Update Leave Assessment Study Plan to the Assessment Sponsoring DCMD ADC and Other Reviewers**	**1**	5/30/17	5/30/17
18UET-20640	Incorporate DCMD ADC and Other Comments to Update Leave Assessment Study Plan	**17**	5/31/17	6/23/17
Initial Draft				

Activity ID	Activity Name	Orig Duration	Start	Finish
18UET-20880	Prepare Initial Draft Update Leave Assessment Study Plan	**8**	6/26/17	7/5/17
18UET-20650	Distribute Initial Draft Update Leave Assessment Study Plan to Evaluations & Experiments Coordination Brach (EXC)	**1**	7/6/17	7/6/17
18UET-20660	EXC Distributes Initial Draft Update Leave Assessment Study Plan to the DROM Working Group for Electronic Review	**1**	7/6/17	7/6/17
18UET-20670	Receive Comments from the DROM Working Group on the Initial Draft <<operation name>> Assessment Study Plan	**10**	7/10/17	7/20/17
	Schedule the Update Leave Study Plan for the IPT Lead to Meet with the DROM Working Group	**1**	7/20/17	7/20/17
18UET-20680	Discuss DROM Comments on Initial Draft Update Leave Assessment Study Plan	**1**	7/20/17	7/20/17
Final Draft				
18UET-20690	Prepare Final Draft of Update Leave Assessment Study Plan	**15**	7/21/17	8/10/17
18UET-20700	Distribute Final Draft of Update Leave Assessment Study Plan to the DPMO and the EXC	**1**	8/11/17	8/11/17
18UET-20710	Schedule and Discuss Final Draft Update Leave Assessment Study Plan with the 2020 PMGB	**14**	8/12/17	8/26/17
18UET-20720	Incorporate 2020 PMGB Comments for Update Leave Assessment Study Plan	**5**	8/27/17	9/1/17
18UET-20890	Prepare FINAL Update Leave Assessment Study Plan	**5**	9/2/17	9/6/17
18UET-20730	Distribute FINAL Update Leave Assessment Study Plan to the EXC	**1**	9/7/17	9/7/17
18UET-20690	EXC Staff Distributes the Update Leave Assessment Study Plan and 2020 Memorandum to the DCCO	**3**	9/8/17	9/10/17

Activity ID	Activity Name	Orig Duration	Start	Finish
	DCCO Staff Process the Draft 2020 Memorandum and the Update Leave Assessment Study Plan to Obtain Clearances (DCMD Chief, Assistant Director, and Associate Director)	**30**	9/11/17	10/10/17
	DCCO Staff Formally Release the Update Leave Assessment Study Plan in the 2020 Memorandum Series	**1**	10/11/17	10/11/17
Update Leave Assessment Report				
First Draft of Assessment Report				
	Receive, Verify, and Validate Update Leave Assessment Data	**20**		
	Examine Results and Conduct Analysis	**20**		
18UET-21040	Prepare First Draft of Update Leave Assessment Report	**15**	8/30/18	9/20/18
18UET-21050	**Distribute First Draft of Update Leave Assessment Report to the Assessment Sponsoring DCMD ADC and Other Reviewers**	**1**	9/21/18	9/21/18
18UET-21060	Incorporate DCMD ADC and Other Comments Update Leave Assessment Report	**7**	9/24/18	10/1/18
Initial Draft of Assessment Report				
18UET-21070	Prepare Initial Draft Update Leave Assessment Report	**8**	10/1/18	10/15/18
18UET-21090	Distribute Initial Draft Update Leave Assessment Report to Evaluations & Experiments Coordination Br. (EXC)	**1**	10/16/18	10/16/18
18UET-21100	EXC Distributes Initial Draft Update Leave Assessment Report to the DROM Working Group for Electronic Review	**1**	10/16/18	10/16/18
18UET-21110	Receive Comments from the DROM Working Group on the Initial Draft Update Leave Assessment Report	**10**	10/17/18	10/30/18
	Schedule the Update Leave Report for the IPT Lead to Meet with the DROM Working Group	**10**	10/31/18	11/14/18
18UET-21120	Discuss DROM Comments on Initial Draft Update Leave Assessment Report	**1**	11/15/18	11/15/18
Final Draft of Assessment Report				
18UET-21130	Prepare Final Draft of Update Leave Assessment Report	**25**	11/16/18	12/21/18
18UET-21140	Distribute Final Draft of Update Leave Assessment Report to the DPMO and the EXC	**1**	12/24/18	12/24/18

Activity ID	Activity Name	Orig Duration	Start	Finish
18UET-21150	Schedule and Discuss Final Draft Update Leave Assessment Report with the 2020 PMGB	**14**	12/26/18	1/9/19
18UET-21160	Incorporate 2020 PMGB Comments for Update Leave Assessment Report	**10**	1/10/19	1/24/19
Final Assessment Report				
18UET-21080	Prepare FINAL Update Leave Assessment Report	**10**	1/25/19	2/14/19
18UET-21170	**Deliver FINAL Update Leave Assessment Report to the EXC**	**1**	2/14/19	2/14/19
	EXC Staff Distribute the FINAL Update Leave Report and 2020 Memorandum to the DCCO	**3**		
	DCCO Staff Process the Draft 2020 Memorandum and the FINAL Update Leave Report to Obtain Clearances (DCMD Chief, Assistant Director, and Associate Director)	**30**		
	DCCO Staff Formally Release the FINAL Update Leave Report in the 2020 Memorandum Series	**1**		
	EXC Staff Capture Recommendations of the FINAL Update Leave Report in the Census Knowledge Management SharePoint Application	**1**		

X. Review/Approval Table

Role	Electronic Signature	Date
Fact Checker or independent verifier		
Author's Division Chief (or designee)		
DCMD ADC		
DROM DCMD co-executive sponsor (or designee)		
DROM DSSD co-executive sponsor (or designee)		
Associate Director for R&M (or designee)		
Associate Director for Decennial Census Programs (or designee) and 2020 PMGB		

XI. Document Revision and Version Control History

VERSION/EDITOR	DATE	REVISION DESCRIPTION	EAE IPT CHAIR APPROVAL
v. 0.1/Robert Fitzsimmons	5/26/2017	First draft	*Randall Neugebauer*
v. 0.2/Robert Fitzsimmons	6/12/2017	Incorporated comments from the sponsoring DCMD ADC	
v. 0.3/Robert Fitzsimmons	7/6/2017	Initial Draft; Incorporated comments from the UL IPT and the sponsoring DCMD ADC; version that was distributed to the DROM members	
v. 0.4/Robert Fitzsimmons	8/21/2017	Final Draft; Incorporated comments from DROM	

XII. Glossary of Acronyms

Acronym	Definition
AA	Assignment Area
ADC	Assistant Division Chief
BCU	Basic Collection Unit
DAPPS	Decennial Applicant Personnel and Payroll System
DCCO	Decennial Census Communications Office
DCMD	Decennial Census Management Division
DPMO	Decennial Program Management Office
DQC	Dependent Quality Control
DRF	Decennial Response File
DROM	Decennial Research Objectives and Methods Working Group
DSSD	Decennial Statistical Studies Division
EXC	Evaluations & Experiments Coordination Branch
FLD	Field Division
GEO	Geography Division
GQ	Group Quarter
HU	Housing Unit
IPT	Integrated Project Team
LCO	Local Census Office
LiMA	Listing and Mapping Application
MAF	Master Address File
MAFX	MAF Extract
MTdb	MAF/TIGER database
NRFU	Nonresponse Followup
PMGB	Portfolio Management Governance Board

POP	Population Division
QC	Quality Control
R&M	Research & Methodology Directorate
SMaRCS	Sampling, Matching, Review, and Coding System
TEA	Type of Enumeration Area
TIGER	Topologically Integrated Geographic Encoding and References
TL	Transitory Location
UE	Update Enumerate
UL	Update Leave
UTS	Universal Tracking System
VDC	Vacant Delete Check

XIII. References

Marquette, R. (2017). 2018 End-To-End Census Test Update Leave Quality Assurance Plan. *DSSD 2010 Decennial Census Memorandum, Q-4.*

Snodgrass, S. & Zhang, B. (2012). 2010 Census Update/Leave Operational Assessment. *2010 Census Planning Memorandum Series, 185(Reissue).*

Toribio, N., Johnson, N., & Snodgrass, S. (2017). 2018 End-to-End Census Test Address Canvassing Study Plan.