

2020 Census: Program Overview, Testing, and Technological Innovations



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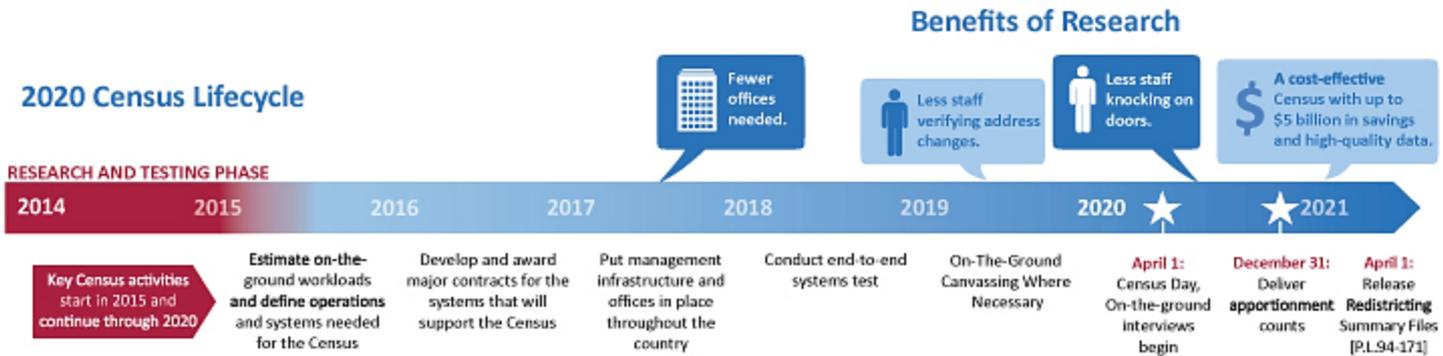
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Census Scientific Advisory Committee
April 16, 2015

2020 Census: Where Are We Today?

In the next census, we will be trying to reach an increasingly diverse and growing population of around 330 million people in more than 140 million housing units.

The Census Bureau is conducting research in order to inform key design decisions by the end of FY 2015.



Where Are We Today: Research and Testing

Up to
\$5 Billion
in Savings
Through:

Reengineering Address Canvassing

[\$1 Billion]

Optimizing Self-Response

[\$548 Million]

Utilizing Administrative Records

[\$1.2 Billion]

Reengineering Field Operations

[\$2.3 Billion]

Where Are We Today: 2015 a Critical Year

In 2015 we:

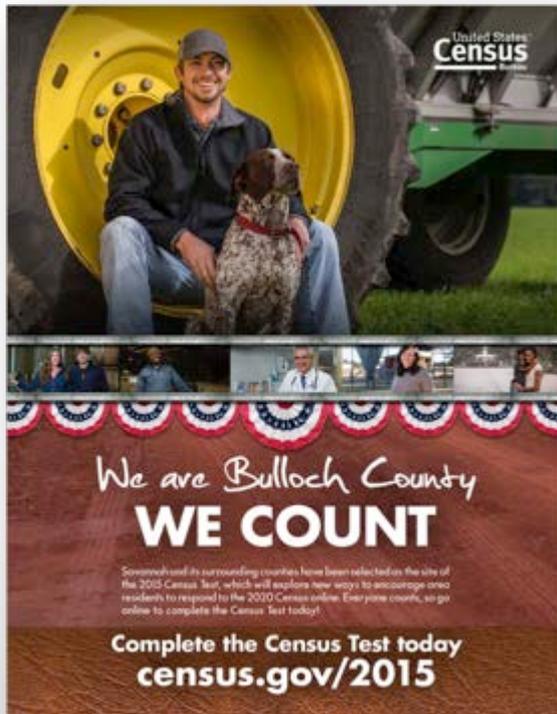
- Will Conduct Five Tests
 - Human in the Loop Simulation (SIMEX)
 - Address Validation Test
 - 2015 Optimizing Self-Response Test
 - 2015 Census Test
 - 2015 National Content Test
- Will Release: 2020 Census Operational Plan (Major Design Decisions)
- Will Begin Core Programmatic Work such as Local Update of Census Addresses (LUCA)
- Will Continue Defining Testing Activities for 2016 and beyond

Optimizing Self-Response: 2015 Optimizing Self-Response Test

- April 1, 2015 Census Day
- A site test conducted in the Savannah, Georgia area, including neighboring counties in South Carolina that constitute the media market for Savannah
- Continue testing “Notify Me” and “Non-ID” response to determine if we can optimize self and Internet response rates
 - Further refine the opportunities and procedures for “Notify Me” in the Census
 - Study the feasibility of implementing real-time processing for the “Non-ID” response option
- Research how advertising, outreach, and promotion can engage and motivate respondents for action

Optimizing Self-Response: 2015 Optimizing Self-Response Test

Print Ads

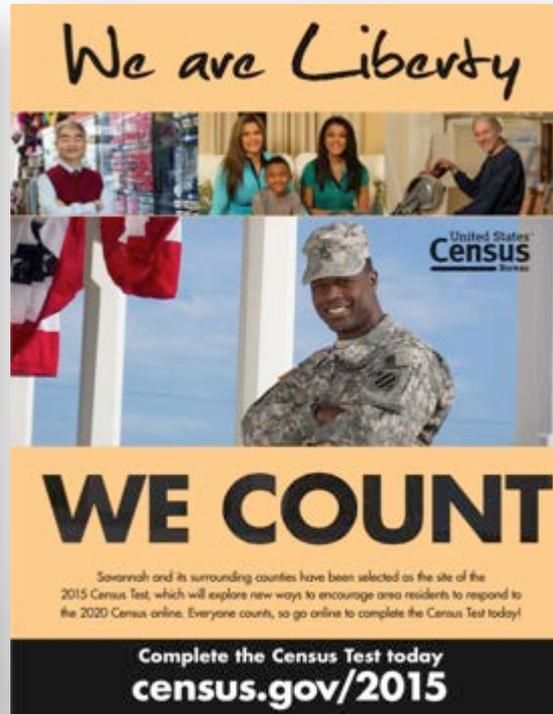


United States
Census
Bureau

We are Bulloch County
WE COUNT

Savannah and its surrounding counties have been selected as the site of the 2015 Census Test, which will explore new ways to encourage area residents to respond to the 2020 Census online. Everyone counts, so go online to complete the Census Test today!

Complete the Census Test today
census.gov/2015



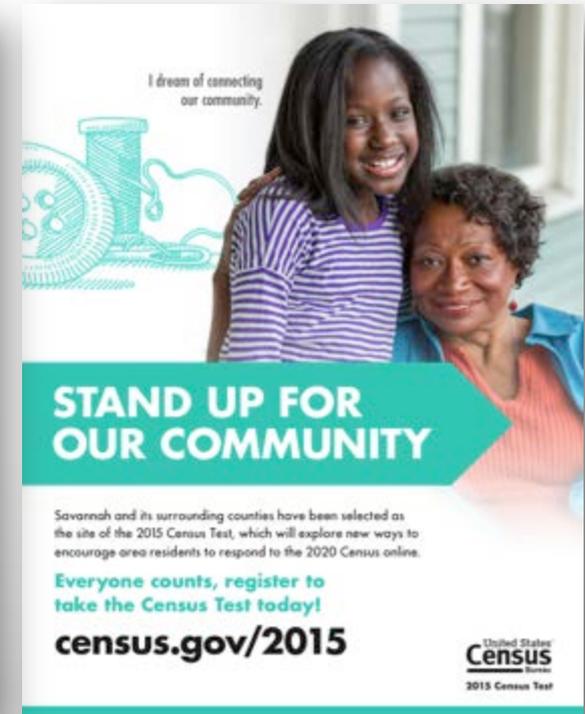
We are Liberty

United States
Census
Bureau

WE COUNT

Savannah and its surrounding counties have been selected as the site of the 2015 Census Test, which will explore new ways to encourage area residents to respond to the 2020 Census online. Everyone counts, so go online to complete the Census Test today!

Complete the Census Test today
census.gov/2015



I dream of connecting
our community.

**STAND UP FOR
OUR COMMUNITY**

Savannah and its surrounding counties have been selected as the site of the 2015 Census Test, which will explore new ways to encourage area residents to respond to the 2020 Census online.

Everyone counts, register to
take the Census Test today!
census.gov/2015

United States
Census
Bureau
2015 Census Test

Optimizing Self-Response: 2015 Optimizing Self-Response Test

TV Ad: My Census

Campaign Tracking and Analysis

- Real time optimization of digital media spend
- Weekly reporting of insights, priorities, and next steps
- Customer Experience Management (CEM) Dashboard
 - Customized set of dashboards specific to 2015 Census Test
 - Includes website metrics from Site Catalyst
 - Incorporates daily inputs across digital advertising, social media, traditional media, earned media, and partnership outreach
 - Includes tracking of 2015 Census Test survey response data

CEM Sample – Advertising Metrics

Share Remember my changes



Topline Advertising Metrics Campaigns by Performance Social and Earned Media Metrics



Topline Advertising Performance Metrics

Filter

February 23, 2015 June 01, 2015

Medium

- Content Marketing
- Display
- Search
- Social

Campaign Goal

- (All)
- Notify Me
- Response

2015 Test Rollup

	Arrivals at Landing Page	Cost per Start	Start Rate by Landing Page Arrival	Completion Rate by Landing Page Arrival	Completions	Cost per Completion
Overall	21,587	\$34.12	9.7%	6.2%	1,338	\$53.62
Digital - Other	11,784	\$24.76	14.8%	9.1%	1,076	\$40.10
Digital - Targeted	9,803	\$79.44	3.7%	2.7%	262	\$109.15

Percent of Digital Budget Spent March 31, 2015

	Digital - Targeted	Digital - Other
Overall	11.4%	15.2%
Panel A	10.9%	16.9%
Panel B	12.6%	13.4%
Panel C	12.6%	19.9%
Panel D	15.5%	15.5%

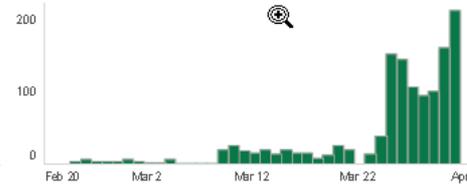
Landing Page Arrivals

"How many people visited our landing page from attributable digital ads?"



Completions

"How many people reached our exit page after visiting the landing page from attributable digital ads?"



Percent of Traditional Budget Spent 3/31/2015

Out of Home	Print	Radio	TV
45.0%	18.9%	23.3%	19.6%

Non-Attributable Visits

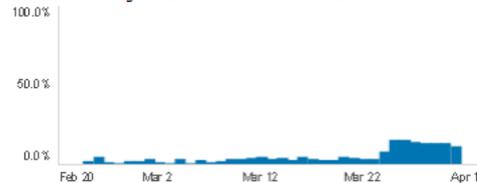
Arrivals at Landing Page	Completion Rate by Landing Pa..	Completions	Start Rate by Landing Page Arrival
6,623	54.2%	3,587	58.5%

Cost per Start

Overall	\$34.12
Panel A	\$46.53
Panel B	\$23.70
Panel C	\$46.28
Panel D	\$24.33

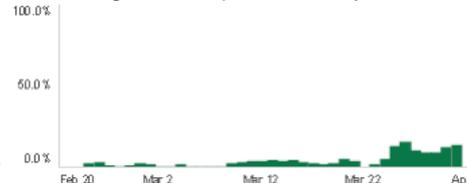
Start Rate by Landing Page Arrivals

"What is the rate of people who came to our landing page from attributable digital ads and clicked to enter Centurion?"

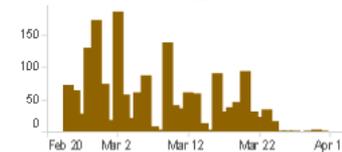


Completion Rate by Landing Page Arrivals

"What is the rate of people who came to our landing page from attributable digital ads and completed the Centurion form?"



Non-Attributable Landing Page Arrivals

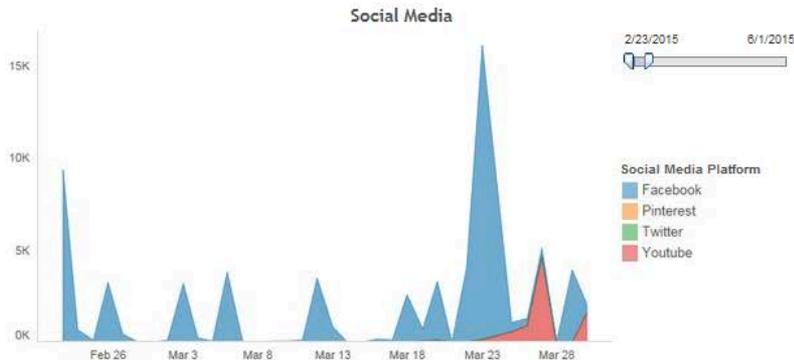


CEM Sample – Social & Earned Media Metrics

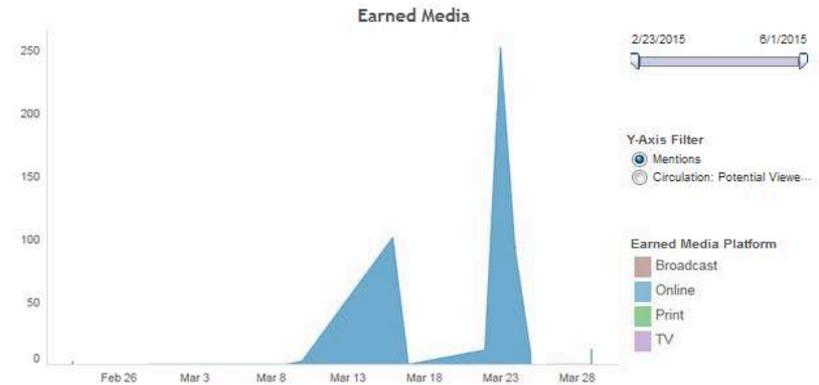
[Topline](#) |
 [Advertising Metrics](#) |
 [Campaigns by Performance](#) |
 [Social and Earned Media Metrics](#)



Social & Earned Media Metrics



Facebook Post Organic Reach	57,589
YouTube Video Views	8,004
Facebook Post Likes	320
Twitter Retweets	105
Facebook Post Shares	44
Facebook Post Comments	19
Facebook Post Paid Reach	0
Pinterest Repins	0



Day of Date	Outlet/Publication	Headline	Hit sentence	Keywords	Circulation: Potential Viewership	Circulation: Unique Visitors
February 23, 2015	Dining Guide - Savannah	Census launches web site for...	Census launches web site for...	Census Bu...		
	Latest Business in Savannah	Census launches website for...	Census launches website for...	Census Bu...		
	Savannahnow.com	Census launches web site for...	Census launches web site for...	Census Bu...	125,108	125,108
February 27, 2015	WTTC-TV	Savannah area one of two sites...	The next nationwide_census_i...	2015 Cens...		237,187
February 28, 2015	SavannahNow.com	Census test underway in Sava...	By registering at www.census...	2015 Cens...		193,940
March 9, 2015	NextGov.com	Census needs to straighten o...	N/A	N/A		
March 10, 2015	Bluffton Today	Sun City briefs	his area is one of only two pla...	Census Bu...	165,000	165,000
	Connect Savannah	Savannah to serve as test ma...	EVERY ten years, the U.S. Ce...	Census Bu...	150,000	150,000
	The Savannah Tribune	2015 Census Test	The Savannah area was chos...	Census Bu...	11,800	11,800
March 16, 2015	12 News KBMT and K...	Savannah-Area Residents En...	Savannah-Area Residents En...	savannah, ...	58,191	58,191
	100.7 Jack FM	Savannah-Area Residents En...	Savannah-Area Residents En...	savannah, ...	16,870	16,870
	ABC 33/40	Savannah-Area Residents En...	Savannah-Area Residents En...	savannah, ...	219,290	219,290

[View Weekly update of Social Media Discussions Dashboard \(Sysomos\)](#)

[Analysis](#) | [Data Explanations](#)

CEM Sample – Test Performance

Share Remember my changes



Overview Savannah Detail



Savannah Detail

Counties: Null
Mode: All
2015 Census Test Self-response Rate: 19.3282%

2010 Census Final Self-response Rate (All):55.45%

Filter

Mode

- (All)
- Online
- TQA(Phone)

Best Match for Panel

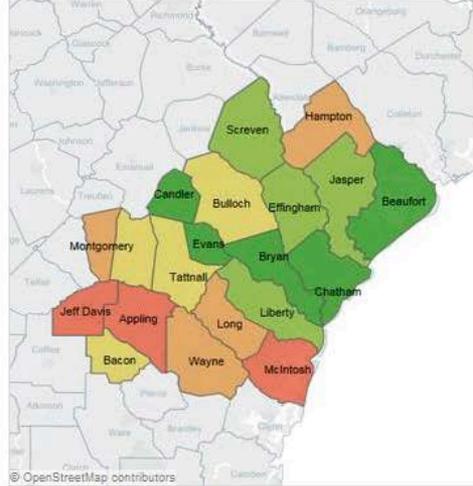
- (All)
- A
- B
- C
- D
- E

Validation Status

- (All)
- Immediate Match to MAF
- Match to MAF still in progr...

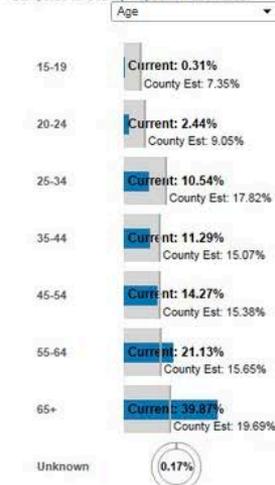
Test Date

Last 3 months

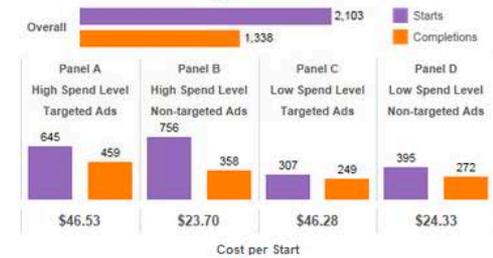


Percentage of Respondents by Demographic

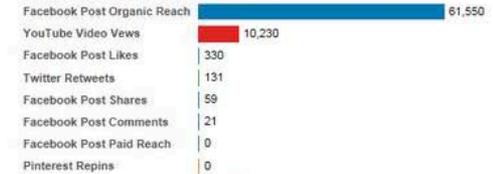
Compared to County Population Estimates



Advertising Snapshot



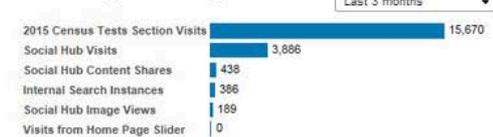
Social Media Activity



Traditional Media Activity



Web Activity on census.gov

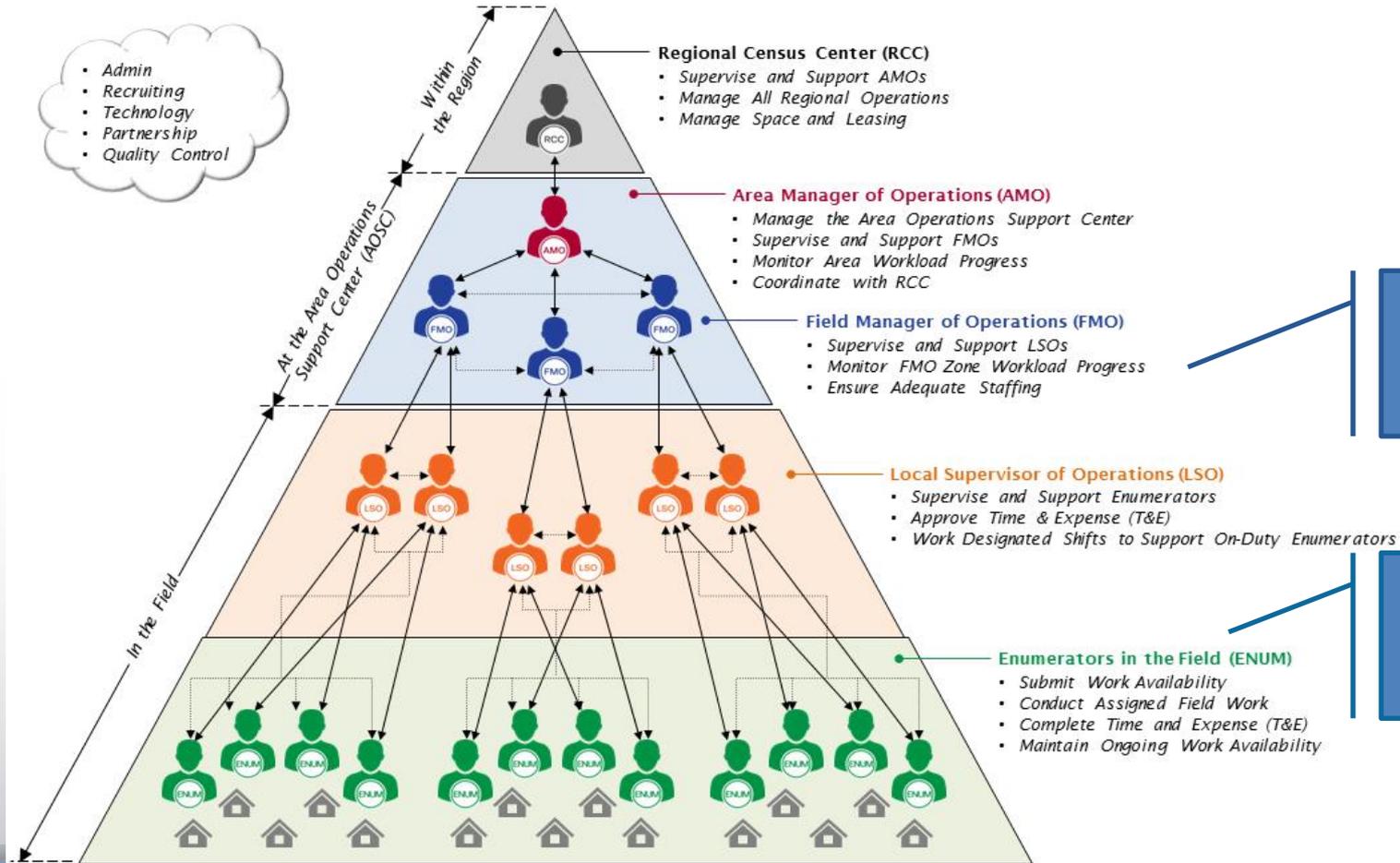


[Analysis](#) [Data Explanations](#)

This Dashboard serves as proof of concept for the 2015 Census Tests. Self-response data reported here may differ from the 2015 Cost & Progress Reports provided by UTS. It is important to note that UTS is the system of record for status data.

Reengineering Field Operations: Concept of Operations

- Admin
- Recruiting
- Technology
- Partnership
- Quality Control



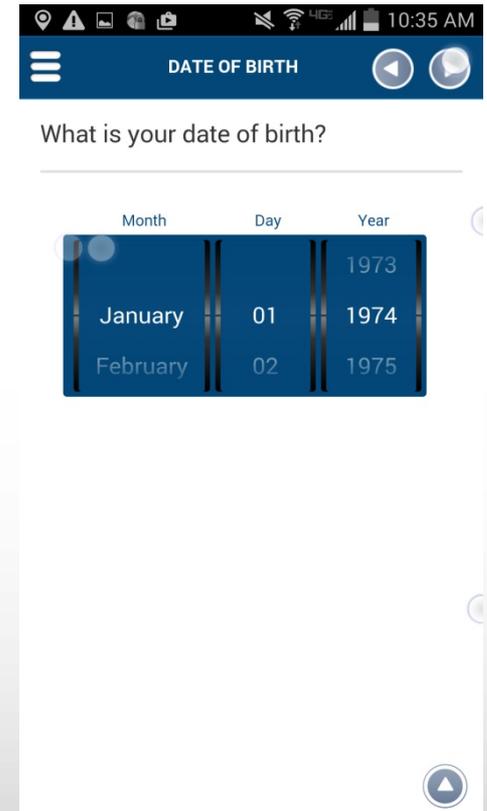
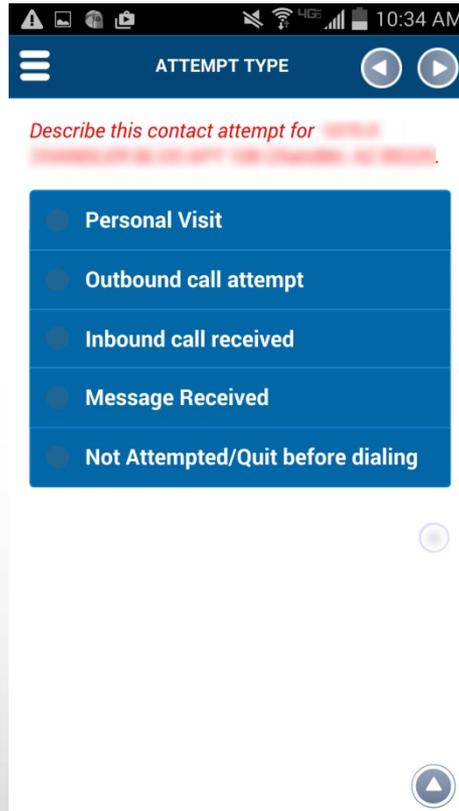
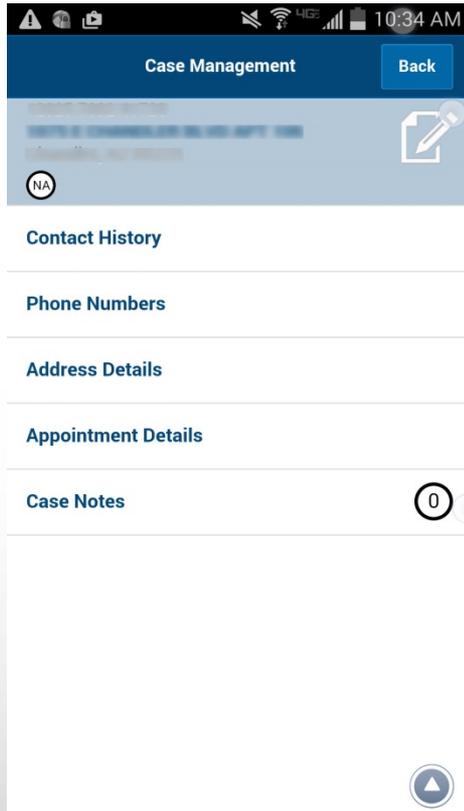
Staffing Ratios
Appropriate?

LSO to FMO
10:1

Enumerator to
LSO
23:1

Reengineering Field Operations: 2014 Human in the Loop Simulation

Reengineering Field Operations: Introducing Technology—COMPASS



Reengineering Field Operations: Introducing Technology—Operational Control System

MOJO OCS
https://mojo.stage.it.census.gov/MOJO_OCS/staff/staff_detail?i=101

Dashboard Performance Work Avail. Payroll Utilities
 FAQ search...

Enumerator Detail for taaa008403(E)

Details Today's Route Case History Performance Reports Notes

Past Work Assignments

Work Day	Dist.	Time
2015/03/04	4 mi	7 h 47 m
2015/03/05	2 mi	3 h 44 m
2015/03/06	2 mi	4 h
2015/03/09	3 mi	6 h
2015/03/10	4 mi	6 h
2015/03/11	5 mi	6 h
2015/03/12	6 mi	6 h

Cases

Seq	Case ID	Address	State	Attempt #	Status	Outcome	Attempt Outcome	Must Assigned	Type of Assigned	Expire Date
2(1)	12025550872315		R	1	NA	100	00			
3(1)	12025557814728		R	1	NA	100	00			
4(1)	12025778204723		R	1	NA	100	00			
5(1)	12025800287095		R	1	NA	100	00			
6(1)	12025545068790		R	1	NA	100	00			
7(1)	12025838699668		R	1	NA	100	00			
8(1)	12025797990430		R	1	NA	100	00			
9(1)	12025045932607		R	1	NA	100	00			

Route

- Completed
- Field Resolved
- Not Attempted

Map showing route details for Greenfield Estates and Dreamland Villa. Legend: Completed (Green), Field Resolved (Blue), Not Attempted (Orange).

Note: Screenshot contains test data.

Reengineering Field Operations and Utilizing Administrative Records: 2015 Census Test

- April 1, 2015 Census Day
- A site test in Maricopa County, Arizona
- 165,000 housing units in sample
- Reengineer the roles, responsibilities, and infrastructure for the field
- Automate tasks traditionally performed by humans
- Test and implement routing and navigation
- Test a Bring Your Own Device component
- Determine how administrative records and adaptive design can reduce the NRFU workload and determine contact strategies

Nonresponse Followup (NRFU)

- Primary objective: evaluate difference in production rates between control and experimental panel treatments
- Alternative treatments vary the approach to removing cases from NRFU prior to field work and changes in contact strategies for cases visiting in the field
- Handheld device for data collection

NRFU Panel Design

- Approximately 60,000 non-responding cases
- Non-responding cases relatively evenly split between three panels – one control panel and two experimental panels
- The adaptive design and administrative record treatments will be applied to the two experimental panels

NRFU: Control Panel

- Field procedures similar to the 2010 Census
- Maximum three personal visits, up to six total contacts if a phone number identified, and use of proxy after third personal visit attempt
- Employs same operational control system from 2014 Census Test

NRFU: Full Administrative Records Removal Panel

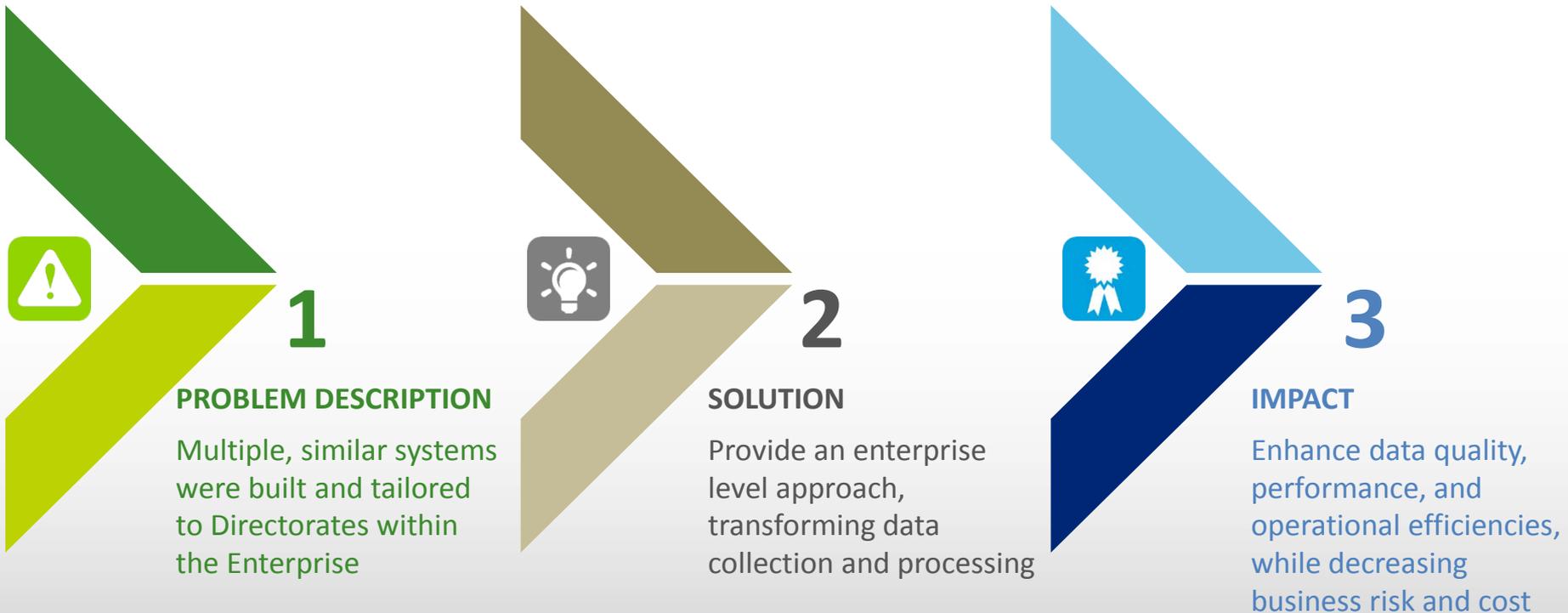
- Implements an adaptive design contact strategy
- Removes unoccupied and occupied housing units from the NRFU workload that can be enumerated with administrative records prior to any contact attempts made at those housing units
- Employs new operational control system

2015 National Content Test

- Continue to test contact strategies
- Conduct content testing
 - Race and Hispanic Origin
 - Single vs. combined question
 - Introduction of the a Middle Eastern and North African Category
 - Relationship
 - Introduction of Same-Sex Relationship Categories
 - Within Household Coverage
- Nationwide
- September 1, 2015 Census Day
- 1.2 million housing units in sample

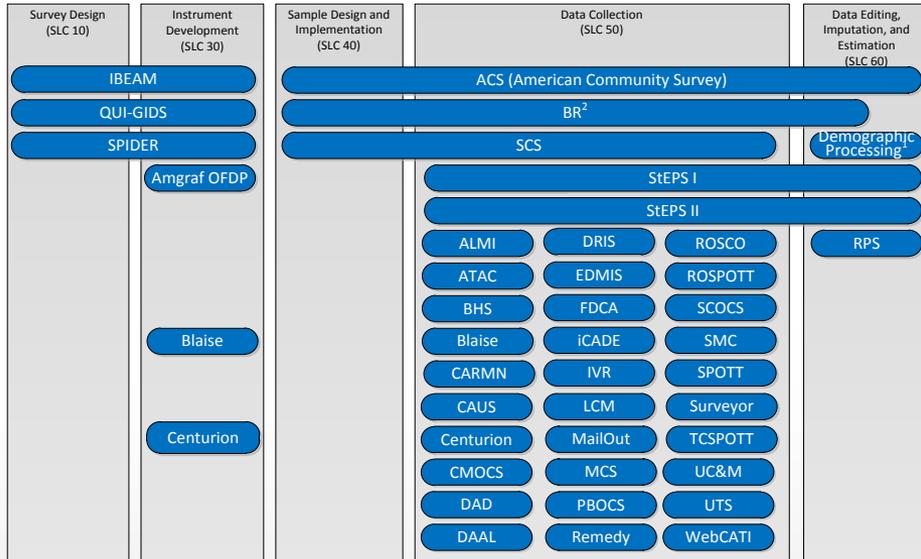
Census Enterprise Data Collection and Processing (CEDCaP)

CEDCaP will bring an enterprise approach to survey and census data collection and processing through shared services.



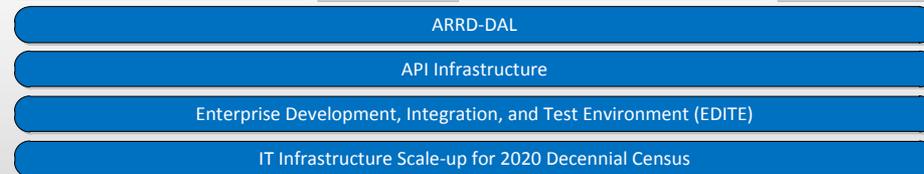
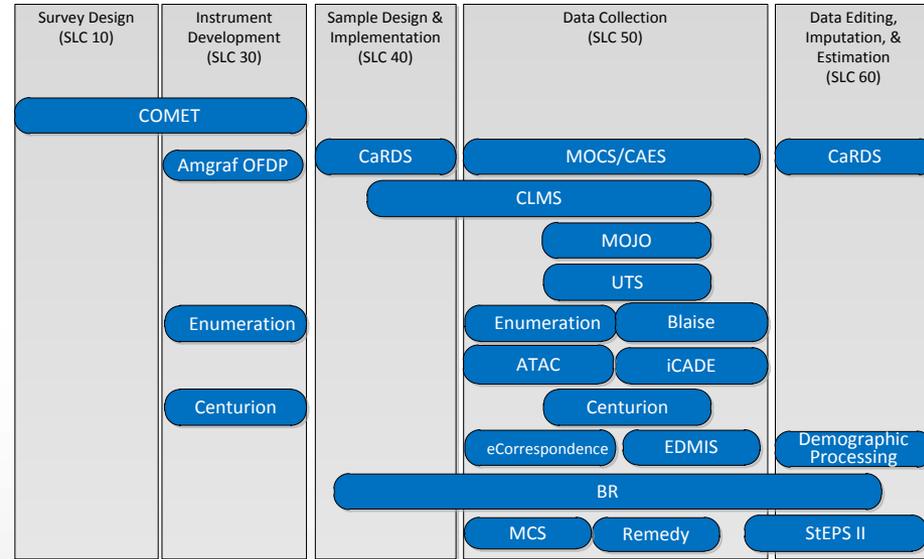
Current State (Pre-CEDCaP) & Target State (2020)

Current State

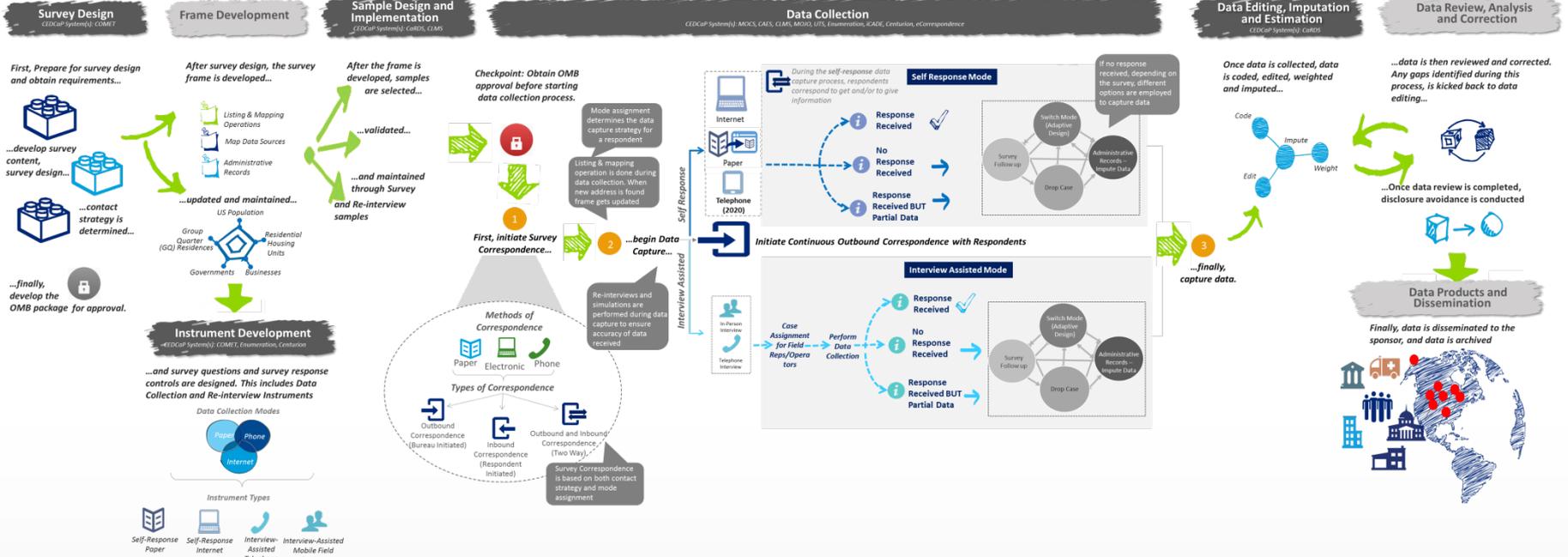


¹Collection of Systems
²Partially covers SLC 60

Target State



CEDCaP: Concept of Operations

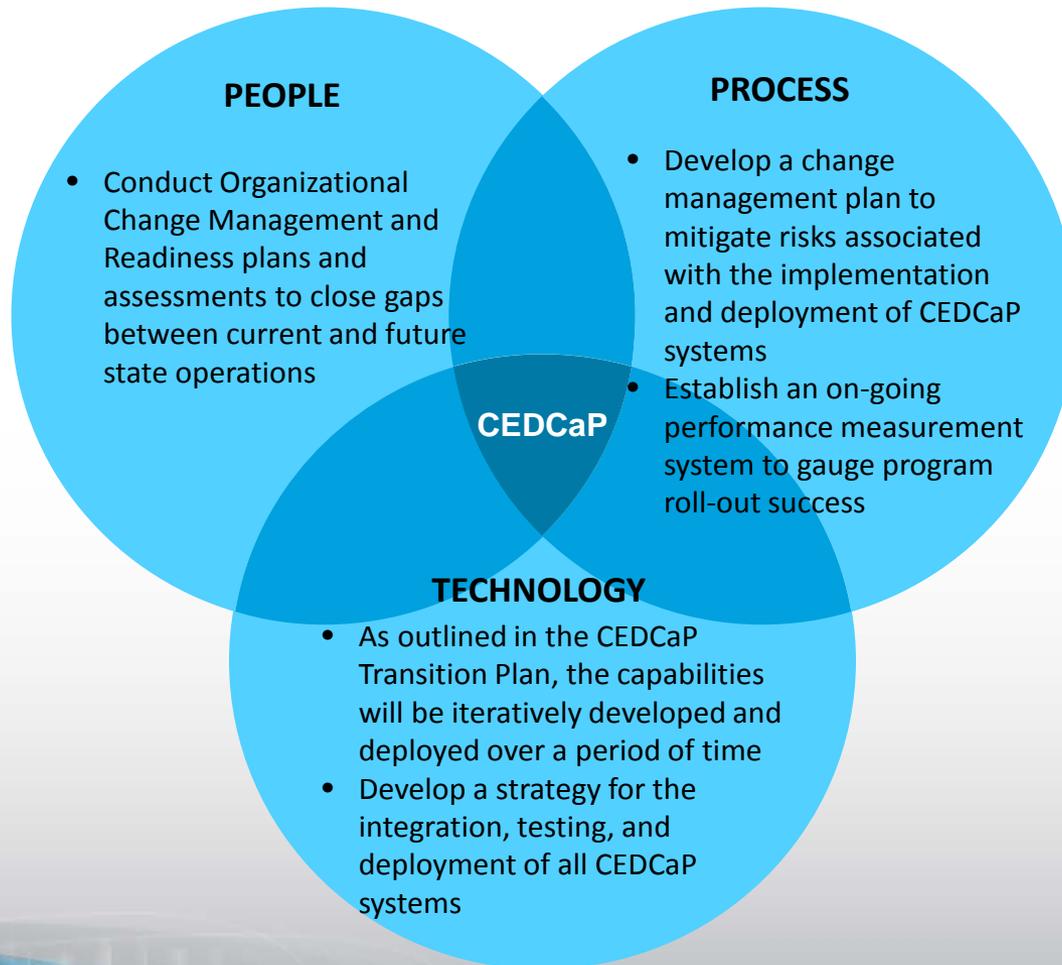


RESPONDENT RELATIONSHIP MANAGEMENT & QUALITY CONTROL IS PERFORMED THROUGHOUT THE LIFECYCLE

Economic Census* - Highlights	ACS - Highlights	CoG - Highlights	2020 Census - Highlights	Demographic Surveys - Highlights
<p>*Annuals & Reimbursables not included</p> <ul style="list-style-type: none"> Respondents are large and small businesses representing most US industries Uses the Business Registers to maintain administrative economic data and derive the address frame Assigns Account Managers to assist large business in completing the census <ul style="list-style-type: none"> Account Managers (AMs) are based in Census HQ and Jeffersonville, Indiana. AMs assist respondents in completing the Self-Response data collection process Telephone Questionnaire Assistance (TQA) is available to assist small businesses Econ leverages mail and/or email addresses to conduct most survey correspondence activities <ul style="list-style-type: none"> Respondents are primarily notified via email (found in the Business Register) Respondents without email addresses on file are notified via USPS mail with a web link to the survey Administrative records are used to capture data for importing/exporting businesses that either fail to respond or are identified as non-mail cases. 	<ul style="list-style-type: none"> In ACS, majority of the respondents are eligible for interviewing once every five years ACS derives frame and sample from the Master Address File (MAF) ACS has a monthly panel, which has a three month response window period ACS has a multi-mode process to interview housing units. First month – paper/internet; second month – CATI; third month – CAPI If respondents are not reachable by mail, the cases are assigned to CAPI directly Administrative records are used to input data collection submission for non-respondents Large Group Quarters (GQ) are eligible for interviewing every year. Special Group Quarters (GQ) operations to interview respondents living in group home facilities. 	<ul style="list-style-type: none"> Census of Government (CoG) is a voluntary survey that is covered by Title 9 Respondents are state and local administration Respondents have up to 3 years to complete the survey <ul style="list-style-type: none"> Government agencies can choose to complete the survey questionnaire via online or upload file(s) and additional data Census can leverage multi-format file letters from agencies, administrative records (generally in paper format) to obtain information on respondents Administrative records are used to complete missing data Address frame is derived using Government Master Address File (GMAF) In data editing mode, the data is flagged and not edited Unlike other surveys, CoG surveys do not conduct disclosure avoidance Governments can submit data by File Transfer Protocol (FTP) 	<ul style="list-style-type: none"> Address frame (part of MAF) to be updated continuously vs. once a decade to increase accuracy of MAF <ul style="list-style-type: none"> In-Office Addressing is conducted yearly In-Field Address Canvassing is conducted during the 9th year of the decade prior to the census enumeration Conducts data reviews after the initial enumeration to validate the integrity of the data captured by re-interviewing a sample of the respondents Currently conducting Decennial 2020 research and testing on: <ul style="list-style-type: none"> Using the internet to increase self-response via a multi-mode communication campaign Leveraging existing government data sources for address and contact updating, motivating self-response, and reducing field enumeration Automate operations to increase productivity and reduce staff and offices. Using existing maps and addresses to identify geographical changes 	<ul style="list-style-type: none"> Demographic conducts federally mandated and customer reimbursable surveys. Collects data under Title 9, 13, 26 regarding all aspects of population demographics Data is captured primarily through paper and interview assisted modes Supports all components of the data collection process for reimbursable customers as contracted Respondents are recycled (used for other surveys) (Most) use the iCADE system for paper forms Survey of Income and Program Participation (SIPP) follows respondents who change addresses but don't follow the physical address itself Economic Census used a vendor for forms development

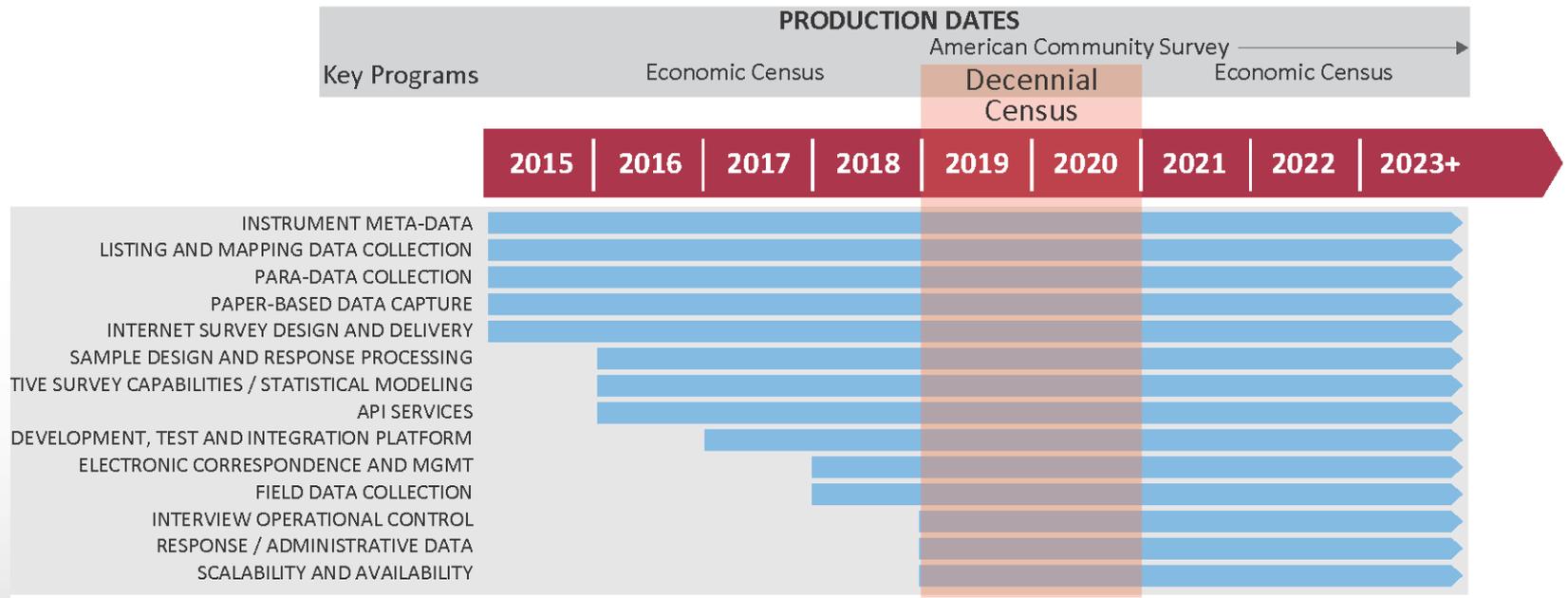
CEDCaP:

Enterprise-Wide Impacts and Upcoming Activities



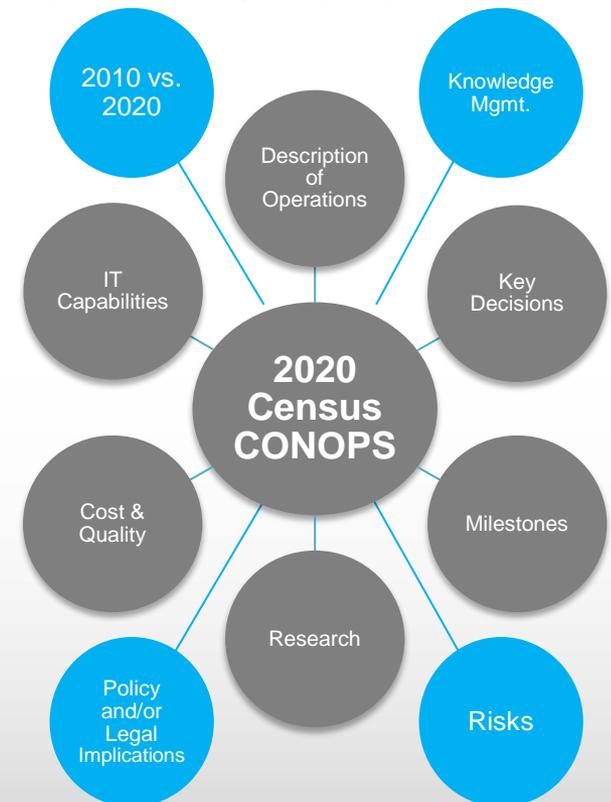
CEDCaP: Path to Progress

We are building now so CEDCaP will be ready to handle our data collection and processing needs of the 2020 Census.



2020 Census Operational Plan

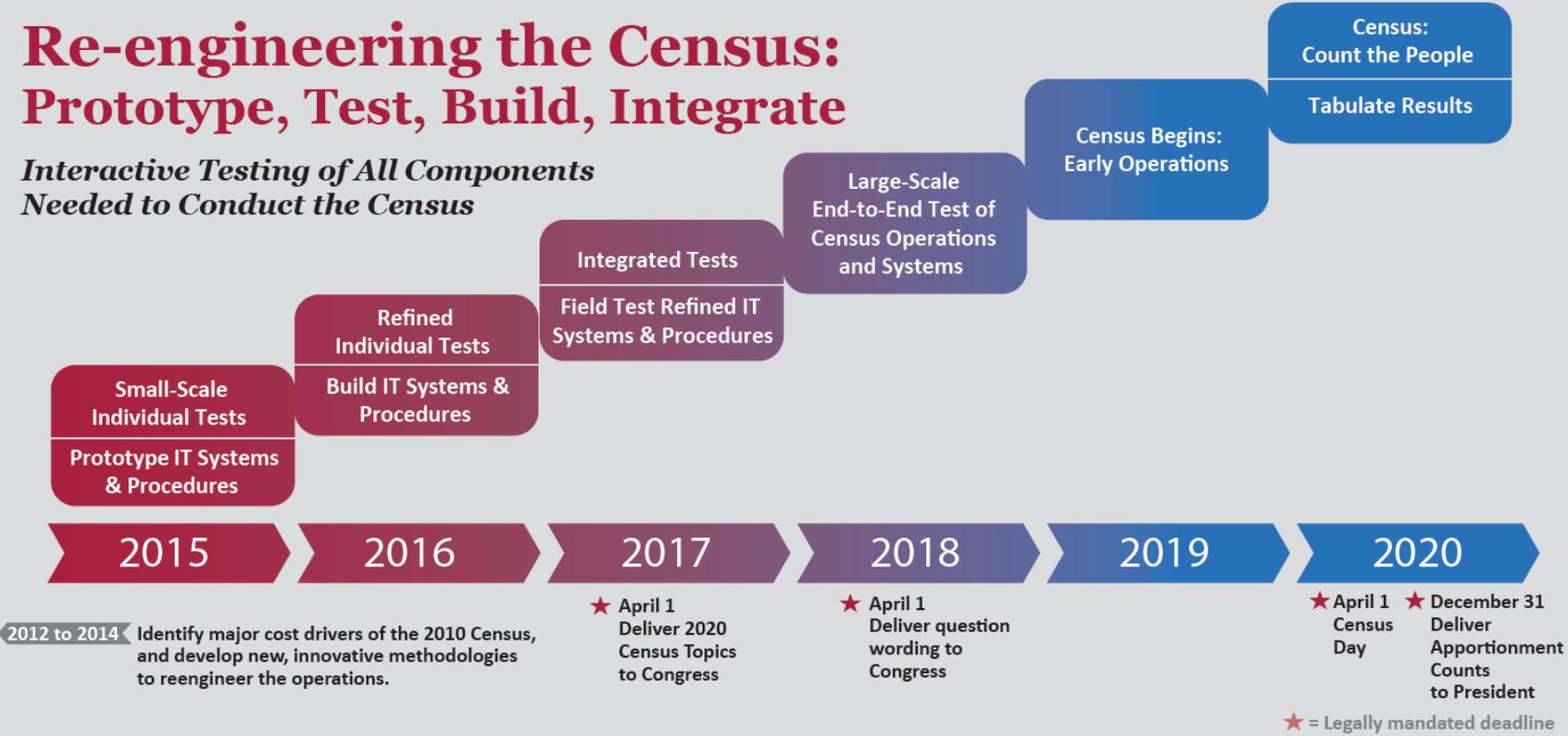
- Documents the preliminary design decisions for the 2020 Census, which includes:
 - 2020 Census Concept of Operations
 - Four Key Innovation Areas
 - Thirty-four 2020 Census Operational Areas
 - Supporting documentation, to name a few:
 - Acquisition Strategy
 - Lifecycle Cost Estimates
 - IT Architecture
 - OIG and GAO Recommendations Crosswalk
 - Communication materials
- Plan released in October 2015
 - Additional iterations as we learn more throughout lifecycle



2020 Census: What's Next?

Re-engineering the Census: Prototype, Test, Build, Integrate

*Interactive Testing of All Components
Needed to Conduct the Census*



Questions

