



**ACS INFORMATION MEMORANDA SERIES MEMORANDUM No.: 2014-02**

Date: December 4, 2014  
To: The Record  
From: James B. Treat *James B. Treat*  
Chief, American Community Survey Office  
Subject: Release of the American Community Survey (ACS) Fiscal Year 2014 Contents Review Results Final Report and Supporting Documentation

This memo announces the release of the document, “Final Report: American Community Survey (ACS) Fiscal Year 2014 Content Review Results.” This report is accompanied by supporting documentation to provide background on the 2014 ACS Content Review, as well as technical details concerning the methodology followed. The full suite of documentation is as follows:

1. Final Report: American Community Survey (ACS) Fiscal Year 2014 Content Review Results
2. Charter of the Interagency Council on Statistical Policy (ICSP) Subcommittee on the American Community Survey
3. ICSP, Subcommittee on the ACS – Assigning Weights to the ACS Content Review Scoring Criteria
4. ICSP, Subcommittee on the ACS – Content Review Decision Criteria
5. Memorandum on Analytics Decisions
6. Memorandum on Weighting Decision
7. Federal Data Collection Report
8. Coefficients of Variation Report
9. Interquartile Ranges Report
10. Interviewer Survey Results Report
11. Response Time per Item Report
12. Allocation Rates Report
13. Complaints Results Report
14. Generating Content Review Analysis Results Report
15. ACS Content Review Results (slide presentation)
16. Federal Register Notice (published October 31, 2014)
17. ACS Communications Strategy for the Content Review – External

This suite of documentation is public-facing, and is being posted to the ACS Content Review Web Page at the Materials and Resources link:

[http://www.census.gov/acs/www/about\\_the\\_survey/acs\\_content\\_review/](http://www.census.gov/acs/www/about_the_survey/acs_content_review/)

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November 24, 2014

**Fiscal Year 2014  
Content Review Results**

**FINAL REPORT**

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## Executive Summary

### Background

Launched in 2005, the American Community Survey (ACS) is the current embodiment of the long form of the decennial census. Each year, the ACS is delivered to a sample of the U.S. population to provide current data that is needed more often than once every ten years. In December of 2010, five years after its launch, the ACS program accomplished its primary objective with the release of its first set of estimates for every area of the United States and Puerto Rico. The Census Bureau concluded it was an appropriate time to conduct a comprehensive assessment of the ACS program. The assessment provided an opportunity to begin examining and confirming the value of each question on the ACS. In August 2012, the Office of Management and Budget (OMB) and the Census Bureau chartered the Interagency Council on Statistical Policy (ICSP) Subcommittee on the American Community Survey (ACS) to oversee policies guiding the development and maintenance of content for the survey. The subcommittee charter states: “Each year there will be an annual review of questions to consider any deletion or addition of questions.”<sup>1</sup>

In 2013, the Census Bureau initiated the first comprehensive examination of every question on the ACS form. One of the first actions taken was to establish an ACS Content Review Communications Strategy to help ensure a transparent, customer-centric process and inform federal and non-federal data users of the review and its criteria, and enable public comment throughout the process. In April 2014, we convened an American Community Survey Content Review Summit with federal data users to initiate the federal agency data collection, which was the cornerstone of our review. Data collection ended in August 2014. The objective was to use pre-specified criteria to identify questions for removal from the ACS form. The scope included all questions currently on the 2014 ACS Questionnaire. Following the data collection and data analysis, we will consider comments received from the *Federal Register* notice 60-day open period,<sup>2</sup> as well as consider inputs from other data users and stakeholders to provide a final recommendation to OMB on whether to modify the content of the ACS. This constitutes what was previously referred to as Phase I of the project. Any subsequent analyses, research, or testing – previously considered as future Phases II and III – is now considered beyond the scope of this project. Supporting documentation found in Section 11 of this report includes only “Phase I” materials.

### Results

Based on 19 decision-making criteria specified in advance by the ICSP Subcommittee on the ACS, the Census Bureau collected nine supporting data sets, including federal data uses. To obtain results, we then applied an algorithm, which arrayed each question into one of four categories. The four categories were: High Benefit/Low Cost; High Benefit/High Cost; Low

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<sup>1</sup> [http://www.census.gov/acs/www/Downloads/operations\\_admin/ICSP\\_Charter.pdf](http://www.census.gov/acs/www/Downloads/operations_admin/ICSP_Charter.pdf)

<sup>2</sup> October 31 to December 30, 2014

Benefit/High Cost; and, Low Benefit/Low Cost.<sup>3</sup> The majority (i.e., 54 percent of the questions) fell into the High Benefit/Low Cost category, which is the optimal state for survey questions. An additional 36 percent fell into the High Benefit/High Cost category. We examined questions in the Low Benefit/Low Cost category (17 percent) and Low Benefit/High Cost category (3 percent) for potential removal from the questionnaire.

As seen in the Section 4, Methodology, we identified criteria for excluding questions from potential removal. After applying our exclusion criteria, seven questions remained in the Low Benefit/Low Cost category (i.e., the low utility/low respondent burden category). These include:

- Housing Question 6 – Business/Medical Office on Property
- Person Question 12 – Undergraduate Field of Degree
- Person Question 21a – Get Married
- Person Question 21b – Get Widowed
- Person Question 21c – Get Divorced
- Person Question 22 – Times Married
- Person Question 23 – Year Last Married

The only question that has no real impact for removal is Housing Question 6 – Business/Medical Office on Property – as no federal agencies reported uses for this question. P12 – Undergraduate Field of Degree has no identified uses with a Mandatory or Required legal basis (see definitions in Section 4.3), though several federal agencies identified programmatic uses. The National Science Foundation (NSF) uses the question to help identify a targeted sample for the National Survey of College Graduates, which is also a Programmatic use. The rest of the candidate questions are related to marital history and are used by several federal agencies for Programmatic purposes. The Social Security Administration has a Required legal basis for using the question at the state level only to develop actuarial tables for benefits projections. Final adjudication of the status of these questions will be determined after a 60-day *Federal Register* notice is posted and impact statements from affected federal agencies and other data users have been obtained and taken into consideration.

## Methodology

The ICSP Subcommittee established 19 decision criteria (13 benefits and six costs), which required collection of nine data sets. The first five data sets concern **Benefits**: (1) information from federal agencies on question usage; (2) determination of whether a data source other than ACS could be used to meet the federal agency need; (3) coefficients of variation associated with each question's county-level estimate; (4) interquartile ranges associated with each question's median county-level estimate; and, (5) whether the ACS is used as another federal survey's sampling frame. The remaining four of these data sets concern **Costs**: (6) Survey of Interviewers to identify which questions respondents find difficult, which questions respondents find

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<sup>3</sup> For this project, Cost refers to quality, sensitivity, and level of effort.

sensitive, and which questions are the most difficult; (7) response time by question; (8) allocation rates by question; and, (9) respondent complaints by question.

These data sets were used to identify which questions were candidates for removal based on being characterized as “Low Benefit and Low Cost” or “Low Benefit and High Cost.” Questions are candidates for removal should they fall into the Low Benefit/Low Cost or Low Benefit/High Cost quadrants **and** have: (1) No Mandatory Uses; **and** (2) No Required Uses at the block group/tract; **and**, (3) No Required Uses at the place/county/Metropolitan Statistical Area.

## **Conclusion**

The 2014 ACS Content Review is the most comprehensive effort undertaken by the Census Bureau to review content on the ACS, seeking to understand which federal programs use the information collected by each question, the justification for each question, and how the Census Bureau might reduce respondent burden. This rigorous Content Review proved to be complex and time-consuming, but provided unprecedented insights into the benefits and costs of the ACS. Based on this analysis, the majority of survey questions are found to be highly beneficial with low burden to respondents, which is the ideal survey question state. Those questions that had high respondent burden (cost) should be examined to see how burden could be reduced. Questions that scored low on benefits that were excluded from removal in this Content Review also should be more closely examined. Overall, the Content Review has provided the foundation for this type of analysis and has established the baseline for future reviews and areas requiring additional analysis.

## 1 Introduction

Since the founding of the nation, the Congress has mediated between the demands of a growing country for information about its economy and people, and the people's privacy and freedom from undue intrusion. Beginning with the 1810 Census, Congress added questions to support a range of public concerns and uses, and over the course of a century questions were added about agriculture, industry, and commerce, as well as occupation, ancestry, marital status, disabilities, and other topics. In 1940, the U.S. Census Bureau introduced the long form and since then only the more detailed questions were asked of a sample of the public.

The American Community Survey (ACS), launched in 2005, is the current embodiment of the census long form, and is asked each year of a sample of the U.S. population in order to provide current data that is needed more often than once every ten years. In December of 2010, five years after its launch, the ACS program accomplished its primary objective with the release of its first set of estimates for every area of the United States. The Census Bureau concluded it was an appropriate time to conduct a comprehensive assessment of the ACS program. The program assessment focused on strengthening programmatic, technical, and methodological aspects of the survey. The assessment also provided an opportunity to examine and confirm the value of each question on the ACS, which resulted in the 2014 ACS Content Review.

## 2 Background

Historically, the Census Bureau has periodically reviewed the justification for questions on the ACS (or census long form), solicited external comment, communicated the results and recommended implementation. As required by Title 13 of the U.S. Code, in preparation for each decennial census, the Census Bureau has provided to Congress two key deliverables that outline proposed long form/ACS content: a listing of the planned topics and their statutory uses three years prior to the census, and the specific planned question wording two years prior to the census. The Census Bureau provided these to Congress most recently for the 2010 Census and the ACS in March 2007<sup>4</sup> and March 2008<sup>5</sup>. Other reviews of the justification for ACS questionnaire content have been conducted with federal stakeholder agencies' input periodically during recent years.

In the 2000 census, content for the long form was constrained by only including questions for which there was either: 1) a current federal law that explicitly called for the use of the decennial census data for a particular federal program; 2) a federal law or implementing regulation that required the use of specific data, and the decennial census was the historical or only source of data; or, 3) the data were necessary for Census Bureau operational needs. In 2006, the Office of Management and Budget (OMB), in consultation with the Census Bureau, adopted a more

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<sup>4</sup>[http://www.census.gov/acs/www/Downloads/operations\\_admin/Final\\_2010\\_Census\\_and\\_American\\_Community\\_Survey\\_Subjects\\_Notebook.pdf](http://www.census.gov/acs/www/Downloads/operations_admin/Final_2010_Census_and_American_Community_Survey_Subjects_Notebook.pdf)

<sup>5</sup>[http://www.census.gov/acs/www/Downloads/operations\\_admin/Questions\\_Planned\\_for\\_the\\_2010\\_Census\\_and\\_American\\_Community\\_Survey.pdf](http://www.census.gov/acs/www/Downloads/operations_admin/Questions_Planned_for_the_2010_Census_and_American_Community_Survey.pdf)

flexible policy for content determinations for the ACS. The policy provides for OMB, in consultation with the Census Bureau, to consider issues such as frequency of data collection, the level of geography needed to meet the required need, and other sources of data that could meet a requestor's need in lieu of ACS data. In some cases, legislation may justify the inclusion of a topic in the ACS. In other cases, OMB may approve a new topic based on an agency's justification and program needs. The Census Bureau recognizes and appreciates the interests of federal partners and stakeholders in the collection of data for the ACS. Because participation in the ACS is mandatory, only necessary questions will be approved by OMB. The OMB's responsibility under the Paperwork Reduction Act requires that the practical utility of the data be demonstrated and that respondent burden be minimized (especially for mandatory collections).

## **2.1 The Interagency Council on Statistical Policy (ICSP) Subcommittee on the American Community Survey (ACS)**

In August 2012, OMB and the Census Bureau chartered the Interagency Council on Statistical Policy (ICSP) Subcommittee on the American Community Survey (ACS) to "provide advice to the Director of the Census Bureau and the Chief Statistician at OMB on how the ACS can best fulfill its role in the portfolio of federal household surveys and provide the most useful information with the least amount of burden." The subcommittee charter also states:

"It is expected that the subcommittee would conduct regular, periodic reviews of the ACS content. These periodic reviews should be designed to ensure that there is clear and specific authority and justification for each question to be on the ACS, the ACS is the appropriate vehicle for collecting the information, respondent burden is being minimized, and the quality of the data from ACS is appropriate for its intended use. Each year there will be an annual review of questions to consider any deletion or addition of questions."<sup>6</sup>

In response to the ICSP Subcommittee's directive on considering the deletion of questions, in 2013, the Census Bureau initiated the first comprehensive examination of every question on the ACS form.<sup>7</sup> The ACS Content Review data collection and analysis began in April, 2014 and culminated with a 60-day *Federal Register* notice, released October 31, 2014.

## **2.2 Report Purpose**

The purpose of this report is to provide a high-level summary of the FY 2014 ACS Content Review results. The data collection and analysis were based on the ICSP Subcommittee's pre-specified decision criteria and weighting approach for evaluating questions, then applying the decision-making algorithm to identify potential questions that could be removed from the questionnaire.

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<sup>6</sup> [http://www.census.gov/acs/www/Downloads/operations\\_admin/ICSP\\_Charter.pdf](http://www.census.gov/acs/www/Downloads/operations_admin/ICSP_Charter.pdf)

<sup>7</sup> The process for adding questions is described in Section 6.1 of the Charter of the Interagency Council on Statistical Policy Subcommittee on the American Community Survey

### 3 Objective and Scope

The overall objective of the ACS Content Review is to obtain a comprehensive understanding of the usages, justification, and merit of each question on the ACS to minimize respondent reporting burden while providing quality information to federal, state, local and tribal governments and other stakeholders, such as business decision-makers. The objective of the data collection and analysis was to use pre-specified criteria to identify questions for removal from the ACS form. The scope included all questions currently on the 2014 ACS Questionnaire. Following the data collection and data analysis, we will consider comments received from the 60-day *Federal Register* notice, as well as inputs collected from other data users and stakeholders, to provide a final recommendation to OMB on whether to modify the content of the ACS based on this Content Review.<sup>8</sup>

Included in this report are: (1) the process used to obtain the information needed to assess each ACS question's benefits and costs; (2) the algorithm used to operationalize the weights for each criterion; (3) the key decisions made to address inconsistent or incomplete information; (4) the candidate questions for potential removal and how we made the decision; (5) project limitations; (6) conclusions and recommendations; and, (7) a list of supporting documentation for the data collection and analysis.

### 4 Methodology

Much of the methodology to analyze the content was prescribed by the ICSP Subcommittee prior to collecting the data. However, planning, designing, and implementing the various data collections along with summarizing, reviewing and interpreting the data proved to be quite challenging. We are documenting the lessons learned to ensure that future efforts can benefit from this first comprehensive Content Review.

For more detail and information on the topics discussed below, see Section 11, List of Supporting Documentation.

#### 4.1 Decision Criteria Data Collection

The ICSP Subcommittee on the ACS established 19 decision criteria shown in Tables 1 and 2 below, which include 13 survey benefits associated with usefulness and six survey costs associated with respondent burden.

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<sup>8</sup> The *Federal Register* notice 60-day open period is October 31 to December 30 2014.

**Table 1: Decision Criteria - Benefits**

Benefits	Description
Number of Uses at Block Group / Tract Level – Mandatory (i.e., Statutory)	Number of uses at the block group/ tract level is defined as the number of occasions a federal agency cited that this variable satisfied the requirement for block groups or tracts. Mandatory is defined as “federal law explicitly calls for use of Census Bureau, decennial census or ACS data on that variable.”
Number of Uses at Block Group / Tract Level – Required	Number of uses at the block group/ tract level is defined as the number of occasions a federal agency cited that this variable satisfied the requirement for block groups or tracts. Required is defined as “A federal law (or implementing regulation) explicitly requires the use of data and the decennial census or the ACS is the historical source; or the data are needed for case law requirements imposed by the U.S. federal court system.”
Number of Uses at Block Group / Tract Level – Programmatic	Number of uses at the block group/ tract level is defined as the number of occasions a federal agency cited that this variable satisfied the requirement for block groups or tracts. Programmatic is defined as “the data are needed for program planning, implementation, or evaluation and there is no explicit Mandatory or Required requirement.”
Number of Uses at Place / County / MSA Level – Mandatory (i.e., Statutory)	Number of uses at the place level is defined as the number of occasions a federal agency cited that this variable satisfied the requirement for places, counties, and Metropolitan Statistical Areas (MSAs). Mandatory is defined as “federal law explicitly calls for use of Census Bureau, decennial census or ACS data on that variable.”
Number of Uses at Place / County / MSA – Required	Number of uses at the place level is defined as the number of occasions a federal agency cited that this variable satisfied the requirement for places, counties, and MSAs. Required is defined as “A federal law (or implementing regulation) explicitly requires the use of data and the decennial census or the ACS is the historical source; or the data are needed for case law requirements imposed by the U.S. federal court system.”
Number of Uses at Place / County / MSA Level – Programmatic	Number of uses at the place level is defined as the number of occasions a federal agency cited that this variable satisfied the requirement for places, counties, and MSAs. Programmatic is defined as “the data are needed for program planning, implementation, or evaluation and there is no explicit Mandatory or Required requirement.”
Number of Uses at State / National Level – Mandatory (i.e., Statutory)	Number of uses at the national level is defined as the number of occasions a federal agency cited that this variable satisfied the requirement for states and the nation. Mandatory is defined as “federal law explicitly calls for use of Census Bureau, decennial census or ACS data on that variable.”
Number of Uses at State / National Level – Required	Number of uses at the national level is defined as the number of occasions a federal agency cited that this variable satisfied the requirement for the states and the nation. Required is defined as “A federal law (or implementing regulation) explicitly requires the use of data and the decennial census or the ACS is the historical source; or the data are needed for case law requirements imposed by the U.S. federal court system.”
Number of Uses at State / National Level – Programmatic	Number of uses at the national level is defined as the number of occasions a federal agency cited that this variable satisfied the requirement for the states and the nation. Programmatic is defined as “the data are needed for program planning, implementation, or evaluation and there is no explicit Mandatory or Required requirement.”

**Table 2: Decision Criteria – Benefits (cont’d.)**

Benefits	Description
County-Level Interquartile Range in Values	One “value of interest” (i.e., estimate) will be chosen for each variable (for example percentage of population with high school diploma or percentage of population who are Hispanic) and the inner quartile range of the geographic distribution throughout counties (based on 5-year estimates) will be calculated.
Used to Select Frame for a Federal Survey	This variable is used to select the sampling frame for a federal survey.
Other Data Sources Exist	Substitute or alternative information on this variable is currently available or could be obtained with minimal effort from another data source.
Median County-Level Coefficients of Variation	One “value of interest” will be chosen for each variable (for example population with a high school diploma or Hispanic population) and the coefficient of variation at the 5-year county-level will be calculated. The median value of all county-level coefficients of variation will be scored.

**Table 3: Decision Criteria - Costs**

Costs	Description
Cognitive Burden Score	The Computer Assisted Telephone Interview (CATI) Telephone Operator or the Computer Assisted Personal Interview (CAPI) Field Representative (FR) identified that: <ul style="list-style-type: none"> <li>- Respondents find the question confusing</li> <li>- Requires probing, or</li> <li>- Respondents have to retrieve information to answer</li> </ul>
Sensitivity Score	The CATI Telephone Operator or the CAPI FR identified that: <ul style="list-style-type: none"> <li>- Respondent was reluctant to answer, or</li> <li>- Interviewer was uncomfortable asking</li> </ul>
Overall Difficulty Score	This score is composed of responses to any or all of the following questions about this variable: <ul style="list-style-type: none"> <li>- Ranked 4 or 5 on overall difficulty, and</li> <li>- Voted in top three most difficult questions</li> </ul>
Number of Complaints to Census Bureau Headquarters	This value is comprised of counting the number of complaints on this variable that have been received at call centers and via letters, emails or phone calls to the Census Bureau or program directors.
Median Seconds to Answer	The median value for the time (in seconds) used by respondents to provide information for this variable in the Internet, CATI, CAPI data collection modes.
Median County-Level Item Response Rate	The mid-point of values of the 5-year county-level estimates for the rate at which responses were received for this question/variable.

Creating these indicators required the collection of nine data sets. The five data sets that were collected to demonstrate ACS benefits included:

**Federal Agency Data Uses:** In April of 2014, the Census Bureau sponsored a federal agency summit to brief the agencies on the ACS Content Review and our need for them to provide information on their uses of ACS data. Agencies were asked to document: (1) justification for

question use; (2) Mandatory, Required, and Programmatic uses<sup>9</sup>; (3) lowest level of geography required; (4) frequency of use; (5) the amount of funding distributed based on the questions; and, (6) populations supported by the question. For each agency submitting uses to the Census Bureau, the agency's Office of General Counsel confirmed the legal citations associated with each of the stated uses. The Department of Commerce Office of General Counsel subsequently validated each use to adjudicate whether the use is Mandatory, Required, or Programmatic.

**Other Data Sources:** Agencies were also asked: "Without ACS data, how would your agency accomplish this activity? (i.e., other data sources)" Specifically, they were asked to identify whether there were no other sources, other sources but with many limitations, other sources with few limitations, or other sources with no limitations. If the agency left the question blank, we scored it as the agency not having any other sources.

**Computation of Questions' Estimates Coefficients of Variation (CVs):** For each question, the Census Bureau used a number of sources, including some of the ACS profile tables to identify the key estimates associated with the question. Census Bureau subject matter experts examined the CV associated with an estimate for each question at the county level, providing insight into the quality of the measure by geography.

**Computation of Questions' Estimates Interquartile Ranges (IQRs):** Census Bureau subject matter experts computed IQRs associated with the estimate for each question at the county level, providing insight into the amount of variability in the estimates by geography.

**ACS used as another Survey's Sampling Frame:** Other surveys that used the ACS as a sampling frame were identified, including the questions that were used in the survey to identify the survey sample of respondents. The only survey that uses the ACS as a sampling frame on an ongoing basis is the National Survey of College Graduates.

Four data sets reflecting measures of cost (respondent burden) were collected. These included:

**Survey of Interviewers:** 1,100 ACS interviewers (825 Field Representatives and 275 Call Center telephone operators) were surveyed to identify three of the cost indicators: which questions respondents find cognitively burdensome, which questions respondents find overly sensitive, and which questions are, in the estimation of the interviewers, the most difficult.

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<sup>9</sup> **Mandatory** – a federal law explicitly calls for use of decennial census or ACS data on that question

**Required** – a federal law (or implementing regulation) explicitly requires the use of data and the decennial census or the ACS is the historical source; or the data are needed for case law requirements imposed by the U.S. federal court system

**Programmatic** – the data are needed for program planning, implementation, or evaluation and there is no explicit mandate or requirement

**Median Seconds to Answer:** Response times to questionnaires were measured via automated modes (Internet, call center, and in-person interviews) to determine how long it took respondents to answer each question.<sup>10</sup>

**Allocation Rates:** Allocation rates by questions were computed to determine which questions were more frequently left blank requiring statistical methods to fill in the response. That is, which questions required more imputation due to missing information.

**Complaints:** Complaints about the ACS were examined and associated with questions so that counts could be obtained. Complaint sources included correspondence received via email, congressional and non-congressional letters, and phone calls received directly by Census Bureau staff, routed through a call center, or routed to Census Bureau staff from other sources.

## 4.2 Weighting Approach

The overall driving factors that affected a question's Benefits score were Mandatory uses at all geographic levels, Required uses at the sub-state level, and if the ACS was the only data source available. The factors that most affected a question's Costs score were cognitive burden, sensitivity, and difficulty.

According to the methodological design determined by the ICSP Subcommittee, each level of geography that is Mandatory, Required, or Programmatic is assigned a score of 0 or 1 points based on the presence of any stated uses of the survey question of that type at that level of geography. The weighted score is not diluted when there are a low number of uses of that type. The weighting scheme solely determines the relative merit of different types of uses at different types of geography. However, this approach does not give the opportunity for higher scores for questions that have more uses. This could possibly result in a question with fewer uses outscoring a question with more uses, depending on the level of geography or type of use.

The ICSP Subcommittee members provided recommendations on allocating weights to the 19 decision-making criteria. These weights were then averaged and applied to each criteria.

Figure 1 provides a notional example of the weighting approach followed.

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<sup>10</sup> We applied adjustment factors to the median seconds for questions that are not asked of every household or household member. These factors were necessary to modify the estimates for items that took a long time to complete, but were asked of only a few households or household members. In addition, we calculated the medians for a few items using estimated completion times due to some minor differences in the layout of these items between modes.

	Mandatory Uses	Required Uses	Programmatic Uses
Lowest Geographic Level is the Block Group or Tract	0	0	1
Lowest Geographic Level is Place, County or MSA	1	1	0
Lowest Geographic Level is State or Nation	0	0	1

Figure 1: Notional Weighting Example

### 4.3 Department of Commerce (DOC) Office of General Counsel (OGC) Validation Approach for Federal Data Uses

As mentioned previously, the legal definitions used in the DOC OGC validation process included:

- Mandatory – a federal law explicitly calls for use of decennial census or ACS data on that question
- Required – a federal law (or implementing regulation) explicitly requires the use of data and the decennial census or the ACS is the historical source; or the data are needed for case law requirements imposed by the U.S. federal court system
- Programmatic – the data are needed for program planning, implementation, or evaluation and there is no explicit mandate or requirement

The required minimum threshold of information considered necessary for the DOC OGC to review and adjudicate each agency use included: (1) clear statement of the federal use; (2) complete legal citation; and, (3) identification of questions connected to the use and citation. Until validated by the DOC OGC, each federal data use was considered Programmatic. If a statute explicitly stated to use the ACS or the decennial census as the data source, then the use was deemed Mandatory. If a statute did not explicitly state to use the ACS or the decennial census as the data source, but the decennial census or the ACS is the historic source, then the use is Required.

Data collection was considered complete when the DOC OGC validated at least one federal agency's Mandatory or Required use for each question. To prioritize validation, we conducted a test run and analyzed the results. Based on the results, we identified the questions, the uses, and

the statutes for immediate validation that support question retention.<sup>11</sup> The Commerce OGC expedited the validation for these priorities to meet the analysis deadline.

#### 4.4 Data Analysis Approach and Question Scoring

The following summarizes the data analysis approach of the ACS Content Review for uses identified by the participating federal agencies:

- For each question and subpart, assign the data collected in each of the 19 criteria discussed in Section 4.1. Assign the use as Mandatory, Required, or Programmatic based on the DOC OGC validation of the use. If the use is not validated, default it to Programmatic;
- For the nine types of federal data uses (i.e., Mandatory, Required, or Programmatic by any of the three levels of geography), if there is a use, assign a point value of 5 to represent full credit. Otherwise no points are assigned;
- For each of the other eight data sets, use pre-determined cutoffs or use an independent algorithm to identify clusters/cutoffs to assign a 0, 1, 3, or 5 point value;
- Apply the weights to each of the questions and clusters (See Section 4.2, Weighting Approach);
- Compute the benefit and cost value for each question and subpart;
- Use a scale from 0 to 100 points in order to divide the quadrants evenly at the 50-point line in both the X (Cost) and the Y (Benefits) directions to graphically display the results;
- Display the results in a scatterplot among four quadrants. The quadrants form the basis of four categories: (1) High Benefit/Low Cost; (2) High Benefit/High Cost; (3) Low Benefit/Low Cost; and (4) Low Benefit/High Cost;
- Analyze the questions falling in the Low Benefit/Low Cost and Low Benefit/High Cost quadrants for potential removal from the ACS questionnaire; and,
- Exclude any question from removal if it meets the criteria described in Section 5.

Figures 2 and 3 below provide examples of the scoring for the questions based on the various benefit and cost data.

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<sup>11</sup> All uses will be validated by the Commerce OGC after completing the priority validations needed for to report our results.

ACS Topic	Q#	Phase I Benefit Cluster Analysis								
		Federal Data Uses								
		Block Group/Tract Level			Place/County/MSA Level			State/Natl. Level		
		M	R	P	M	R	P	M	R	P
Building/Structure Type and Units	H1	5	5	5	0	5	5	0	5	5
Year Built	H2	5	5	5	5	5	5	5	0	5
Year Moved In	H3	5	0	5	5	0	5	0	0	5
Acreage	H4	0	5	5	0	5	5	0	0	5
Agriculture Sales	H5	0	0	5	0	0	5	5	0	5

Other Data Source	CV	IQR	Frame	Total Benefits
5	5	3	5	78.45 H
5	5	1	0	80.60 H
3	5	1	0	57.99 H
3	5	5	0	52.17 H
1	5	3	0	37.78 L

Figure 2: Design Criteria - Benefits Extract

ACS Topic	Int. Survey Cognitive Burden (Clusters)	Int. Survey Sensitivity (Clusters)	Int. Survey Overall Difficulty (Clusters)	Adjusted Median Seconds to Answer (Clusters)	Allocation Rates (Clusters)	Complaints (Clusters)	Total Costs
Building/Structure Type and Units	3	1	1	3	1	3	37.00
Year Built	5	1	3	3	3	3	60.40
Year Moved In	3	1	1	3	1	3	37.00
Acreage	3	1	1	1	1	3	33.00
Agriculture Sales	3	1	1	1	1	3	33.00

Figure 3: Design Criteria - Costs Extract

## 5 Criteria for Excluding Questions from Consideration for Removal

Questions are candidates for removal should they fall into the Low Benefit/Low Cost or Low Benefit/High Cost quadrants **and** have: (1) No Mandatory Uses; **and** (2) No Required Uses at the block group/tract; **and**, (3) No Required Uses at the place/county/Metropolitan Statistical Area.

## 6 Project Limitations

- The project team had only 3½ months (May to mid-August 2014) between the Federal Agency Summit and the required deadline for running the analysis to gather all agency inputs, limiting the ability to optimize the analytic approach. To mitigate the risks associated with this limitation, we conducted our analysis using a quadrant approach.
- The workload for the DOC OGC precluded validating all uses prior to the results deadline. To mitigate the risks associated with this limitation, we prioritized DOC OGC work to ensure they reviewed all questions where a mandatory or required use for the three geographic levels was identified by the federal agencies.
- The unit of analysis was not defined early enough in the process to ensure consistency in the level of detail across all inputs and had to be resolved. To mitigate the risks associated with this limitation, when information was not available below the question level we used the question level information as a proxy for the sub-question analysis.
- Decision criteria did not include a benefit factor for small population groups. To mitigate the risks associated with this limitation, we will consider all public comments received in response to the Content Review 60-day *Federal Register* notice on small population uses in making our final recommendations.

## 7 ACS Content Analysis Results

To assess the results, we took a systematic, top-down approach. We began with looking at the distribution of questions among the four analytic quadrants. We then analyzed the attributes of each question falling into each quadrant and applied exclusion criteria to determine which questions in the Low Benefit/Low Cost and Low Benefit/High Cost quadrants were potential candidates for removal from the ACS questionnaire.

### 7.1 High-Level Quadrant Results

The quadrant analysis summary data demonstrated that the majority of survey questions are found to be highly beneficial with low burden to respondents, which is the ideal survey question state. The quadrant analysis summary results are displayed in the table below. As seen, a majority of the questions – 54 percent – fell into the High Benefit/Low Cost quadrant, while only 26 percent fell into the High Benefit/High Cost quadrant. We will continue to examine the questions in the High Benefit/High Cost quadrant to determine if burden can be reduced. As for the two quadrants with candidates for removal, the percentage of questions falling into each was also relatively small, with 17 percent and 3 percent falling into the Low Benefit/Low Cost and Low Benefit/High Cost quadrants, respectively.

Table 4: Quadrant Analysis Summary

Quadrant	# of ACS Questions	Percentage of ACS Questions <sup>12</sup>
1 (High Benefit/Low Cost)	68	54%
2 (High Benefit/High Cost)	33	26%
3 (Low Benefit/Low Cost)	21	17%
4 (Low Benefit/High Cost)	3	3%

Four of the most problematic questions in the ACS scored well in the Content Review. Based on the ICSP Subcommittee’s pre-specified criteria, the scores were:

- Flush Toilets – High Benefit/Low Cost
- Disability – High Benefit/Low Cost
- Journey to Work – High Benefit/Low to High Cost
- Income – High Benefit/Low to High Cost (mostly High Cost)

### 7.2 Quadrant Analysis by Associated Questions

Figure 4 provides a high-level view of the initial scatterplot and how the questions arrayed across the quadrants.

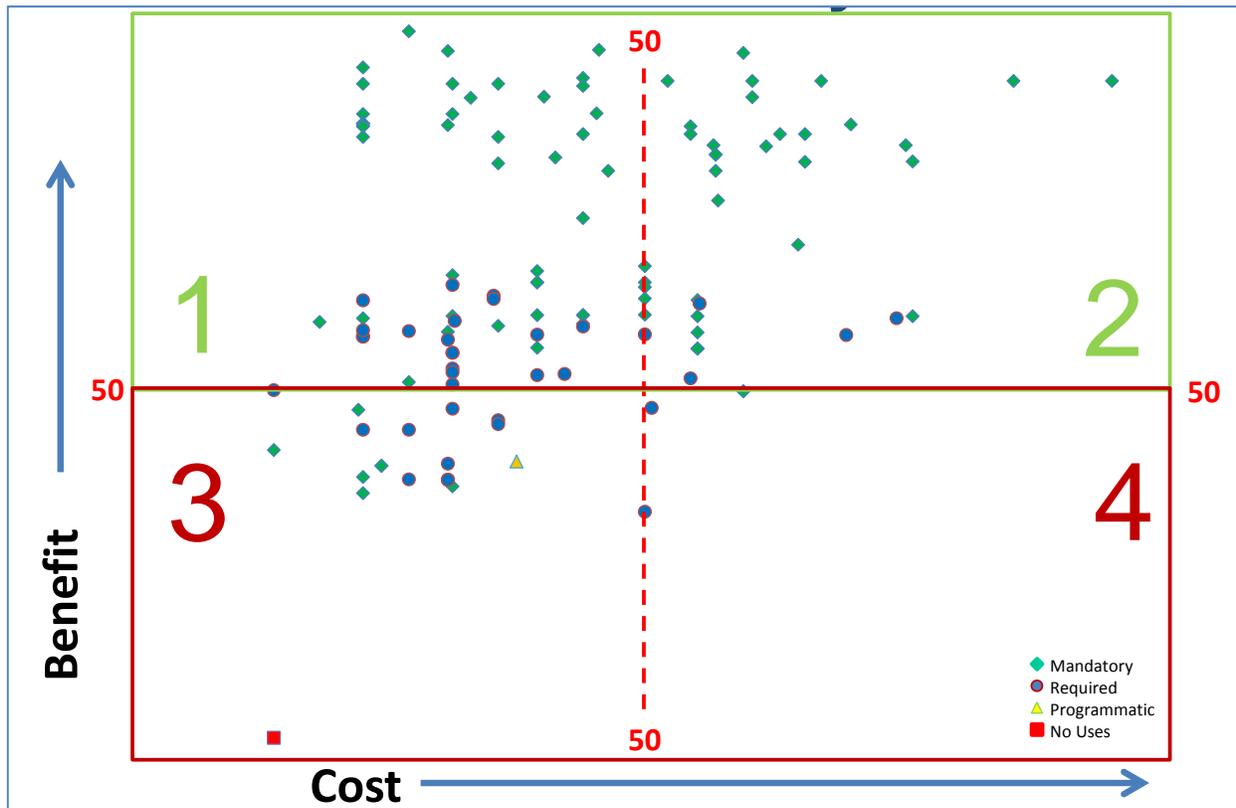


Figure 4: Quadrant Analysis - Initial Scatterplot

<sup>12</sup> Percentages were rounded to equal 100 percent.

### **7.3 Candidate Questions for Removal**

After applying the exclusion criteria, the questions in Table 4 below that are cited for “remove” are currently potential candidates for removal from the ACS questionnaire. They all fall into Quadrant 3 (Low Benefit/Low Cost). The questions in Quadrant 4 (Low Use/High Cost) all had a Mandatory use, so they were excluded for consideration for removal from the questionnaire. Questions designated with “H” are housing-related questions. Questions designated with “P” are person-related questions.

Table 5: Quadrant 3 and Quadrant 4 Question Analysis

<b>Quadrant 3 (Low Benefit/Low Cost)</b>				
<b>Question #*</b>	<b>Question</b>	<b>Mandatory Use</b>	<b>Sub-State Required Use</b>	<b>Retain or Remove</b>
H5	Agriculture Sales	Yes	Yes	Retain
<b>H6</b>	<b>Business/Medical Office</b>	<b>No</b>	<b>No</b>	<b>Remove</b>
H8g	Telephone Service Available	No	Yes	Retain
H12	Vehicles Available	No	Yes	Retain
H13	Home Heating Fuel	No	Yes	Retain
H15	SNAP/Food Stamp Benefit	Yes	Yes	Retain
P10a	School Enrollment	No	yes	Retain
P10b	Grade Level	No	Yes	Retain
<b>P12</b>	<b>Undergraduate Field of Degree</b>	<b>No</b>	<b>No</b>	<b>Remove</b>
P15a	Residence 1 year ago - Person live in this house/apartment	No	Yes	Retain
<b>P21a</b>	<b>Get Married?</b>	<b>No</b>	<b>No</b>	<b>Remove</b>
<b>P21b</b>	<b>Get Widowed?</b>	<b>No</b>	<b>No</b>	<b>Remove</b>
<b>P21c</b>	<b>Get Divorced?</b>	<b>No</b>	<b>No</b>	<b>Remove</b>
<b>P22</b>	<b>Times Married</b>	<b>No</b>	<b>No</b>	<b>Remove</b>
<b>P23</b>	<b>Year Last Married</b>	<b>No</b>	<b>No</b>	<b>Remove</b>
P25a	Grandparents - Have grandchildren?	Yes	Yes	Retain
P25b	Grandparents - Responsible?	Yes	Yes	Retain
P25c	Grandparents - How long responsible?	Yes	Yes	Retain
P28a	Have VA-Service Connected Disability Rating?	Yes	Yes	Retain
P28b	What is VA-Service Connected Disability Rating?	Yes	Yes	Retain
P40	Hours Worked Last Week	No	Yes	Retain

\*Note: H = Housing, P = Person

<b>Quadrant 4 (Low Benefit/High Cost)</b>				
<b>Question #*</b>	<b>Question</b>	<b>Mandatory Use</b>	<b>Sub-State Required Use</b>	<b>Retain or Remove</b>
P15b	Residence 1 year ago - Where live?	Yes	Yes	Retain
P39a	50+ Weeks	Yes	Yes	Retain
P39b	Number of Weeks	Yes	Yes	Retain

\*Note: P = Person

## 7.4 Potential Impact of Candidate Question Removal

As discussed in Section 7.2, we identified the following questions - all in the Low Benefit/Low Cost quadrant - as potential candidates for removal:

- Housing Question 6 – Business/Medical Office on Property
- Person Question 12 – Undergraduate Field of Degree
- Person Question 21a – Get Married
- Person Question 21b – Get Widowed
- Person Question 21c – Get Divorced
- Person Question 22 – Times Married
- Person Question 23 – Year Last Married

Let's examine each of these questions in reference to Figure 5. First, the only question that has no real impact for removal is Housing Question 6 - Business/Medical Office on Property, as we found no federal uses for this question.

Regarding the next grouping of candidates for removal, those with no Mandatory and no Required uses, we see Person Question 12 - Undergraduate Field of Degree. However this question is used by the National Science Foundation (NSF) to help identify a targeted population for the National Survey of College Graduates, which is a Programmatic use. Six additional federal agencies also identified Programmatic uses. We are currently working with the NSF to determine the full impacts of question removal from the ACS questionnaire.

The rest of the questions that are candidates for removal are related to marital history and are used by several federal agencies for Programmatic purposes. The Social Security Administration has a required legal basis for using the question at the state level only to develop actuarial tables for benefits projections. It is not clear at this point whether there is an alternative to the ACS for collecting these data. Final adjudication of the status of these questions will be determined after conclusion of the 60-day *Federal Register* period December 30, 2014, and impact statements from affected agencies and other data users have been obtained and taken into consideration.

Attribute	Agency Impacted/Comments	Other Agencies with Programmatic Uses
<b>No Uses</b>		
<ul style="list-style-type: none"> <li>H6 – Business/Medical Office on Property (X)</li> </ul>	No current agency uses; supports comparative estimates	N/A
<b>No M and No R Uses</b>		
<ul style="list-style-type: none"> <li>P12 – Undergraduate Field of Degree (P)</li> </ul>	NSF – used to target sampling frame for National Survey of College Graduates (NSCG); also supports STEM migration analyses	EPA, NTIA, HHS, DOL, DOT, EEOC
<b>No M and No R Uses at Block Group/Tract Level or Place/County/MSA Level</b>		
<ul style="list-style-type: none"> <li>P21a – Get Married (R)</li> <li>P21b – Get Widowed (R)</li> <li>P21c – Get Divorced (R)</li> <li>P22 – Times Married (R)</li> <li>P23 – Year Last Married (R)</li> </ul>	SSA – State-level actuarial targeting	FCC, NSF, HHS, EEOC FCC, NSF, HHS, EEOC FCC, NSF, HHS, EEOC FCC, NSF, HHS FCC, NSF, HHS

Figure 5: Attributes of Candidates for Removal

### 7.5 Notifying the Affected Agencies and Submitting the *Federal Register* Notice

In order to ensure transparency, the Census Bureau held a series of internal and external briefings on the ACS Content Review results, including a webinar in September 2014 for all participating federal agencies and a specific briefing for those agencies affected by the proposed removal of questions. The Census Bureau also briefed the members of the ICSP Subcommittee on the ACS, which is the body responsible for advising the Census Bureau on the methodological approach used in the Content Review (including the evaluation factors, the decision criteria and the weights). All briefings occurred in advance of the publication of the 60-day official *Federal Register* notice for public comment. See Section 4 for further description.

Federal agencies were encouraged to go on record by either responding to the *Federal Register* notice, or by contacting the Census Bureau directly with any comments they wished to convey about the proposed questions and impacts to the federal statistical system with their removal. We will consider comments received from the 60-day *Federal Register* notice, as well as consider inputs from other data users and stakeholders to provide final recommendations to OMB on whether to modify the content of the ACS.

## 8 Conclusions and Recommendations

The 2014 ACS Content Review, considered the most comprehensive review of ACS content that the Census Bureau has undertaken, proved to be complex and time-consuming, but provided unprecedented insights into the benefits and costs of this important survey. While much of the process was prescribed by the ICSP Subcommittee on the ACS, the team needed to address ongoing methodological issues. The presentation of the results by scatterplot was a highly intuitive approach to displaying and explaining the data results.

Results indicate that the majority of ACS questions, based on the criteria described in the report, are highly useful with low burden to respondents, which is the ideal survey question state. Those questions that had high respondent burden should be examined to see how burden could be reduced. Questions that scored low on benefits and low to high on costs that were excluded from removal in this Content Review also should be more closely examined. Overall, the Content Review has provided the foundation for this type of analysis and has established the baseline for future reviews. To prepare for further analysis and future reviews, we will:

- Complete all outstanding federal uses validation and document results;
- Prepare a comprehensive project plan for future work, including a clear scope and needed research and testing activities;
- Document lessons learned to inform future reviews: and,
- Develop a Content Review Process Document to institutionalize this new capability.

## 9 Additional Information

The Census Bureau has established several mechanisms for the public to stay informed about the ACS Content Review and to view the supporting documentation to this report. A list of supporting documentation is provided in Section 11.

- View the ACS Content Review Web Page:  
[http://www.census.gov/acs/www/about\\_the\\_survey/acs\\_content\\_review/](http://www.census.gov/acs/www/about_the_survey/acs_content_review/)
- View the Handbook of Questions and Current Federal Uses  
[http://www.census.gov/acs/www/Downloads/congress/ACS\\_Federal\\_Uses.pdf](http://www.census.gov/acs/www/Downloads/congress/ACS_Federal_Uses.pdf)
- Sign up for ACS Subscriber Notices:  
<https://public.govdelivery.com/accounts/USCENSUS/subscriber/new>

## 10 Project Participants

**Project Sponsor:** Economics and Statistics Administration (ESA), Office of the Director (DIR)

**Project Manager:** American Community Survey Office (ACSO)

**Project Team, consisting of the following offices:**

American Community Survey Office (ACSO)

Communications Directorate (COMM)

Decennial Management Division (DMD)  
 Decennial Statistical Studies Division (DSSD)  
 Department of Commerce (DOC) Office of General Counsel (OGC)  
 Field Division (FLD)  
 Office of the Director (DIR)  
 Policy Coordination Office (PCO)  
 Population Division (POP)  
 Social, Economic, and Housing Statistics Division (SEHSD)  
 Technologies Management Office (TMO)

## 11 List of Supporting Documentation

The following documents directly support the findings described in this report. These documents constitute the material that was previously referred to as “Phase I” of the project. Any subsequent analyses, research, or testing – previously considered as future Phases II and III – are now considered beyond the scope of this project.

Title	Primary Supporting Report Sections
Charter of the Interagency Council on Statistical Policy (ICSP) Subcommittee on the American Community Survey	Executive Summary Section 2.1
ICSP - Assigning Weights to the ACS Content Review Scoring Criteria	Executive Summary Section 2.1
ICSP - Content Review Decision Criteria	Executive Summary Section 2.1
Memorandum - Analytics Decision	Section 4
Memorandum - Weighting Decision	Section 4
Report – Federal Data Collection	Section 4.1
Report – Coefficients of Variation	Section 4.1
Report – Interquartile Ranges	Section 4.1
Report – Interviewer Survey Results	Section 4.1
Report – Response Time per Item	Section 4.1
Report – Allocation Rates	Section 4.1
Report – Complaints Results	Section 4.1
Report – Generating Content Review Analysis Results	Section 7
Report – ACS Content Review Results	Section 7
Report – Federal Register Notice (October 31, 2014)	Section 7.5
Communications Strategy for the ACS Content Review (External)	Section 7.5

## **Charter of the Interagency Council on Statistical Policy Subcommittee on the American Community Survey**

### **1. Background**

The American Community Survey (ACS) is unique among U.S. household surveys because of its size (about 3.5 million sample households per year), its breadth of measurement (demographic, economic, social, and housing estimates), the provision of temporal period estimates (1, 3, and 5 year estimates) describing small spatial areas, and as a data source for numerous Federal statistical agencies and other executive branch agencies. For these reasons, it is a national resource for which the Federal statistical system is a steward.

As the successor to the decennial census long form, response to the American Community Survey is required by law. For that reason, it attains very high participation rates relative to other Federal government surveys. For users concerned about statistical bias due to nonparticipation, the ACS estimates are attractive. Also, like the decennial census, it provides comparable statistics for all areas (states, locales, tracts, block groups) and all population groups (even small and rare ones) collected over the same period of time and using the same questions and survey methods.

Because of the roles ACS plays in the larger society, it is appropriate that the uses of ACS be reviewed by representatives of the larger Federal statistical system.

### **2. The Interagency Council on Statistical Policy Subcommittee on the ACS (ICSP-SACS)**

The Office of Management and Budget (OMB) in conjunction with the Census Bureau is establishing a Subcommittee of the Interagency Council on Statistical Policy (ICSP). The ICSP Subcommittee on the ACS will exist to advise the Chief Statistician at OMB and the Director of the Census Bureau.

This document details the mission, composition, and operations of the Interagency Council on Statistical Policy (ICSP) Subcommittee on the ACS.

### **3. Mission**

The mission of the ICSP-SACS is to advise the Chief Statistician consistent with key governing policies and practices for the ACS from the perspective of the Federal statistical system. It will provide advice to the Director of the Census Bureau and the Chief Statistician at OMB on how the ACS can best fulfill its role in the portfolio of Federal household surveys and provide the most useful information with the least amount of burden. It may also advise Census Bureau technical staff on issues they request the subcommittee to examine or that otherwise arise in discussions.

#### **4. Composition**

Subcommittee members will be invited from among ICSP members who have broad knowledge and experience with the Federal statistical system and socio-economic statistics from the ACS more specifically. The committee will consist of five persons:

- The Chief Statistician of OMB (*ex officio*)
- The Director of the Census Bureau (*ex officio*)
- Three members of the ICSP, designated by the Chief Statistician, each serving a three-year, renewable term.

The two *ex officio* members will co-chair the committee. The committee will be jointly staffed by staff of the Statistical and Science Policy Office of OMB and the American Community Survey Office of the Census Bureau.

If any matter comes before the subcommittee involving an agency of a member (other than OMB and the Census Bureau), that member would recuse himself/herself from the deliberation.

#### **5. Operations of the Committee**

There will be both annual and *ad hoc* activities of the committee. Each year there will be an annual review of questions to consider any deletion or addition of questions. At the current time, the number of minutes each respondent requires to complete the ACS instrument is considered fixed. That is, the subcommittee will not entertain the addition of questions without simultaneously considering the deletion of existing questions. In addition to the annual review, there will be ad hoc meetings to consider any proposal for follow-on surveys on ACS responding households or modules asked of subsamples of ACS.

Proposals may be presented to the subcommittee for question deletion, question addition, matrix-sampling modules, or follow-on surveys. These proposals will normally occur after informal discussions between the proposers and the OMB Statistical and Science Policy Office staff, but precede any testing of measurements to be added to the ACS. The proposals must address the decision criteria described in section 6.1. The subcommittee will discuss the relative merits of the proposals, considering how the proposal benefits the entire statistical community. That discussion will provide input into the decision of the Chief Statistician and the Census Bureau Director.

The operations of the subcommittee will not replace existing review and evaluation mechanisms. For example, all OMB Paperwork Reduction Act (PRA) requirements, including required *Federal Register* notices, Census Bureau standards for cognitive interviewing and field pre-testing of questions, as well as any other Census Bureau or Commerce Department established processes for the survey review, continue to apply.

#### **6. Key policies and practices for use of the ACS**

It is envisioned that there will be a continuing need for the ICSP-SACS to examine and consider how to apply common decision criteria for use on the ACS in regard to adding a question to the ACS, deleting a question from the ACS, using the ACS as a frame for follow-on surveys, and including a module of questions on a subsample of ACS cases. The principles for these decisions are described more fully in the following subsections.

### **6.1 The decision to add a question to ACS**

The decision to add a new question to the ACS should be considered under the following decision criteria as well as the principles of practical utility and respondent burden codified in the Paperwork Reduction Act (PRA).

- The data are needed for effective and efficient administration of the survey (e.g., telephone number).
- Federal law specifies that the ACS must provide estimates on a topic for a specified population for small areas of the country (i.e., Census tracts and block groups).
- Federal law designates that the Census Bureau must provide estimates on a topic for small areas of the country (i.e., Census tracts and block groups) on an ongoing basis.
- Federal law or regulation states that the small area or small population estimates must be provided, but is not specific as to the source agency or survey, and there are not other sources that could reasonably meet the information needs.
- A Federal Government agency justifies a need for new survey measurement on a specific topic to provide small area statistical information and/or to assist in program administration, and the ACS is the most viable source from a cost and burden perspective.

Meeting one or more of these criteria will be considered necessary, but not sufficient conditions for including the question on the ACS. In addition, the Subcommittee should establish a process for reviewing the justifications for the current content and establishing priorities. The initial review should also take advantage of the 2012 ACS program review being conducted by the Census Bureau; however, it is expected that the subcommittee would conduct regular, periodic reviews of the ACS content. These periodic reviews should be designed to ensure that there is clear and specific authority and justification for each question to be on the ACS, the ACS is the appropriate vehicle for collecting the information, respondent burden is being minimized, and the quality of the data from ACS is appropriate for its intended use.

It is expected that all proposed new questions will be subject to normal development and pretesting prior to being considered for inclusion on the ACS (see also 6.3).

### **6.2 The decision to change or revise a question currently on the ACS**

The decision to revise a question on the ACS should be considered whenever there is a legal, regulatory, or administrative change to a program that affects the information the agency needs or how the agency will use the information it is obtaining from the ACS (see also 6.4). Agencies shall provide documentation of these changes in their proposals to the subcommittee. In addition, because a cornerstone of the ACS is multi-year estimates, it is expected that there will be minimal year-to-year changes in ACS questions. However, regular reviews and analysis should examine each question on the ACS, and questions should also be considered for revision

if there is evidence of measurement error (from either quantitative analysis or qualitative testing) that could be reduced through revising the question wording, placement, response categories, etc.

It is expected that all proposed revised questions will be subject to normal development and pretesting prior to being considered for inclusion on the ACS (see also 6.3).

### **6.3 The process for proposing new or revised questions for the ACS and pretesting requirements.**

It is expected that agencies will consult informally with the Census Bureau ACS Office and SSP when considering whether to make a proposal and for guidance in preparing their proposals to the ICSP-SACS. The proposals must address the decision criteria described in section 6.1. The subcommittee will review agency requests and discuss the relative merits of the proposals, considering how the proposal benefits the entire statistical community. The subcommittee will review the agency request considering the criteria in 6.1 and 6.2 and provide its recommendation to the Chief Statistician and the Census Bureau Director. Only after the subcommittee has forwarded its recommendation to the Chief Statistician and the Census Bureau Director *and* the Chief Statistician has rendered judgment can testing activities begin.

If an agency request is approved, an interagency committee will be formed to draft new or revised questions, and these must be cognitively tested. If successful, the results of the cognitive testing will then be submitted for review as input to a field test that utilizes multiple ACS modes of collection. All PRA requirements must be met for these testing activities.

The results of the cognitive and field tests should be submitted back to the subcommittee along with the original justification for the new or revised question and a formal request from the agency to make the proposed change that is supported by the empirical results. The subcommittee will review the agency request considering the criteria in 6.1 and 6.2 and provide its recommendation to the Chief Statistician and the Census Bureau Director. The Director of the Census Bureau will determine with the Chief Statistician whether the new or revised questions will then be included in a formal submission to OMB under the PRA. If so, all PRA requirements, including *Federal Register* notices and public comment periods on the proposed changes, will be followed to seek formal OMB approval of the revised ACS collection.

### **6.4 The decision to delete a question from ACS**

The decision to delete a question or set of questions from the ACS should be considered whenever there is a legal, regulatory, or administrative change to a program that results in a question or set of questions no longer being needed, including cases when a substitute question or questions may be required. In addition, regular reviews and analysis should examine the use of each question on the ACS, and questions should be considered for deletion if there is not evidence of regular use of estimates at small areas by any Federal Government program or by other users.

### **6.5 Use of the ACS as frame for follow-on surveys**

The use of ACS as a platform to launch follow-on surveys is attractive when ACS is viewed as a first phase measurement to identify a subset of cases, defining the target population for the follow-on survey. The use of the ACS as a sampling frame needs to be carefully managed given the mandatory nature of the ACS. The voluntary (or mandatory) nature of any follow-on survey must be made clear to respondents. Furthermore, Federal law should specify the collection of the data or Federal program administration should depend on estimates based on the data from the follow-on survey. In addition, requests for follow-on surveys must be weighed in the context of other actual or potential follow-on surveys.

The ACS should be considered as a frame for a follow-on survey only when the eligible target population is a very rare subset of the US household population, large cost savings accrue to the Federal Government by using ACS versus alternatives, small domain estimates are critical to the follow-on survey, and the level of additional burden on the follow-on survey respondents (the number of interviews and number of questions) is warranted given the value of the statistical information derived from the survey. In addition, the follow-on survey should not negate the use of the respondents for other potential measurement needs (i.e., their participation propensities are not severely damaged for other measurements because of the follow-on survey), nor should the use of ACS respondents for the follow-on survey interfere with other ACS higher priority uses.

### **6.6 Decision to include a question module on a subsample of ACS units**

Another potential future use of the ACS is to add a module of questions as a supplement to the ACS questionnaire provided to respondents. Any module would be a voluntary survey.

An ACS supplement could be included for all ACS cases in one or more months or only a subsample of cases, sometimes called “matrix sampling” of measurements. It is most likely that these measures would be thematically consistent and provide broader measurement than is currently available. Similar to the case of follow-on survey decision criteria, these criteria are likely to evolve over time as experience is gained.

Federal law should specify the collection of the data or Federal program administration should depend on estimates based on the data from the module. Requests for a question module must also be weighed in the context of other requests, burden on respondents, and must not threaten the quality of participation in the base ACS; that is, the ACS must not be harmed by the addition of the module. In addition, there should be cost savings that accrue to the Federal Government by using the ACS design versus alternative sample designs on other frames, there should be no other suitable survey vehicles (such as the Current Population Survey) that reasonably could be used instead of the ACS, and simultaneous measurement of the question module and ACS variables on the same household should be important.

There are also practical and operational issues that must be met for a question module on the ACS. Specifically, there must be feasible survey methods to incorporate the module into ACS; the use of internet, mail, telephone, or face-to-face modes must be appropriate to the measurement goals; the use of proxy reporting for persons in the household as a strategy is acceptable for the measurement; and sampling variance targets should not require the sample size of the entire ACS for a given period of use.

## **7. Authority**

The ICSP-SACS will serve as a resource for OMB to inform its decision making with respect to the Federal statistical system, and to assist OMB in its review of the ACS and other Federal household surveys. The statistical policy roles of OMB were formalized in the PRA of 1980 and were expanded upon in the 1995 reauthorization. Specifically, Section 3504 (e) includes the following:

With respect to statistical policy and coordination, the Director of OMB shall:

- (1) coordinate the activities of the Federal statistical system to ensure -
  - (A) the efficiency and effectiveness of the system; and
  - (B) the integrity, objectivity, impartiality, utility, and confidentiality of information collected for statistical purposes; ...
- (3) develop and oversee the implementation of Government-wide policies, principles, standards, and guidelines concerning --
  - (A) statistical collection procedures and methods;
  - (B) statistical data classification;
  - (C) statistical information presentation and dissemination;
  - (D) timely release of statistical data; and
  - (E) such statistical data sources as may be required for the administration of Federal programs
- (4) evaluate statistical program performance and agency compliance with Governmentwide policies, principles, standards and guidelines;...

In addition, the ICSP was established by the Chief Statistician at OMB in 1989 to assist in carrying out OMB's role in setting and coordinating statistical policy. The ICSP was codified in the 1995 reauthorization of the PRA in Section 3504 (e)(8):

- (8) establish an Interagency Council on Statistical Policy to advise and assist the Director in carrying out the functions under this subsection that shall—
  - (A) be headed by the chief statistician; and
  - (B) consist of—
    - (i) the heads of the major statistical programs; and
    - (ii) representatives of other statistical agencies under rotating membership;

## **8. Amendments to this Charter**

It is expected that the activities of the ICSP-SACS will evolve over time and that this charter will be periodically updated to reflect those changes in activities. However, the principles that underlie those activities will remain – namely that the SACS offers to the OMB Chief Statistician and the Census Bureau Director the recommendations of a set of statistical agency heads knowledgeable about the overall mission of the Federal statistical system, schooled in modern survey practice, and wise with regard to the informational needs of the country.

# Assigning Weights to the ACS Content Review Scoring Criteria

Prepared for the Members of the  
ICSP Subcommittee for the ACS

01/10/14

# Background

- During the November meeting of the ICSP subcommittee for the ACS, Census staff provided the proposed criteria for scoring the “benefits” (utility) and “costs” (difficulty) of each item on the ACS questionnaire, and requested subcommittee feedback on the criteria as well as asked the subcommittee to determine relative weights for each of the criteria.
- Members provided feedback on the interaction between the previously provided scoring criteria for level of geography and the number of uses—statutory, required, and programmatic, and asked Census to consider ways to address this (which we have done).
- Subcommittee members requested to receive a scoring sheet with an allocation of points that each member could distribute across the various scoring criteria.

# Action Needed

- Step 1: Review and Approve the Revised/Condensed Criteria
- Step 2: Assign Points that will Determine the Weights
- Step 3: Decide on Scoring Approach (Pick One of Two Options)

# Step 1: Review and Approve the Revised/Condensed Criteria

# Previous Structure of Scoring Criteria for Number of Uses and Level of Geography

- Separate criteria were defined for each:
  - Number of Uses: Statutory
  - Number of Uses: Required
  - Number of Uses: Programmatic
    - Scores from 0-5 were assigned based on the number of uses in each category. Questions with more usage cited by agencies received more points.
  - Lowest Geographic Level: Statutory
  - Lowest Geographic Level: Required
  - Lowest Geographic Level: Programmatic
    - Higher scores were assigned if any of the uses in that category were needed at lower levels of geography (with 5=block group/tract, 4=place, 3=county, 2=MSA, 1=state, and 0=nation)

# Proposed New Structure of Scoring Criteria for Type of Uses and Level of Geography

	Statutory Uses	Required Uses	Programmatic Uses
Lowest Geographic Level is the Block Group or Tract	A	B	C
Lowest Geographic Level is Place, County or MSA	D	E	F
Lowest Geographic Level is State or Nation	G	H	I

- Each of blocks A through I would be assigned separate scores based on whether the survey question has stated uses of that type at that level of geography.
- Relative value for each would be determined by the points/weights assigned by the subcommittee (e.g., block A would likely have the highest weight, and block I would likely have the lowest weight)

# Step 2: Assign Points that will Determine the Weights

# Assigning Points that will Determine the Weights

Subcommittee members will receive a spreadsheet that allows them to distribute a total of 200 points across the various benefits/utility categories, and 200 points across the costs/difficulty categories to determine the relative weights for each scoring criterion.

	Sample Weights
<b>"Benefit" Decision Criteria</b>	
Uses at Block Group / Tract Level – Statutory	32
Uses at Place/county/MSA Level – Statutory	20
Uses at State/Nation Level – Statutory	16
Uses at Block Group / Tract Level – Required	30
Uses at Place/county/MSA Level – Required	18
Uses at State/Nation Level – Required	14
Uses at Block Group / Tract Level – Programmatic	28
Uses at Place/county/MSA Level – Programmatic	16
Uses at State/Nation Level – Programmatic	8
County-Level Interquartile Range in Values	6
Used to Select Frame for a Federal Survey	4
Other Data Sources Exist	2
Median County-Level Coefficients of Variation	6
<b>Sum</b>	<b>200</b>
<b>"Cost" Decision Criteria</b>	
Interviewer Survey - Cognitive Burden Score	60
Interviewer Survey - Sensitivity Score	60
Interviewer Survey - Overall Difficulty Score	30
Number of Complaints to Census Bureau HQ	6
Median Seconds to Answer	14
Median County-Level Item Response Rate	30
<b>Sum</b>	<b>200</b>

# To Consider When Determining Weights for Type of Uses and Level of Geography

	Statutory Uses	Required Uses	Programmatic Uses
Lowest Geographic Level is the Block Group or Tract	A	B	C
Lowest Geographic Level is Place, County or MSA	D	E	F
Lowest Geographic Level is State or Nation	G	H	I

- Subcommittee members will need to consider the relative importance of geographic level versus type of usage when assigning weights to each of the 9 cells

# To Consider When Determining Weights for Type of Uses and Level of Geography

	Statutory Uses	Required Uses	Programmatic Uses
Lowest Geographic Level is the Block Group or Tract	High	Medium	Low
Lowest Geographic Level is Place, County or MSA	High	Medium	Low
Lowest Geographic Level is State or Nation	Medium	Low	Low

- If you believe the type of use is of higher priority, you may choose to spread your points/weights in a manner similar to this.

# To Consider When Determining Weights for Type of Uses and Level of Geography

	Statutory Uses	Required Uses	Programmatic Uses
Lowest Geographic Level is the Block Group or Tract	High	High	Medium
Lowest Geographic Level is Place, County or MSA	Medium	Medium	Low
Lowest Geographic Level is State or Nation	Low	Low	Low

- If you believe the lowest geographic level is of higher priority, you may choose to spread your points/weights in a manner similar to this.

# To Consider When Determining Weights for Type of Uses and Level of Geography

	Statutory Uses	Required Uses	Programmatic Uses
Lowest Geographic Level is the Block Group or Tract	High	Medium High	Medium
Lowest Geographic Level is Place, County or MSA	Medium High	Medium	Medium Low
Lowest Geographic Level is State or Nation	Medium	Medium Low	Low

- If you believe the lowest geographic level and the type of use are of equal priority, you may choose to spread your points/weights in a manner similar to this.

# Other Considerations

- Keep in mind that there are other criteria under benefits/uses:
  - County level interquartile range in values
  - Used to select frame for a federal survey
  - Other data sources exist
  - Median county-level coefficients of variation
- The relative value of these criteria versus the geographic level/type of use criteria should be reflected in the weights you assign.

# Step 3: Decide on Scoring Approach (Pick One of Two Options)

# Option 1: Higher Scores for Higher Number of Uses

	Statutory Uses	Required Uses	Programmatic Uses
Lowest Geographic Level is the Block Group or Tract	A	B	C
Lowest Geographic Level is Place, County or MSA	D	E	F
Lowest Geographic Level is State or Nation	G	H	I

- Under this option, each block (A through I) would be assigned a score of 0 to 1.0 points based on the number of separate stated uses of the survey question of that type at that level of geography.
  - For example: 0 points for no uses, 0.2 points for 1-5 uses, 0.6 points for 6-10 uses, 1.0 points for more than 10 uses.

# Option 1: Example

	Statutory Uses	Required Uses	Programmatic Uses
Lowest Geographic Level is the Block Group or Tract	0.2	0	0.6
Lowest Geographic Level is Place, County or MSA	0	0.6	0
Lowest Geographic Level is State or Nation	0	0	1.0

- In this example, the survey question being scored has 2 statutory uses at the tract or block group level, 7 programmatic uses at the tract or block group level, 6 required uses at the place/county/MSA level, and 12 uses at the state/nation level.
  - Reminder: 0 points for no uses, 0.2 points for 1-5 uses, 0.6 points for 6-10 uses, 1.0 points for more than 10 uses.

# Considerations for Option 1

## Benefits:

- This option gives the opportunity for higher scores for questions that have more uses.

## Drawbacks:

- Although weighting can give higher priority to low levels of geography or statutory uses, a low number of uses leads to a lower score in that block, which could dilute the weighted score.

## Possible scenario:

- A question with more uses at higher levels of geography or with more programmatic uses may outscore a question with fewer statutory uses or fewer uses at low levels of geography, depending on the weighting scheme employed.

## Option 2: Full Scores for Any Number of Uses of that Type

	Statutory Uses	Required Uses	Programmatic Uses
Lowest Geographic Level is the Block Group or Tract	A	B	C
Lowest Geographic Level is Place, County or MSA	D	E	F
Lowest Geographic Level is State or Nation	G	H	I

- Under this option, each block (A through I) would be assigned a score of 0 or 1 points based on the presence of any stated uses of the survey question of that type at that level of geography.

## Option 2: Example

	Statutory Uses	Required Uses	Programmatic Uses
Lowest Geographic Level is the Block Group or Tract	1	0	1
Lowest Geographic Level is Place, County or MSA	0	1	0
Lowest Geographic Level is State or Nation	0	0	1

- In this example, the survey question being scored has 2 statutory uses at the tract or block group level, 7 programmatic uses at the tract or block group level, 6 required uses at the place/county/MSA level, and 12 uses at the state/nation level.
  - Reminder: 0 points for no uses, 1 point for any uses.

# Considerations for Option 2

## Benefits:

- The weighted score is not diluted when there are a low number of uses of that type.
- The weighting scheme solely determines the relative merit of different types of uses at different types of geography.

## Drawbacks:

- This option does not give the opportunity for higher scores for questions that have more uses.

## Possible Scenario:

- A question with fewer uses may outscore a question with more uses, depending on the level of geography or type of use.

# Actions:

- Confirm whether you are comfortable with the modified criteria for number of uses and level of geography
- Complete and return the attached spreadsheet to assign points that will determine the weights
- Share your vote on option 1 versus option 2 for assigning higher scores for higher numbers of uses.

# ACS Content Review Decision Criteria

Values	Value Criteria	Description	Best Possible	Worst Possible	Scale
<b>Benefit</b>	Number of Uses at Block Group / Tract Level – Statutory *	<p>Number of uses at the block group/ tract level is defined as the number of occasions a Federal agency cited that this variable satisfied the requirement for block groups or tracts.</p> <p>Statutory is defined as “federal law explicitly calls for use of Census Bureau, decennial census or ACS data on that variable”</p>	5 – Federal agencies cited 10 or more occasions that this variable satisfied a statutory requirement.	0 - Federal agencies cited no occasions that this variable satisfied a statutory requirement.	<p>5: High (x+), 3: Moderate (x-x), 1: Low (x-x) 0: None (0)</p> <p>(will produce data and find natural breaks for 3 groups within the data)</p>
	Number of Uses at Block Group / Tract Level – Required *	<p>Number of uses at the block group/ tract level is defined as the number of occasions a Federal agency cited that this variable satisfied the requirement for block groups or tracts.</p> <p>Required is defined as “A federal law (or implementing regulation) explicitly requires the use of data and the decennial census or the ACS is the historical source; or the data are needed for case law requirements imposed by the U.S. federal court system.”</p>	5 - Federal agencies cited 10 or more occasions that this variable satisfied a regulatory requirement.	0 - Federal agencies cited no occasions that this variable satisfied a regulatory requirement.	<p>5: High (x+), 3: Moderate (x-x), 1: Low (x-x) 0: None (0)</p> <p>(will produce data and find natural breaks for 3 groups within the data)</p>
	Number of Uses at Block Group / Tract Level – Programmatic *	<p>Number of uses at the block group/ tract level is defined as the number of occasions a Federal agency cited that this variable satisfied the requirement for block groups or tracts.</p> <p>Programmatic is defined as “the data are needed for program planning, implementation, or evaluation and there is no explicit mandatory or required requirement.”</p>	5 - Federal agencies cited 10 or more occasions that this variable satisfied a programmatic requirement.	0: Federal agencies cited no occasions that this variable satisfied a programmatic requirement.	<p>5: High (x+), 3: Moderate (x-x), 1: Low (x-x) 0: None (0)</p> <p>(will produce data and find natural breaks for 3 groups within the data)</p>

# ACS Content Review Decision Criteria

Values	Value Criteria	Description	Best Possible	Worst Possible	Scale
<b>Benefit</b>	Number of Uses at Place/County/MSA Level – Statutory *	<p>Number of uses at the place level is defined as the number of occasions a Federal agency cited that this variable satisfied the requirement for places, counties, and MSAs.</p> <p>Statutory is defined as “federal law explicitly calls for use of Census Bureau, decennial census or ACS data on that variable”</p>	5 – Federal agencies cited 10 or more occasions that this variable satisfied a statutory requirement.	0 - Federal agencies cited no occasions that this variable satisfied a statutory requirement.	<p>5: High (x+), 3: Moderate (x-x), 1: Low (x-x) 0: None (0)</p> <p>(will produce data and find natural breaks for 3 groups within the data)</p>
	Number of Uses at Place/County/MSA – Required *	<p>Number of uses at the place level is defined as the number of occasions a Federal agency cited that this variable satisfied the requirement for places, counties, and MSAs.</p> <p>Required is defined as “A federal law (or implementing regulation) explicitly requires the use of data and the decennial census or the ACS is the historical source; or the data are needed for case law requirements imposed by the U.S. federal court system.”</p>	5 - Federal agencies cited 10 or more occasions that this variable satisfied a regulatory requirement.	0 - Federal agencies cited no occasions that this variable satisfied a regulatory requirement.	<p>5: High (x+), 3: Moderate (x-x), 1: Low (x-x) 0: None (0)</p> <p>(will produce data and find natural breaks for 3 groups within the data)</p>
	Number of Uses at Place/County/MSA Level – Programmatic *	<p>Number of uses at the place level is defined as the number of occasions a Federal agency cited that this variable satisfied the requirement for places, counties, and MSAs.</p> <p>Programmatic is defined as “the data are needed for program planning, implementation, or evaluation and there is no explicit mandatory or required requirement.”</p>	5 - Federal agencies cited 10 or more occasions that this variable satisfied a programmatic requirement.	0: Federal agencies cited no occasions that this variable satisfied a programmatic requirement.	<p>5: High (x+), 3: Moderate (x-x), 1: Low (x-x) 0: None (0)</p> <p>(will produce data and find natural breaks for 3 groups within the data)</p>

# ACS Content Review Decision Criteria

Values	Value Criteria	Description	Best Possible	Worst Possible	Scale
<b>Benefit</b>	Number of Uses at State/National Level – Statutory *	<p>Number of uses at the national level is defined as the number of occasions a Federal agency cited that this variable satisfied the requirement for states and the nation.</p> <p>Statutory is defined as “federal law explicitly calls for use of Census Bureau, decennial census or ACS data on that variable”</p>	5 – Federal agencies cited 10 or more occasions that this variable satisfied a statutory requirement.	0 - Federal agencies cited no occasions that this variable satisfied a statutory requirement.	<p>5: High (x+), 3: Moderate (x-x), 1: Low (x-x) 0: None (0)</p> <p>(will produce data and find natural breaks for 3 groups within the data)</p>
	Number of Uses at State/National Level – Required *	<p>Number of uses at the national level is defined as the number of occasions a Federal agency cited that this variable satisfied the requirement for the states and the nation.</p> <p>Required is defined as “A federal law (or implementing regulation) explicitly requires the use of data and the decennial census or the ACS is the historical source; or the data are needed for case law requirements imposed by the U.S. federal court system.”</p>	5 - Federal agencies cited 10 or more occasions that this variable satisfied a regulatory requirement.	0 - Federal agencies cited no occasions that this variable satisfied a regulatory requirement.	<p>5: High (x+), 3: Moderate (x-x), 1: Low (x-x) 0: None (0)</p> <p>(will produce data and find natural breaks for 3 groups within the data)</p>
	Number of Uses at State/National Level – Programmatic *	<p>Number of uses at the national level is defined as the number of occasions a Federal agency cited that this variable satisfied the requirement for the states and the nation.</p> <p>Programmatic is defined as “the data are needed for program planning, implementation, or evaluation and there is no explicit mandatory or required requirement.”</p>	5 - Federal agencies cited 10 or more occasions that this variable satisfied a programmatic requirement.	0: Federal agencies cited no occasions that this variable satisfied a programmatic requirement.	<p>5: High (x+), 3: Moderate (x-x), 1: Low (x-x) 0: None (0)</p> <p>(will produce data and find natural breaks for 3 groups within the data)</p>

# ACS Content Review Decision Criteria

Values	Value Criteria	Description	Best Possible	Worst Possible	Scale
<b>Benefit</b>	County-Level Interquartile Range in Values	One “value of interest” will be chosen for each variable (for example percentage of population with high school diploma or percentage of population who are Hispanic) and the inner quartile range of the geographic distribution throughout counties (based on 5-year estimates) will be calculated.	5 – The county-level interquartile range in values is xx or above.	1 – The county-level interquartile range in values is xx or lower.	5: High, 3: Moderate, 1: Low (will produce data and find natural breaks for 3 groups within the data)
	Used to Select Frame for a Federal Survey	This variable is used to select the sampling frame for a Federal survey.	5 – This variable is used to select sampling frame for another survey	0 - This variable is not used to select sampling frame for another survey	5: Yes, 0: No
	Other Data Sources Exist *	Substitute or alternative information on this variable is currently available or could be obtained with minimal effort from another data source.	5 – There are no other data sources that provide data for this variable at the required geographic level.	0 – There is at least one data source that provides data for this variable at the required geographic level and this data source is free from limitations for use for the intended purpose.	5: None, 3: Yes, with many limitations, 1: Yes, with few limitations, 0: Yes, with no limitations
	Median County-Level Coefficients of Variation	One “value of interest” will be chosen for each variable (for example population with a high school diploma or Hispanic population) and the coefficient of variation at the 5-year county-level will be calculated. The median value of all county-level coefficients of variation will be scored.	5: - The median county-level coefficient of variation is xx or below.	1 – The median county-level coefficient of variation is xx or higher.	5: Low, 3: Moderate, 1: High (will produce data and find natural breaks for 3 groups within the data)

# ACS Content Review Decision Criteria

Values	Value Criteria	Description	Best Possible	Worst Possible	Scale
<b>Cost</b>	Interviewer Survey – Cognitive Burden Score	<p>This score is comprised of a “yes” response to any or all of the following questions about this variable:</p> <ul style="list-style-type: none"> <li>- Respondents find it confusing</li> <li>- Requires probing</li> <li>- Respondents have to retrieve information to answer</li> </ul>	1 – Interviewers reported “yes” on this variable less than 20 percent of the time.	5 – Interviewers reported “yes” on this variable more than 60 percent of the time.	1: Low (<20%), 3: Moderate (20% - 60%), 5: High (>60%)
	Interviewer Survey – Sensitivity Score	<p>This score is comprised of a “yes” response to any or all of the following questions about this variable:</p> <ul style="list-style-type: none"> <li>- Respondent was reluctant to answer</li> <li>- Interviewer was uncomfortable asking</li> </ul>	1 - Interviewers reported “yes” on this variable less than 20 percent of the time.	5 - Interviewers reported “yes” on this variable more than 60 percent of the time.	1: Low (<20%), 3: Moderate (20% - 60%), 5: High (>60%)
	Interviewer Survey – Overall Difficulty Score	<p>This score is comprised of responses to any or all of the following questions about this variable:</p> <ul style="list-style-type: none"> <li>- Ranked 4 or 5 on overall difficulty</li> <li>- Voted in top three difficult questions</li> </ul>	1 – Interviewers reported these questions as overall most difficult less than 20 percent of the time.	5 – Interviewers reported this variable as overall most difficult more than 60 percent of the time.	1: Low (<20%), 3: Moderate (20% - 60%), 5: High (>60%)

# ACS Content Review Decision Criteria

Values	Value Criteria	Description	Best Possible	Worst Possible	Scale
<b>Cost</b>	Number of Complaints to Census Bureau HQ	This variable is comprised of counting the number of complaints on this variable (from the onset of the ACS) that have been received at call centers and via letters to the Census Bureau or program directors.	1 – No complaints have been received about this variable.	5 - Ranked as one of top three questions for number of complaints received.	0: None, 3: Low, 5: High (top 3)
	Median Seconds to Answer	The median value for the time (in seconds) used by respondents to provide information for variable.	1 – Respondents provide the information for this variable in xx seconds or less.	5 – Respondents provide the information for this variable in xx seconds or more.	1: Low, 3: Moderate, 5: High  (will produce data and find natural breaks for 3 groups within the data)
	Median County-Level Item Response Rate	The mid-point of values of the 5-year county-level estimates for the rate at which responses were received for this question/variable.	1- The median county-level item response rate is xx% or greater.	5 - The median county-level item response rate is less than xx%.	1: Low (< xx%), 3: Moderate (xx% to xx%), 5: High (xx% +)  (will produce data and find natural breaks for 3 groups within the data)



**AMERICAN COMMUNITY SURVEY DECISION MEMORANDUM SERIES**

No. ACS-D-201403

Date: August 18, 2014

**MEMORANDUM FOR:** The Record

From: James B. Treat  
Chief, American Community Survey Office

Subject: Decisions Supporting the American Community Survey (ACS)  
Content Review Analytics

**Purpose**

The purpose of this memorandum is to document design decisions for Phase I of the ACS Content Review. Because of its complexity, the review will be conducted in phases. Phase I provides the results based solely on the decision criteria and weighting approach discussed below.

**Overview**

In August 2012, the Interagency Council of Statistical Policy (ICSP) Sub-Committee for the American Community Survey (ACS) was formed to advise the Office of Management and Budget's Chief Statistician and the Census Bureau's Director from the perspective of the federal statistical system. The Sub-Committee is co-chaired by the Director of the Census Bureau and by the Chief Statistician of OMB. The Sub-Committee's mission includes overseeing and managing the content and respondent burden of the ACS. The Sub-Committee charter (*Charter of the Interagency Council on Statistical Policy: Subcommittee on the American Community Survey*, August 10, 2012) states "Each year there will be an annual review of questions to consider any deletion or addition of questions." In 2013, the Census Bureau initiated the first comprehensive examination of every question on the ACS form, resulting in the initial ACS Content Review project.

**Issue**

The ACS Content Review is a complex initiative to determine the cost and benefits of the questions contained in the ACS questionnaire. The review includes 19 decision criteria (13

benefits and 6 costs), which require 9 streams of information (See below and see the *ACS Content Review Decision Criteria*, August 2013). The information streams do not consistently capture the required information at the same level. For example, federal agencies use cost of utilities at the topic level while the interviewer survey captures information only at the specific sub-question level. Additionally, some questions are too new to have 5- year estimates; other questions' responses must be considered in tandem with additional questions. Industry coding, for example, requires combining several question to determine the appropriate code. Additionally, federal agency data use responses may not be complete and/or we may not receive validation from the Office of General Counsel in time for the analysis phase. Within these potentially incomplete or non-validated responses and inconsistent information among data streams, there is necessarily missing and/or non-validated information. To ensure transparency and objectivity, a priori analytic decisions must be made before data are run through the final decision-making algorithm. These decisions ensure that we meet project deadlines, but may introduce uncertainty into the data.

### **Analytic Component Decisions**

We are conducting the ACS Content Review in phases. Phase I is primarily data driven. It is based on the nine data streams that directly feed into the Decision Criteria Algorithm. The output will be the questions that are potential candidates for removal from the ACS questionnaire, along with those that will stay and ones needing further research. Phase II will consider supplemental information about all the questions, such as whether there are administrative records or other data sources that could be used in lieu of asking respondents. Phase III will include any research results or other changes that affect the content.

The following table includes the decisions needed to ensure a transparent, statistically defensible, and comprehensive assessment of ACS content from a benefits and cost perspective. The purpose of this memorandum is to provide a single document cataloging analytic decisions needed prior to testing, preparing, and running the data through the Phase I ACS Content Review Decision Criteria Algorithm. The Director of the Census Bureau confirmed that we should use Option 2 as the weighting algorithm.<sup>1</sup>

Note: To review the specific questions referred to in the table by their number (e.g., P30), see the ACS 2014 questionnaire.

<b>Criteria</b>	<b>Decision</b>
<b>General Design</b>	
Level of Analysis	Not all data streams collect information at the sub-question level so the detail is uneven. We will report findings at the lowest level (i.e. question subpart). If a tool/analysis can only provide information at the higher level (i.e. question), we will assume that the information applies equally to the subparts, and distribute to each question subpart.

<sup>1</sup> ACS Memorandum for the Record Selection of ACS Content Review Weighting Algorithm, August 18, 2014.

<b>Criteria</b>	<b>Decision</b>
Related Questions	There are questions that are used in conjunction with each other to create a single topic or concept. For example, Industry is determined through the use of three separate questions (P42-P44). We will identify related questions (flag/link in analysis), but evaluate them separately at the question level. Once we evaluate each of the related questions, we will examine them as a whole to see if any issues emerge. Potentially affected topics include: P29 a & b; P35,P36, & P37; P39a & b; P42, P43, & P44.
Related Questions with only one Allocation Rate, CV, and IQR Estimate	When there are multiple elements/items collected for a question, we identified a single element/item for analysis. For example, based on input from subject matter experts, all address components for the person's residence one year ago (P15b) are collected (such as city, county, and state), but only one allocation rate, CV, and IQR estimate could be used for this question in the ACS Content Review project. <i>State of last residence</i> was chosen as the unique estimate to represent this question.
Results Schedule	We will run the Phase I ACS Content Review Decision Criteria Algorithm on August 19 and present results between August 22 and mid-September 2014. Formal documentation will be completed by October 31, 2014.
Results Approach	The 9 input data sets will be normalized into a common format. They will be run through the Decision Criteria Algorithm using Option 2 weights. The results will be displayed in a scatterplot among four quadrants. The quadrants are: (1) High Benefit/Low Cost; (2) High Benefit/High Cost; (3) Low Benefit/Low Cost; and (4) Low Benefit/High Cost. We will use a scale from 1 to 100 with the quadrants evenly divided by the 50 X axis and 50 Y axis. We decided to use this scale because we will not have all the validated uses when we run the Phase I algorithm, so we do not have the information needed to better divide the quadrant values.
Candidate Question Results	Upon running the algorithm, we will consider the Low Benefit /Low Cost and Low Benefit/High Cost quadrant questions as potential candidates for Phase I removal.
Federal Register Notice	The October 2014 Federal Register Notice permits comments on all questions; however, the Census Bureau is particularly interested in the questions that have been identified as potential candidates for removal based on the Phase I Content Review analysis. Prior to this formal publication, we will alert federal agencies to the notice as well as provide a general notice on our external ACS web page.
Short Form Questions	We will analyze the short form questions (age, sex, relationship, race, Hispanic origin, tenure), but they will not be considered for removal.
Metrics for P16h (Other Health Insurance)	We dropped P16h "Any Other Type of Health Insurance or Health Coverage plan" from the Content Review evaluation. Once received it is promptly recoded to one of the other sources listed in 16a through 16g. There is no estimate and no allocation rate since it disappears in the edits.
Use of Averaged Weights for Design Criteria	Each member of the ICSP Sub-Committee provided a recommendation for how to best allocate the 200 total points to the 19 criteria. The Sub-Committee provided each member's recommendation for the 200 total points assigned to each design criteria. We used the average of the 5 members' points as the criteria weight and divided by half to be consistent with our quadrant analysis approach.
<b>Estimates</b>	
Questions Lacking 5-year Estimates	Internet usage, Internet Subscription, Computer Usage, and Field of Degree are too new to have 5-year estimates. For Internet usage, we will use the 1-year estimate based on the likely stability of the estimates and standard errors. For Field of Degree,

<b>Criteria</b>	<b>Decision</b>
	we will use the 3-year estimate, again, due to the stability of the estimates and standard errors. For the estimates based on 1-year and 3-year data, the standard error has been adjusted (either by dividing by sqrt(5) or sqrt(5/3), respectively).
<b>Federal Agency Data Uses (#1-9 Benefits and Data Stream #1)</b>	
DOC OGC Completed Validation Definition	The Department of Commerce (DOC) Office of General Counsel (OGC) use validation will be considered complete when the OGC has reviewed and adjudicated all agency uses with minimal information as seen below.
Minimal Federal Agency Use Data required for Legal Analysis	The minimum information that must be populated in each federal agency data usage collection tool to complete a legal analysis includes: (1) Central Uses (Column B); (2) Complete statutory/Legal Citation (Column C); and, (3) Identification of questions connected to the use and citation (Columns T to end). (See Federal Agency Data Collection Tool.)
DOC OGC Legal Review of non-validated agency OGC federal use responses	If we have the data use information but not the affirmation of validation from the agency OGC, the DOC OGC may conduct a validation of Mandatory, i.e., required by statute for ACS or the decennial census to collect the data.
Designations of Mandatory, Required, or Programmatic Uses	Until validated by the DOC OGC, all federal data uses will be considered Programmatic. If a statute does not state explicitly to use the ACS or the decennial census, then the use is no higher than Required. The use would never be Mandatory.
Unusual but Valid Census Geography	In some cases, federal agencies included geographies not in our data collection form, e.g., Congressional Districts. We have input from a MAF expert and will code as follows: <ul style="list-style-type: none"> <li>• School district: (decision - Tract)</li> <li>• PUMA: (decision - MSA)</li> <li>• Congressional District: (decision - MSA)</li> <li>• American Indian Area/Alaska Native Area/Hawaiian Home Land: (decision – Place)</li> <li>• County remainder: (decision - County)</li> <li>• Town/City: (decision – Place)</li> </ul>
Federal Data Collection Completion Definition	For purposes of completing the Phase I ACS Content Review, data collection is considered complete when we have received the relevant agencies' OGC letter and have validated at least one Mandatory or Required use for each question.
OGC Validation Approach	To prioritize validation, we conducted a test run and analyzed the results. Based on the results, we identified the questions, the uses, and the statutes for immediate validation that will support question retention. All uses will be validated by the OGC after the priorities needed for our results reporting.
Criteria for Question Removal	Questions will be candidates for removal should they fall into the Low Benefit/Low Cost or Low Benefit/High Cost quadrants and: (1) have no Mandatory Uses and (2) have no Required Uses at the Block Group/Tract level and (3) have no Required Uses at the Place/County/MSA level.
<b>Other Data Uses (#10 Benefit and Data Stream #2)</b>	
Existence of Other Data Sources	When blank, we are assuming that there are no other data sources.
<b>CVs (1 Benefit (#11 Benefit and Data Stream #3)</b>	
Identifying the Estimates and Selecting the CV	Subject matter analysts in POP and SEHSD agreed upon a set of estimates that represents each question even if such an estimate is not currently available on AFF,

<b>Criteria</b>	<b>Decision</b>
Clusters	such as percent of households without toilets. The estimates for each ACS question are to be used for the median county-level coefficient of variation (CV). We will determine how to best cluster the CVs into three clusters by using SAS PROC FASTCLUS
<b>IQRs (#12 Benefit and Data Stream #4)</b>	
Calculating Interquartile Ranges (IQRs)	The estimates for each ACS question (which were used in the CV analysis) are also to be used for the county-level interquartile range (IQR) decision criteria for the content review. The estimates are based on different measures—percentages, ratios, and medians. Therefore, it is not possible to get a comparable median IQR measure for every estimate. About 90 percent of the estimates are percentages. We will compute the IQRs for the estimates that are percentages and cluster those results. Because this benefit metric has such a small design effect, we will assign the remaining estimates a neutral score of 3 for this metric.
Calculating IQR Clusters	To produce the IQR clusters for the percentages (see above), we used SAS PROC FASTCLUS. However, because there was an extreme outlier in the ranges, we removed it before running the SAS PROC FASTCLUS procedure and then hardcoded it into the results.
<b>Frame for Federal Survey (#13 Benefit and Data Stream #5)</b>	
Identifying Cluster Approach	Each ACS question was designated as: <ul style="list-style-type: none"> <li>• Primary (P) = 5</li> <li>• Secondary (S) = 3</li> <li>• Not Required (N) = 0</li> </ul>
Applying Primary or Secondary to Sub-Parts	If a sub-part on its own was deemed not required, but it was a primary or secondary source when paired with other estimates, then that trumped the individual status. For instance, the occupation recode (which combines responses from P45 and P46) is a primary source for the frame for another federal survey, but P45 or P46 on its own is not a source. As a result, P45 and P46 were considered primary sources and given the maximum benefit score.
<b>Interviewer Survey (# 1-3 Costs and Data Stream #6)</b>	
ACS Content Review Interviewer Survey Cluster Analysis Criteria	The Interviewer Survey addressed three separate costs: Cognitive Burden, Survey Sensitivity, and Overall Difficulty. To group the results of the Interviewer Survey into High/5, Medium/3, and Low/1, we will use more than 60 percent, 20-60%, and less than 20% respectively. We identified these criteria in August 2013 and will use these to cluster and then assess the interviewer responses.
<b>Adjusted Median Seconds to Answer (#4 Costs and Data Stream #7)</b>	
Paper v Automated Instrument Data Collection Levels	Some questions on the automated questionnaire are at a lower level than the same questions on the paper questionnaire. To normalize, we will roll-up the questions on the automated questionnaire to the lowest level on paper questionnaire.
Calculating Adjusted Median Seconds to Answer Clusters	To produce the Median Seconds to Answer clusters we used SAS PROC FASTCLUS.
Limitations on Returns Included in Sample	The sample of returns used in this research is not a random sample. Returns received by mail, Telephone Questionnaire Assistance (TQA), Failed Edit Follow-up (FEFU), and Group Quarter interviewing were not in scope for this project. This research provides estimates of response time based on three months of survey responses from Internet, CATI, and CAPI. Thus, results may not reflect the experience of the entire

Criteria	Decision
	ACS sample.
Computing Address Median Response	All parts of the address are necessary to compute location accurately. Therefore, all sub-parts (a-f) for P30 must be used to calculate the median response time. This is consistent with the calculation of median response time for P15b.
<b>Allocation Rates (#5 Costs and Data Stream #8)</b>	
Allocation Rates – Special Cases	<p>There are three special cases we addressed with regard to allocation rates:</p> <ol style="list-style-type: none"> <li>1. Missing allocation rates – Questions P13 (Ancestry) and P16h (Other health insurance) are not allocated. An item nonresponse rate for ancestry was calculated using uncodeable and missing responses.</li> <li>2. Multiple allocation rates available for a single question – In certain cases, such as question P15b (Address 1 Year Ago), an allocation rate is available for each component of the address, which is considered a single question. In these instances, the subject matter experts provided guidance on which allocation rate to use to represent the question. In this case, the allocation rate for the ‘State’ field was selected.</li> <li>3. Single allocation rate that represents multiple questions – There are instances where one allocation rate represents multiple questions because the questions are not allocated individually and are used in conjunction with one another to define a concept or topic (e.g., questions P42, 43, and 44 which comprise Industry).</li> </ol>
<b>Complaints (#6 Costs and Data Stream #9)</b>	
Complaint Data Stream Timeframe and Scope	<p>We will use January-May 2014 to time box complaint data collection to coincide with the implementation of performance measures associated with complaint information. This helps to ensure standardized responses. The scope includes:</p> <ul style="list-style-type: none"> <li>• Emails: Direct, GovDelivery, Non-Controlled</li> <li>• Letters: CQAS congressional, CQAS non-congressional</li> <li>• Phone Calls: Call Center, Direct, Other Sources</li> </ul>
Lack of Common Definition of “Complaint”	<p>Because of high volume, several people analyzed the complaint data. We did not provide a clear operating definition of complaint so the results from the three sources may not always be consistent. We believe that the number of reported complaints may be too high; however, due to the high volume and short timeframe, we have decided to accept the results as is.</p>
Computing the Complaint Clusters	<p>Complaint clusters were pre-specified in the design criteria as follows:</p> <ul style="list-style-type: none"> <li>• No complaints: scale = 0, points added to cost score = 0.</li> <li>• Some complaints: scale = 3, points added to cost score = 7.8</li> <li>• Top 3 number of complaints: scale = 5, points added to cost score = 13</li> </ul> <p>Note: We ended up with a tie for the Top 3 so we included four questions in this top tier.</p>

The major Phase I milestones included in the project are available for reference on the ACS Content Review internet site: [http://www.census.gov/acs/www/about\\_the\\_survey/acs\\_content\\_review/](http://www.census.gov/acs/www/about_the_survey/acs_content_review/).

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**AMERICAN COMMUNITY SURVEY DECISION MEMORANDUM SERIES**

No. ACS-D-201402

Date: August 18, 2014

**MEMORANDUM FOR:** The Record

From: James B. Treat  
Chief, American Community Survey Office

Subject: Selection of ACS Content Review Weighting Algorithm

**Purpose**

The purpose of this memorandum is to document which weighting approach will be used in the ACS Phase I Content Review.

**Background**

In August 2012, the Interagency Council of Statistical Policy (ICSP) Sub-Committee for the American Community Survey (ACS) was formed to advise the Office of Management and Budget (OMB) and the Census Bureau from the perspective of the federal statistical system. The Sub-Committee is co-chaired by the Director of the Census Bureau and by the Chief Statistician of OMB. The ICSP Sub-Committee's mission includes overseeing and managing the content and respondent burden of the ACS. The Sub-Committee charter (*Charter of the Interagency Council on Statistical Policy: Subcommittee on the American Community Survey*, August 10, 2012) states, "Each year there will be an annual review of questions to consider any deletion or addition of questions." In 2013, the Census Bureau initiated the first comprehensive examination of every question on the ACS form, resulting in the first comprehensive ACS Content Review project undertaken since the ICSP Sub-Committee was established. Because of the complexity, the analysis is conducted in phases. Phase I reflects results based solely on the decision criteria and weighting approach discussed below.

**Decision Criteria**

To guide the Content Review, the ICSP Subcommittee identified 19 criteria to use in decision-making (*ACS Content Review Decision Criteria*, August 2013). These criteria included 13 benefits and 6 costs to consider and to weight in the analysis. The table below is taken directly from the design criteria. Whereas the ICSP discusses "variables," our analysis focuses on the question and question subpart.

Benefits	Description
Number of Uses at Block Group / Tract Level – Mandatory (i.e., Statutory)	Number of uses at the block group/ tract level is defined as the number of occasions a federal agency cited that this variable satisfied the requirement for block groups or tracts. Mandatory is defined as “federal law explicitly calls for use of Census Bureau, decennial census or ACS data on that variable.”
Number of Uses at Block Group / Tract Level – Required	Number of uses at the block group/ tract level is defined as the number of occasions a federal agency cited that this variable satisfied the requirement for block groups or tracts. Required is defined as “A federal law (or implementing regulation) explicitly requires the use of data and the decennial census or the ACS is the historical source; or the data are needed for case law requirements imposed by the U.S. federal court system.”
Number of Uses at Block Group / Tract Level – Programmatic	Number of uses at the block group/ tract level is defined as the number of occasions a federal agency cited that this variable satisfied the requirement for block groups or tracts. Programmatic is defined as “the data are needed for program planning, implementation, or evaluation and there is no explicit Mandatory or Required requirement.”
Number of Uses at Place/County/MSA Level – Mandatory (i.e., Statutory)	Number of uses at the place level is defined as the number of occasions a federal agency cited that this variable satisfied the requirement for places, counties, and Metropolitan Statistical Areas (MSAs). Mandatory is defined as “federal law explicitly calls for use of Census Bureau, decennial census or ACS data on that variable.”
Number of Uses at Place/County/MSA – Required	Number of uses at the place level is defined as the number of occasions a federal agency cited that this variable satisfied the requirement for places, counties, and MSAs. Required is defined as “A federal law (or implementing regulation) explicitly requires the use of data and the decennial census or the ACS is the historical source; or the data are needed for case law requirements imposed by the U.S. federal court system.”
Number of Uses at Place/County/MSA Level – Programmatic	Number of uses at the place level is defined as the number of occasions a federal agency cited that this variable satisfied the requirement for places, counties, and MSAs. Programmatic is defined as “the data are needed for program planning, implementation, or evaluation and there is no explicit Mandatory or Required requirement.”
Number of Uses at State/National Level – Mandatory (i.e., Statutory)	Number of uses at the national level is defined as the number of occasions a federal agency cited that this variable satisfied the requirement for states and the nation. Mandatory is defined as “federal law explicitly calls for use of Census Bureau, decennial census or ACS data on that variable.”
Number of Uses at State/National Level – Required	Number of uses at the national level is defined as the number of occasions a federal agency cited that this variable satisfied the requirement for the states and the nation. Required is defined as “A federal law (or implementing regulation) explicitly requires the use of data and the decennial census or the ACS is the historical source; or the data are needed for case law requirements imposed by the U.S. federal court system.”
Number of Uses at State/National Level – Programmatic	Number of uses at the national level is defined as the number of occasions a federal agency cited that this variable satisfied the requirement for the states and the nation. Programmatic is defined as “the data are needed for program planning, implementation, or evaluation and there is no explicit Mandatory or Required requirement.”
County-Level Interquartile Range in Values	One “value of interest” (i.e., estimate) will be chosen for each variable (for example percentage of population with high school diploma or percentage of population who are Hispanic) and the inner quartile range of the geographic distribution throughout counties (based on 5-year estimates) will be calculated.
Used to Select Frame for a Federal Survey	This variable is used to select the sampling frame for a federal survey.
Other Data Sources Exist	Substitute or alternative information on this variable is currently available or could be obtained with minimal effort from another data source.

Benefits	Description
Median County-Level Coefficients of Variation	One “value of interest” will be chosen for each variable (for example population with a high school diploma or Hispanic population) and the coefficient of variation at the 5-year county-level will be calculated. The median value of all county-level coefficients of variation will be scored.

Costs	Description
Cognitive Burden Score	The CATI Telephone Operator or the CAPI Field Representative (FR) identified that: <ul style="list-style-type: none"> <li>- Respondents find the question confusing</li> <li>- Requires probing, or</li> <li>- Respondents have to retrieve information to answer</li> </ul>
Sensitivity Score	The CATI Telephone Operator or the CAPI Field Representative (FR) identified that: <ul style="list-style-type: none"> <li>- Respondent was reluctant to answer, or</li> <li>- Interviewer was uncomfortable asking</li> </ul>
Overall Difficulty Score	This score is composed of responses to any or all of the following questions about this variable: <ul style="list-style-type: none"> <li>- Ranked 4 or 5 on overall difficulty, and</li> <li>- Voted in top three most difficult questions</li> </ul>
Number of Complaints to Census Bureau HQ	This value is comprised of counting the number of complaints on this variable that have been received at call centers and via letters, emails or phone calls to the Census Bureau or program directors.
Median Seconds to Answer	The median value for the time (in seconds) used by respondents to provide information for this variable in the Internet, CATI, CAPI data collection modes.
Median County-Level Item Response Rate	The mid-point of values of the 5-year county-level estimates for the rate at which responses were received for this question/variable.

## Weighting Options

The ICSP Sub-Committee considered two potential weighting options for the Phase I analysis, which focuses on the results of assessing ACS questions relative to benefits and costs (*Assigning Weights to the ACS Content Review Scoring Criteria*, January 2014). (Phase II will assess the potential candidate questions for removal using supplemental information and consultation.) Option 1 provided higher scores for higher numbers of uses. Under this option, uses at the block group/tract; place/county/Metropolitan Statistical Area; or state/national level that are Mandatory, Required, or Programmatic are assigned a score of 0 to 1.0 points based on the number of separate stated uses of the survey question of that type at that level of geography. For example: 0 points for no uses, 0.2 points for 1-5 uses, 0.6 points for 6-10 uses, 1.0 points for more than 10 uses. This option gives the opportunity for higher scores for questions that have more uses. A potential drawback is that although weighting can give higher priority to low levels of geography or mandatory uses, a low number of uses leads to a lower score in that block, which could dilute the weighted score. This could potentially result in a question with more uses at higher levels of geography or with more Programmatic uses may outscore a question with fewer mandatory uses or fewer uses at low levels of geography.

Option 2 provides full scores for any use of a type. Under this option, each level of geography that is Mandatory, Required, or Programmatic would be assigned a score of 0 or 1 points based on the presence of any stated uses of the survey question of that type at that level of geography. The weighted score is not diluted when there are a low number of uses of that type. The

weighting scheme solely determines the relative merit of different types of uses at different levels of geography. This option does not give the opportunity for higher scores for questions that have more uses, which could possibly result in a question with fewer uses outscoring a question with more uses.

The Sub-Committee voted 3 to 2 for Option 1. The Director of the Census Bureau selected Option 1 and the Chief Statistician selected Option 2, which required the two to come to consensus on the approach.

### **Director's Decision and Analysis Implications**

After consultation with the other Sub-Committee members, the Census Bureau Director and OMB's Chief Statistician selected Option 2. Because the Department of Commerce General Counsel must validate over 300 uses as Mandatory, Required, or Programmatic in a short analytic timeframe, Option 2 supports a more focused validation approach. We only need one use that is Mandatory to exclude it from consideration for removal. Additional validated uses will only add to the question's benefits. The additional validation and other supplemental information will be examined during Phase II of the project. The culmination of all analysis, research, and testing will comprise Phase III in the coming years.

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**American Community Survey  
Fiscal Year 2014 Content Review  
Federal Data Collection**

FINAL REPORT

*Gary Chappell, American Community Survey Office  
Cathy Rosol, American Community Survey Office/ERIMAX*



U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. CENSUS BUREAU  
census.gov

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## Executive Summary

### Objective

The overall objective of the American Community Survey (ACS) Federal Data Collection effort was to systematically collect uses of ACS questions by federal agencies, identify the level of geography needed for each use, and provide legal citations supporting each use. The specific objective was to identify potential candidate questions for removal from the ACS using pre-specified criteria.

### Scope

The scope of the data collection effort included 23 federal agencies and two congressional agencies:<sup>1</sup>

1.	Bureau of Economic Analysis (BEA)
2.	Census Bureau
3.	Centers for Disease Control and Prevention (CDC)
4.	Department of Agriculture (USDA_
5.	Department of Education (DoED)
6.	Department of Energy (DOE)
7.	Department of Health and Human Services (HHS)
8.	Department of Homeland Security (DHS)
9.	Department of Housing and Urban Development (HUD)
10.	Department of Justice (DOJ)
11.	Department of Labor (DOL)
12.	Department of the Interior (DOI)
13.	Department of Transportation (DOT)
14.	Department of Veteran's Affairs (VA)
15.	Environmental Protection Agency (EPA)
16.	Equal Employment Opportunity Commission (EEOC)
17.	Federal Communications Commission (FCC)
18.	Federal Reserve Board (FRS)
19.	National Institutes of Health (NIH)
20.	National Science Foundation (NSF)
21.	National Telecommunications and Information Administration (NTIA)
22.	Office of Management and Budget
23.	Social Security Administration (SSA)

<sup>1</sup> The two congressional agencies, the Congressional Budget Office and (CBO) and the Library of Congress (LOC) were not part of the federal use analysis.

## Methodology

In March 2014, the Department of Commerce transmitted letters to federal agencies asking that an appropriate senior official be designated to serve as a point of contact in support of the Content Review in order to coordinate a response back to the Census Bureau regarding the details of their respective agency data uses for ACS questions.

In April 2014, the Census Bureau hosted an ACS Content Review Summit at the Department of Commerce (DOC) Main Auditorium for agency points of contact identified to the DOC for this effort, as well as subject matter experts familiar with the technical and programmatic uses of ACS topics and the legal basis for these uses. The summit emerged from an executive requirement to bring together federal agencies in order to provide a consistent message regarding the purpose of the ACS Content Review, a standard data collection tool, and a timelines for agency data submissions.

The one-day event consisted of morning sessions that provided basic information about the ACS and the Content Review as well as an overview of the process for collecting and analyzing federal agency Mandatory, Required, and Programmatic uses of ACS data<sup>2</sup>. The afternoon session was a detailed walk-through of the data collection submission tool and the timelines for agency data submissions. The summit was well attended. Of the original 22 letters transmitted, 19 of the corresponding agencies were present, as well as the Under Secretary of Commerce for Economic Affairs, the Director and other top officials of the Census Bureau, the Social Security Administration, the Office of Management and Budget, the Government Accountability Office, and the Director of the Committee on National Statistics.

Following the summit, the Census Bureau provided each agency a Data Collection Tool populated with information the agency had previously provided in response to the Office of Management and Budget's data collection process conducted in 2012 (Cass Sunstein memorandum), if available. The tool was provided in spreadsheet format in order to allow agencies to provide detailed information for each use described. This was a significant enhancement from previous exercises, enabling the Census Bureau to collect normalized inputs across all federal agencies and thus analyze responses more efficiently. For each use, agencies were asked to provide any public laws, federal statutes, regulations, or other decisions that require the use of American Community Survey or Census Bureau data and work with their General Counsel's office (OGC) to ensure the citations were accurate. Their General Counsel was asked to confirm in writing that their office reviewed the submission completed by their program contact

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<sup>2</sup> Mandatory – a federal law explicitly calls for use of decennial census or ACS data on that question

Required – a federal law (or implementing regulation) explicitly requires the use of data and the decennial or the ACS is the historical source; or the data are needed for case law requirements imposed by the U.S. federal court system

Programmatic – the data are needed for program planning, implementation, or evaluation and there is no explicit mandate or requirement

and certified that the submission completely and accurately cited the laws corresponding to the agency's uses of the ACS.

Agencies were further asked to provide the geographic level at which the data are needed, the frequency of use, whether or not other data sources exist, and further comments to provide contextual information. Once the agency submission was complete and verification of the legal review by the agency's General Counsel was received, the Department of Commerce General Counsel began their review of the data uses and citations to determine if the uses were Mandatory (i.e., statutory), Required, or Programmatic.

This report directly supports the findings described in the American Community Survey (ACS) Fiscal Year 2014 Content Review Results Final Report. For more information on the ACS Content Review, see the Content Review web page:

[http://www.census.gov/acs/www/about\\_the\\_survey/acs\\_content\\_review/](http://www.census.gov/acs/www/about_the_survey/acs_content_review/)

## 1 Introduction

The purpose of the American Community Survey (ACS) Content Review was to obtain a comprehensive understanding of the usages, justification, and merit of each question on the ACS. The goal was to minimize the reporting burden imposed on a subset of households while providing quality information to federal, state, local and tribal governments along with business decision-makers.

The overall objective of the American Community Survey (ACS) Federal Data Collection effort was to systematically collect uses of ACS questions by federal agencies, identify the level of geography needed for each use, and provide legal citations supporting each use. The specific objective was to identify potential candidate questions for removal from the ACS using pre-specified criteria.

In March 2014, the Department of Commerce (DOC) transmitted letters to 22 federal agencies asking that an appropriate senior official be designated to serve as a point of contact in support of the Content Review in order to coordinate a response back to the Census Bureau regarding the details of their respective agency data uses for ACS questions.

Following receipt of the designated agency point of contact, the original approach to collect federal agency responses was to hold individual meetings with agencies using an open-ended interviewing tool. Instead, the ACS Content Review Summit held in April emerged from an executive requirement to bring together federal agencies in order to provide a consistent message regarding the purpose of the ACS Content Review, a standard data collection tool, and a timelines for agency data submissions.

The Census Bureau hosted the ACS Content Review Summit on April 29, 2014, at the Department of Commerce Main Auditorium for agency points of contact identified to the DOC for this effort, as well as subject matter experts familiar with the technical and programmatic uses of ACS topics and the legal basis for these uses.

The one-day event consisted of morning presentations by Department of Commerce executives, Census Bureau staff, and federal agency representatives who provided basic information about the ACS and the Content Review as well as an overview of the process for collecting and analyzing federal agency Mandatory, Required, and Programmatic uses of ACS data. In the initial planning for the summit, the agenda for the afternoon was a series of four breakout sessions with panel discussions on the four ACS topics that were considered as the highest visibility/burden: Income; Journey to Work; Disability; and, Plumbing Facilities. However, as planning for the summit continued, the goal was to ensure that discussion was not limited to just four topics and ensure that all summit attendees received the same information regarding the data collection effort. This goal could not be met with individual breakout sessions. Thus, the final agenda for the afternoon evolved into a detailed walk-through of the data collection submission tool and the timelines for agency data submissions.

The summit was well attended. Of the original 22 letters transmitted, 19 of the corresponding agencies were present, as well as the Under Secretary of Commerce for Economic Affairs, the Director and other top officials of the Census Bureau, the Social Security Administration, the Office of Management and Budget, the Government Accountability Office, and the director of the Committee on National Statistics. While they were not one of the original agencies who received the March 2014 letter from the Department of Commerce, the Social Security Administration (SSA) requested to participate in the data collection effort.

Following the summit, the Census Bureau provided each agency a Data Collection Tool populated with information the agency had previously provided in response to the Office of Management and Budget's data collection process conducted in 2012 (Cass Sunstein memorandum), if available. The tool was provided in spreadsheet format in order to allow agencies to provide detailed information for each use described. This was a significant enhancement from previous exercises, enabling the Census Bureau to collect normalized inputs across all federal agencies and thus analyze responses more efficiently. For each use, agencies were asked to provide any public laws, federal statutes, regulations, or other decisions that require the use of American Community Survey or Census Bureau data and work with their General Counsel's office (OGC) to ensure the citations were accurate. Their General Counsel was asked to confirm in writing that their office reviewed the submission completed by their program contact and certified that the submission completely and accurately cited the laws corresponding to the agency's uses of the ACS.

Agencies were further asked to provide the geographic level at which the data are needed, the frequency of use, whether or not other data sources exist, and further comments to provide contextual information. Once the agency submission was complete and verification of the legal review by the agency's General Counsel was received, the Department of Commerce General Counsel began their review of the data uses and citations to determine if the uses were Mandatory (i.e., statutory), Required or Programmatic. Then, using pre-specified criteria, a project team began analyzing the data to identify potential candidate questions for removal from the ACS.

Details regarding the summit and data collection are outlined in the methodology below.

## **2 Methodology**

### **2.1 Pre-Summit Emails and Federal Agency Contacts**

Prior to the summit, the Project Lead and sub-team transmitted the following emails:

- Summit invitation with a registration form and preliminary agenda
- Registration confirmation
- Summit reminder with three attachments: (1) Logistics; (2) Agenda; and, (3) ACS Content Review Extranet Guide

Additionally, the sub-team did regular telephone follow-up with agencies that had not provided a point of contact and/or had not registered for the summit.

## **2.2 Participant Folders**

Each summit attendee received an information packet with the following items. The materials that are available electronically are included as attachments to this report.

- Summit Agenda
- ACS Content Review FAQs
- ACS Content Review Extranet Guide
- ACS Content Review Data Collection Tool Guide
- Sample Data Collection Tool tailored to their agency
- ACS Topic Information for Disability, Income, Journey to Work, and Plumbing Facilities
- Summit presentation slides
- ACS Data Wheel
- ACS Information Guide
- Sample American Community Survey

## **2.3 Post-Summit Activities**

The summit sub-team employed a variety of activities to assist and encourage federal agencies to submit their data uses. The activities are outlined below.

### **2.3.1 One-on-One Direct Agency Support**

Following the summit, sub-team members devoted many hours and a high level of effort providing the following customized direct agency support:

- Responding to federal agency questions regarding access to the data collection tool and data submission requirements via phone calls and emails
- Follow-up phone contact and emails to agencies who had not yet completed their submission
- Follow-up phone contact and emails to agencies who had not provided an official letter from their General Counsel's office certifying their legal review
- Follow-up emails tailored to each agency with reminder submission deadlines
- Participating in a twice-weekly chat line with federal agencies
- Designing a multitude of tailored tools for sub-agencies
- Designing tailored templates for the agency's Office of General Counsel (OGC) review
- Designing tailored tools and templates for Census Bureau legal team review of agency OGC submissions

- Participating in twice-weekly meetings with the Census Bureau's legal team to review the status of receipt of letters from agency General Counsels, as well as the status of the Department of Commerce's legal review.
- Daily status tracking of the data collection tool submission and the agency's OGC review

This customized level of support represented a paradigm shift from the original concept of conducting many site visits and follow up visits to individual agencies.

### **2.3.2 Twice Weekly Chat Line**

Beginning May 1, 2014 and continuing through the June 19, 2014 data submission deadline, the project team facilitated a twice-weekly ACS Content Review chat line to provide an opportunity for federal agencies to consult with ACSO subject matter experts and ask questions about the Content Review and the Data Collection Tool. Census Bureau representation included the summit project team, ACSO subject matter experts, and the Census Bureau's legal team. Approximately three to five federal agencies participated in each chat line session.

### **2.3.3 Extranet Discussion Board and Team Mailbox**

The project team set up a discussion board on the SharePoint extranet site where federal agencies could post questions/discussions about the ACS Content Review. Additionally, the team established an option to email questions to the ACS Content Review team. The discussion board and mail box were monitored by the ACS Content Review team, and responses were provided either via email or phone contact.

### **2.3.4 Update/Reminder Emails**

Following the summit, the Project Manager and project team transmitted the following emails:

- Thank you email with final presentation slide deck and information about the options for assistance: (1) twice-weekly chat line; (2) extranet discussion board; and, (3) team mailbox
- Update email with a copy of the Commerce General Counsel letter sent to the federal agency Counsel's Office supporting the legal review of citations linked to the uses of ACS topics the agency documented as part of the Content Review, as well as recommended language federal agencies could use for corresponding with their General Counsel's Office. The email also included updated deadlines and a reminder of the options for assistance.
- Reminder email for the June 5th deadline
- Reminder email for the June 19th deadline
- Email to agencies who had not yet completed their submission that the final date to submit or make revisions to their submission was July 18

## 2.4 Data Collection Submission Tool and General Counsel Legal Review

Each of the federal agencies was provided a Data Collection Tool populated with information the agency had previously provided in response to the Office of Management and Budget's data collection process conducted in 2012 (Cass Sunstein memorandum), if available. If that information was not available, they were given a blank tool with examples. The Data Collection Tool for each agency was uploaded to an extranet site, and the program contact had the option of completing the spreadsheet online or downloading it to complete offline, providing the following information:

- Step 1: Describe your agency's use of ACS statistics, with an emphasis on whether the use affects small communities.
- Step 2: For each use, list any public laws, federal statutes, regulations, or other decisions that require the use of American Community Survey or Census Bureau data.
- Step 3: For each use, list whether it can or cannot be accomplished without the ACS.
- Step 4: Provide detailed justification to explain why the ACS is essential for this data use.
- Step 5: List the lowest level geography needed for this data use.
- Step 6: List the size and scope of the stakeholder groups involved in each use.
- Step 7: Review the information provided for completeness.
- Step 8: Provide any additional information about this use that should be considered.

For each ACS use, agencies were asked to provide any public laws, federal statutes, regulations, or other decisions that require the use of American Community Survey or Census Bureau data and work with their General Counsel to ensure the citations were accurate. Their General Counsel was asked to confirm in writing that their office reviewed the submission completed by their program contact and certified that the submission completely and accurately cited the laws corresponding to the agency's uses of the ACS.

Agencies were given three submission deadlines:

- Agency uses involving the Plumbing Facilities, Disability, Journey to Work Topics
- Agency uses involving the Income Topic
- Agency uses involving all other Topics

The original deadlines were extended based on feedback from the agencies, that in order to adequately respond to the Census Bureau's ACS Content Review, they needed additional time.

As the Data Collection Tools were received, ACSO staff performed an initial quality control check to ensure the agency had provided: (1) the lowest level of geography needed; (2) citations for each ACS data use; and, (3) detailed justification by ACS topic. If the Data Collection Tool was not complete, the project team contacted the agency via email or phone to provide assistance in completing the submission. Once the submission was complete and verification of the legal review by the agency's General Counsel was received, the Department of Commerce (DOC)

Office of General Counsel (OGC) began their review of the data uses and citations to determine if the uses were Mandatory (i.e., statutory), Required or Programmatic.

The legal definitions used in the DOC OGC validation process included:

- Mandatory – a federal law explicitly calls for use of decennial census or ACS data on that question
- Required – a federal law (or implementing regulation) explicitly requires the use of data and the decennial census or the ACS is the historical source; or the data are needed for case law requirements imposed by the U.S. federal court system
- Programmatic – the data are needed for program planning, implementation, or evaluation and there is no explicit mandate or requirement

The required minimum threshold of information considered necessary for the DOC OGC to review and adjudicate each agency use included: (1) clear statement of the federal use; (2) complete legal citation; and, (3) identification of questions connected to the use and citation. Until validated by the DOC OGC, each federal data use was considered Programmatic. If a statute explicitly stated to use the ACS or the decennial census as the data source, then the use was deemed Mandatory. If a statute did not explicitly state to use the ACS or the decennial census as the data source, but the decennial census or the ACS is the historic source, then the use is Required.

### **3 Assumptions and Limitations**

#### **3.1 Assumptions**

- The Sunstein-responding Agencies would form the core of the federal responses.
- The Census Bureau would work with federal agencies to identify a Point of Contact (POC) and Subject Matter Experts (SMEs) at each agency.
- The Census Bureau would issue a formal invitation to agencies to attend a 1-day American Community Survey Content Review Summit on April 29, 2014 to kick off the Content Review.
- After the Summit, the Census Bureau would continue the process of gathering information, scheduling meetings with individual agencies as needed.
- Beginning May 1, 2014 federal agencies would provide documentation of their known uses of ACS data.
- As information from federal agencies was received, the Census Bureau would work with the Department of Commerce (DOC) Office of General Counsel (OGC) to review the legal basis for each use of ACS data cited by a federal agency.

#### **3.2 Limitations**

- Because the letter from Department of Commerce Deputy Secretary asking that federal agencies designate a point of contact was not mailed until March 14, ensuring that

appropriate representatives from each federal agency attended the summit was very challenging.

- The decision to hold the summit was made less than two months prior to the event, which made planning and preparation challenging.
- The workload for the DOC OGC precluded validating all uses prior to the results deadline. As a result, we prioritized DOC OGC work to ensure they reviewed all questions where a Mandatory or Required use for the three geographic levels was identified by the federal agencies.

## 4 Results

The table below shows the number of uses of ACS data for each federal agency participating in the Content Review.

**Table 1: Summary of Data Collection Results**

Federal Agency		Number of ACS Uses
1.	Bureau of Economic Analysis (BEA)	5
2.	CDC Centers for Disease Control and Prevention (CDC)	Included with HHS
3.	Census Bureau	4
4.	Department of Education (DoED)	19
5.	Department of Energy (DOE)	10
6.	Department of Health and Human Services (HHS)	78
7.	Department of Homeland Security (DHS)	0
8.	Department of Housing and Urban Development (HUD)	26
9.	Department of Justice (DOJ)	17
10.	Department of Labor (DOL)	21
11.	Department of the Interior (DOI)	3
12.	Department of Transportation (DOT)	34
13.	Department of Veteran's Affairs (VA)	9
14.	Environmental Protection Agency (EPA)	27
15.	Equal Employment Opportunity Commission (EEOC)	15
16.	Federal Communications Commission (FCC)	2
17.	Federal Reserve Board (FRS)	6
18.	National Institutes of Health (NIH)	Included with HHS
19.	National Science Foundation (NSF)	3
20.	National Telecommunications and Information Administration (NTIA)	1
21.	Office of Management and Budget (OMB)	1
22.	SSA (Social Security Administration)	3
23.	USDA (Department of Agriculture)	25
<b>Total</b>		<b>309</b>

## **5 Summary**

This report summarizes the steps followed to gather input from federal agencies participating in the ACS Fiscal Year 2014 Content Review. Given the complexity and level of effort for this endeavor, the Census Bureau is taking into consideration lessons learned from this project and developing guidelines to provide a repeatable, efficient process for future content reviews.

**American Community Survey  
Fiscal Year 2014 Content Review  
Median County-Level  
Coefficients of Variation of Key  
Estimates from ACS Data**

FINAL REPORT

*Sarah Heibel, Decennial Statistical Studies Division*

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## **1 Introduction**

The American Community Survey Office (ACSO) is conducting a review of the content on the American Community Survey (ACS). The ACS Content Review examines multiple facets of the ACS, reviewing key survey measures and conducting meetings with the survey's stakeholders and the general public.

One component of the ACS Content Review used the coefficient of variation (CV) to measure the sampling error associated with each question on the ACS questionnaire. The CV assesses how reliable an estimate is; it is one of the Census Bureau's statistical quality standard measures.

A CV of an estimate associated with a particular ACS question was calculated for each of the 3,143 counties (or county-level equivalents) in the United States. The median of these county-level CVs is reported in this paper.

These results will be combined with eighteen other metrics to inform a decision about the future of questions on the ACS. The nineteen metrics were designated in the ACS Content Review process as either being a 'cost' (i.e., the question has a high number of complaints from respondents to Census, or the question takes a relatively long time for the respondent to answer) or a 'benefit' (i.e., the question is used to provide estimates that are statutorily required or is used for establishing the frame of another federal survey). The CV results were considered in the 'benefit' category of the ACS Content Review; estimates with a small county-level median CV indicate that the sampling error is small relative to the estimate, and therefore the user can be more confident that the estimate is close to the population value.

This report directly supports the findings described in the American Community Survey (ACS) Fiscal Year 2014 Content Review Results Final Report. For more information on the ACS Content Review, see the Content Review web page:

[http://www.census.gov/acs/www/about\\_the\\_survey/acs\\_content\\_review/](http://www.census.gov/acs/www/about_the_survey/acs_content_review/)

## **2 Methodology**

### **2.1 Data Collection Mechanism/Tool**

The ACS is an annual survey that provides current demographic, social, economic, and housing information about America's communities. There were 125 distinct questions identified on the ACS questionnaire for analysis in the Content Review. These included person-level questions such as age, relationship status, level of educational attainment, place of birth, and marital status. Housing-level questions included the type of building where the respondent resides, how many rooms exist in the home, and what type of fuel is used for heating. Subsequent discussion of the questions identifies them by number (as found on the paper questionnaire), with either a P or H prefix to designate whether the question is a person-level or housing-level question.

Each question on the ACS questionnaire was defined using one specific estimate which is generated from that question. For instance, the ACS asks each person to identify their sex. The percent of females was designated as the corresponding estimate of interest from the ACS question about a person's sex. That estimate (the percent of females) and the corresponding CV were calculated for each county (and county-level equivalent) in the United States. This research is only interested in the distribution of CVs across all 3,143 counties, not in the value of the estimates themselves.

The specific estimates that were used in this research were identified by Census Bureau subject matter experts as key estimates associated with each question, due to their importance either for legislative reasons or as one of the most interesting estimates to analysts. For example, the question on relationship status is used to create multiple estimates, such as how many people are the spouse of a householder, how many people are the children of the householder, how many people are the parent of the householder, etc. Only one measure was used from the relationship question in this research however; specifically, what percent of people in each county are the child of a householder.

For the ACS Content Review, a county-level CV was determined to be associated with each question. From the 3,143 counties, the median CV was identified for each question, resulting in 125 CVs, one each per question of interest on the ACS. The median CVs were grouped into one of three clusters: low, medium or high CVs. The ACS questions with the highest median CVs were the least beneficial, while the lowest median CVs were the most beneficial.

## **2.2 Universe**

ACS questionnaires from the 2008-2012 5-year data collection were included in this research. Specifically, eligible returns were those received from January 1, 2008 until December 31, 2012. A small number of CVs had to be calculated using alternate years of collection, which will be discussed under Limitations in Section 3.2.

All returns from Puerto Rico were excluded. Questionnaires from Group Quarters were included in the person-level analysis as applicable; for instance, no question on relationship status is asked of persons in Group Quarters.

Completed returns are grouped by their county or county equivalent. For instance, parishes in Louisiana are treated as counties. All references to 'counties' in this documentation also includes these county equivalents.

## **2.3 Research Question(s) of Interest**

The research questions of interest are:

- 1) What was the median county-level CV for each pre-identified estimate?
- 2) How do the median CVs compare to each other?

The CV was chosen as the measure of variability for the ACS Content Review project because CVs can be compared across all estimates, whether percentages or medians.

In the ACS Content Review analysis, it is considered a ‘benefit’ to have a low median county-level CV. Final estimates might not be reliable for data users if they have a high CV and thus a high sampling error.

## **2.4 Analysis Design**

Estimates and their standard errors were calculated for each county in the United States. These statistics were used to find the coefficient of variation, whereby  $CV_{\text{estimate}} = (\text{standard error}_{\text{estimate}}) / (\text{estimate})$ .

Estimates are calculated using final ACS weights.

Some CVs were calculated using existing estimates that had been produced for derived products on American FactFinder. Other CVs were defined and calculated using ACS microdata or base tables since there was not a published estimate that could be directly tied to the question.

If a county had an estimate of zero percent, then the CV for that county was undefined, as the denominator in the CV formula equaled zero. For instance, there were no persons in Kalawao County, Hawaii with a relationship of child; the county had a population of 90 in the 2010 census and no persons under sixteen years of age can live there, due to special circumstances involving its former status as a leper’s colony. On the other hand, some counties had estimates of 100%; for instance, when all housing units in a county have a refrigerator. If an estimate is equal to either 0 or 100, then the standard error of the estimate is modeled (instead of the standard method using replicate weights). The CVs for estimates of 100% (and 0%) are considered unstable; thus, counties with estimates of 100% or 0% were excluded from this analysis. For each question, the number of counties included in the median calculation (that is, the number of counties with an estimate not equal to 0 or 100) is listed in the table of results in Section 4.

The SAS® PROC MEANS procedure found the median CVs. For the ACS Content Review, the median county-level data was to be grouped into three clusters of low, medium and high CVs. The SAS® PROC FASTCLUS procedure was used to perform the clustering. The cluster results are shown in Section 4 with the median CVs.

## **3 Assumptions and Limitations**

All assumptions or limitations that apply to the production estimates also apply to this research, as mentioned in the documentation found at

[http://www.census.gov/acs/www/data\\_documentation/documentation\\_main/](http://www.census.gov/acs/www/data_documentation/documentation_main/)

In addition, the following assumptions and limitations that are unique to this research are given below.

### **3.1 Assumptions**

The definition of what constituted a question was determined in the larger ACS Content Review process.

There are instances where one estimate (and thus one CV) is derived from multiple ACS questions. For instance, ACS person-level questions 42, 43, and 44 are used jointly by analysts to define the concept of Industry of Employment. Question 42 asks what the name is of the person's employer. It was not feasible to have an estimate for this question that was applicable nation-wide. One estimate for industry and the corresponding CVs were calculated (specifically, percent of persons in educational services, health care, or social assistance). The median CV for that one estimate was attributed to all three ACS questions, P42, P43, and P44.

P45 and P46 were similarly combined, for the concept of Occupation.

Two ACS questions collect address information: P15b (residence one year ago) and P30 (place of work). All address components are collected for these questions, but one distinct component had to be chosen for the estimate of interest in this research. For P15b, subject matter experts identified the estimate of interest to focus on state of residence while the estimate of interest focused on county of employment for P30.

### **3.2 Limitations**

Identifying a key estimate was necessary in order to attain one median CV to represent each ACS question. A different collection of estimates would have altered the clustering algorithm and possibly led to some estimates being in a different cluster than presented in this research.

If there was not a 5-year estimate available for a question, then 1-year or 3-year data was used instead. Standard errors were adjusted to simulate 5-year results.

- H9, H10, and H11: Computer and internet access
  - These questions were added to the ACS questionnaire in 2013. There is only one year of data collected for these estimates so far. CVs were calculated using the 1-year data instead of the 5-year data.
- P12: Field of Degree
  - This question was added to the ACS questionnaire in 2009. Since the 2009-2013 ACS 5-year data have not yet been released, a CV was calculated from the most recent three-year data (2010-2012).

For estimates close to zero, the CV may be unstable.

## 4 Results

In the following section, we answer the research questions that were posed in Section 2.3.

Table 1 shows the median county-level CV per question, sorted with the highest (least beneficial) CV cluster on top. The highest median county-level CV was 0.5301, on the question asking whether a person has Indian Health Service health insurance.

**Table 1. Median County-Level Coefficient of Variation per ACS Question, Sorted by Median Value**

ACS Question Number	Question Topic	Specific Estimate of Interest <sup>1</sup>	Number of Counties Included	Median County CV	Cluster
P16g	Indian Health Services insurance	Percent of the civilian non-institutionalized population who have Indian Health Service insurance	2460	0.5301	High
H16.2	Condo fee	Percent of owner-occupied housing units with a condo fee from \$100 to \$500 per month	2175	0.4286	High
H18a	Monthly rent	Percent of renter-occupied housing units (with cash rent) that pay rent of \$1000 to \$1249 per month	2291	0.4219	High
P29b	Any work for pay last week	Percent of persons 16 and older who did not work for pay at a job but did do some work for pay	3070	0.3537	High
P47f	Income from public assistance	Median public assistance income for persons 15 and over	3007	0.3491	High
P21c	Divorced in last year	Percent of women aged 15 or older who were divorced in the last 12 months	3019	0.3372	Medium
P21b	Widowed in last year	Percent of women aged 15 or older who were widowed in the last 12 months	3081	0.3131	Medium
P35c	Informed of recall to work	Of persons 16 and over who were not at work last week and not on layoff, percent who were informed of a recall	2880	0.3081	Medium

<sup>1</sup> More information about these terms (such as housing unit, civilian, and foreign-born) can be found in the ACS Subject Definitions documentation, located at [http://www.census.gov/acs/www/Downloads/data\\_documentation/SubjectDefinitions/2013\\_ACSSubjectDefinitions.pdf](http://www.census.gov/acs/www/Downloads/data_documentation/SubjectDefinitions/2013_ACSSubjectDefinitions.pdf)

ACS Question Number	Question Topic	Specific Estimate of Interest <sup>1</sup>	Number of Counties Included	Median County CV	Cluster
P21a	Married in last year	Percent of women aged 15 or older who were married in the last 12 months	3099	0.2778	Medium
H11g	Internet subscription: Other internet service	Percent of households with other Internet service	2614	0.2555	Medium
P35b	Temporarily absent from work	Of persons 16 and over who were not at work last week and not on layoff, percent who were temporarily absent	3133	0.2408	Medium
P28b	VA disability rating	Percent of service-connected disability veterans with a rating of 10 or 20%	3067	0.2355	Medium
P47c	Income from interest	Median income from interest for persons 15 and over	3143	0.2329	Medium
P14c	English fluency	Of people aged 5 and older who speak Spanish at home, percent who speak English less than very well	3027	0.2289	Medium
P35a	Layoff	Of persons aged 16 and over who did not work last week, percent who are on layoff	3100	0.2032	Medium
P17b	Difficulty seeing	Percent of the civilian non-institutionalized population aged 18 to 64 year olds who have vision difficulty	3127	0.2030	Medium
P25c	Length of time grandparent caring for child	Percent of grandparents responsible for grandchildren who have been responsible for three years or more	2905	0.2025	Medium
P24	Given birth in last year	Births per 1,000 women ages 15 to 50	3130	0.2005	Medium
P18c	Difficulty dressing	Percent of the civilian non-institutionalized population aged 18 to 64 year olds who have self-care difficulty	3124	0.1958	Medium
P16e	TRICARE or military insurance	Percent of the civilian non-institutionalized population who have TRICARE or a military health insurance plan	3126	0.1957	Medium
P47b	Income from self-employment	Median income from self-employment for persons 15 and over	3140	0.1841	Medium
P25a	Presence of grandchildren	Percent of adults aged 30 or over who live with grandchildren	3109	0.1833	Medium

ACS Question Number	Question Topic	Specific Estimate of Interest <sup>1</sup>	Number of Counties Included	Median County CV	Cluster
H9c	Other computer (e.g., tablet)	Percent of households with an other computer	3008	0.1790	Medium
H11a	Internet subscription: Dial-up	Percent of households with dial-up Internet service	3032	0.1766	Medium
P28a	Presence of VA disability rating	Percent of veterans with a service-connected disability	3129	0.1715	Medium
H11d	Internet subscription: Fiber-optic internet service	Percent of households with fiber-optic Internet service	2994	0.1692	Medium
P17a	Difficulty hearing	Percent of the civilian non-institutionalized population aged 18 to 64 year olds who have hearing difficulty	3139	0.1652	Medium
P25b	Grandparent responsible for child	Percent of grandparents living with grandchildren who are responsible for most of their basic care	3038	0.1619	Medium
P8w	Year of naturalization write-in	Percent of naturalized foreign-born persons who were naturalized before 2000	2819	0.1584	Medium
P7	Place of birth	Percent of people who are foreign-born	3133	0.1472	Medium
P12	Undergraduate field of degree	Percent of people at least 25 years old with a bachelor's degree who have a degree in Business	3132	0.1431	Medium
P19	Difficulty doing errands	Percent of the civilian non-institutionalized population aged 18 to 64 year olds who have independent living difficulty	3133	0.1426	Medium
P18a	Difficulty remembering	Percent of the civilian non-institutionalized population aged 18 to 64 year olds who have cognitive difficulty	3141	0.1373	Medium
H23b	Second mortgage amount	Percent of owner-occupied housing units with a mortgage and with a second mortgage that have a second mortgage of \$100 to \$299 per month	3010	0.1366	Medium
P14b	Language at home	Percent of people aged 5 and older who speak Spanish at home	3125	0.1360	Medium

ACS Question Number	Question Topic	Specific Estimate of Interest <sup>1</sup>	Number of Counties Included	Median County CV	Cluster
P47h	Income from other sources	Median income from other sources for persons 15 and over	3141	0.1353	Medium
H11f	Internet subscription: Satellite	Percent of households with satellite Internet service	3105	0.1240	Low
P16f	Health insurance through VA	Percent of the civilian non-institutionalized population who have health insurance through the VA	3140	0.1219	Low
P8	Citizen	Percent of foreign-born persons who are not citizens	3040	0.1169	Low
P32	How many people in carpool	Percent of workers who carpooled to work	3139	0.1148	Low
P36	Actively looking for work	Percent of the population 16 and over who are actively looking for work	3137	0.1143	Low
P18b	Difficulty walking	Percent of the civilian non-institutionalized population aged 18 to 64 year olds who have ambulatory difficulty	3140	0.1098	Low
P14a	Foreign language at home	Percent of people aged 5 and older who speak a language other than English at home	3138	0.1055	Low
H19	Home value	Percent of owner-occupied housing units with a value of \$150,000 to \$199,999	3139	0.1040	Low
P15a	Moved in last year	Percent of people aged 1 or over who lived in a different house a year ago	3142	0.0962	Low
P37	Availability for labor force	Of persons 16 and over who were not at work last week and not on layoff, percent who were available for work	3141	0.0948	Low
H20	Real estate taxes	Percent of owner-occupied housing units with a mortgage that have taxes of \$800 to \$1,499 per year	3138	0.0943	Low
H24	Mobile home costs	Percent of owner-occupied mobile homes that have mobile home costs	3090	0.0941	Low
H2	Year residence was built	Percent of housing units that were built from 2000 to 2009	3141	0.0931	Low
H15	Food stamps	Percent of households that received food stamps or SNAP in the last 12 months	3137	0.0908	Low

ACS Question Number	Question Topic	Specific Estimate of Interest <sup>1</sup>	Number of Counties Included	Median County CV	Cluster
P33	Time of departure for work	Percent of workers, who did not work at home, leaving for work from 7:00am to 7:29am	3143	0.0900	Low
P47g	Income from retirement	Median income from retirement for persons 15 and over	3142	0.0889	Low
P27	Period of military service	Percent of persons who have been on active duty in the Armed Forces who are Vietnam veterans	3141	0.0883	Low
P22	Number of times married	Percent of females aged 15 and older who have been married exactly twice	3142	0.0744	Low
P47e	Income from Supplemental Security Income	Median income from Supplemental Security Income for persons 15 and over	3106	0.0710	Low
P16d	Medicaid	Percent of the civilian non-institutionalized population who have Medicaid	3143	0.0680	Low
P16b	Health insurance from insurance company	Percent of the civilian non-institutionalized population who have health insurance through an insurance company	3143	0.0668	Low
H11c	Internet subscription: Modem	Percent of households with cable modem Internet service	3120	0.0656	Low
H22b	Monthly mortgage payment	Percent of owner-occupied housing units (with a mortgage) with a mortgage of \$500 to \$999 per month	3138	0.0647	Low
P42-44	Industry of employment	Percent of workers in educational services, health care, or social assistance	3143	0.0645	Low
P13	Ancestry	Percent of people with German ancestry	3143	0.0639	Low
H14c	Cost of water for home	Percent of owner-occupied housing units with water and sewer costs between \$500 and \$1,000 in the last 12 months	3140	0.0637	Low
P26	Military service	Percent of civilians aged 18 and older who are veterans	3143	0.0634	Low
H7a	Number of rooms in house	Percent of housing units with exactly five rooms	3143	0.0619	Low

ACS Question Number	Question Topic	Specific Estimate of Interest <sup>1</sup>	Number of Counties Included	Median County CV	Cluster
H11b	Internet subscription: DSL	Percent of households with DSL Internet service	3141	0.0604	Low
H11e	Internet subscription: Broadband plan	Percent of households with mobile broadband Internet	3140	0.0603	Low
H22d	Mortgage includes insurance	Percent of owner-occupied housing units with a mortgage that have insurance included in the mortgage	3139	0.0565	Low
P45&46	Occupation	Percent of workers in management, business, science, or arts field	3143	0.0564	Low
P39b	Worked less than 50 weeks in past 12 months	Of people 16 and over who worked last week, percent who worked less than 50 weeks in the last 12 months	3141	0.0564	Low
H7b	Number of bedrooms in house	Percent of housing units with exactly two bedrooms	3143	0.0545	Low
P20	Marital status	Percent of females aged 15 and older who have never married	3142	0.0540	Low
H22c	Mortgage includes taxes	Percent of owner-occupied housing units with a mortgage that have taxes included in the mortgage	3138	0.0529	Low
H21	Home insurance	Percent of owner-occupied housing units with insurance of \$500 to \$999 per year	3141	0.0493	Low
P23	Year last married	Median duration of current marriage for married, spouse present females aged 15 years and over	3143	0.0455	Low
H13	Type of heating fuel	Percent of occupied housing units using utility gas	3135	0.0452	Low
H12	Number of vehicles	Percent of occupied housing units with exactly two vehicles available	3143	0.0451	Low
P10b	Current grade in school	Percent of the population aged 3 years and older and enrolled in school who are enrolled in grades 1-8	3141	0.0401	Low
P15b	State of residence one year ago	Of people aged 1 and over that lived in a different house a year ago, percent who lived in the same state	3137	0.0386	Low

ACS Question Number	Question Topic	Specific Estimate of Interest <sup>1</sup>	Number of Counties Included	Median County CV	Cluster
P47a	Amount of wages earned	Median amount of wages earned for persons 15 and over	3143	0.0378	Low
P34	Minutes from work to home	Mean travel time to work (in minutes) for workers 16 years and older who did not work at home	3143	0.0372	Low
H3	Date moved in	Percent of occupied housing units where the householder moved into unit from 2000 to 2009	3143	0.0368	Low
H14a	Cost of electricity	Percent of owner-occupied housing units with electricity costs between \$50 and \$150 last month	3143	0.0347	Low
H22a	Have mortgage	Percent of owner-occupied housing units with a mortgage	3141	0.0337	Low
H9b	Handheld	Percent of households with a handheld computer	3142	0.0336	Low
P16a	Health insurance through work	Percent of the civilian non-institutionalized population who have employer-based health insurance	3143	0.0332	Low
P48	Total person income	Median total person income for persons aged 15 and over	3143	0.0329	Low
P2	Relationship	Percent of persons in households that are a child of the householder (biological, adopted, or step)	3141	0.0305	Low
P47d	Amount received from Social Security	Median income from Social Security for persons 15 and over	3142	0.0302	Low
H10	Internet access	Percent of households with an internet subscription	3143	0.0261	Low
P16c	Medicare	Percent of the civilian non-institutionalized population who have Medicare	3143	0.0256	Low
P10a	Attended school recently	Percent of persons aged 3 and over who are enrolled in school	3142	0.0252	Low
P30	County of place of work	Percent of workers who worked in the county of their residence	3142	0.0252	Low

ACS Question Number	Question Topic	Specific Estimate of Interest <sup>1</sup>	Number of Counties Included	Median County CV	Cluster
P40	Hours worked per week	Percent of 16 to 64 year olds who worked 35 or more hours per week	3143	0.0244	Low
P29a	Worked last week	Percent of persons 16 and over who worked for pay at a job last week	3143	0.0243	Low
P39a	Worked 50+ weeks in past 12 months	Of people 16 and over who worked last week, percent who worked 50 or more weeks in the past year	3142	0.0242	Low
H4	Acreage	Percent of one-family housing units or mobile homes that are on less than one acre	3143	0.0237	Low
H9a	Laptop, Desktop	Percent of households with a laptop or desktop	3143	0.0226	Low
P41	Class of worker	Percent of workers who are private wage or salary workers	3143	0.0212	Low
H17	Tenure	Percent of housing units that are owner-occupied	3142	0.0203	Low
H14b	Cost of gas for home	Percent of owner-occupied housing units either with gas not used or at a cost between \$0 and \$100 per month	3142	0.0190	Low
H1	Type of structure	Percent of all housing units that are one-unit detached housing units	3143	0.0179	Low
P38	When last worked	Percent of 16 to 64 year olds who worked in the last 12 months	3143	0.0169	Low
H5	Sales from agriculture	Percent of one-family housing units or mobile homes on more than one acre of land that had no agricultural sales in the last 12 months	3106	0.0166	Low
P9	Year of entry to the U.S.	Percent of foreign-born persons who entered the country before 2010	2134	0.0165	Low
H23a	Second mortgage	Percent of owner-occupied housing units with a mortgage that have no home equity loan	3077	0.0159	Low
H14d	Cost of fuel for home	Percent of owner-occupied housing units with no heating fuel costs in the last 12 months	3141	0.0130	Low

ACS Question Number	Question Topic	Specific Estimate of Interest <sup>1</sup>	Number of Counties Included	Median County CV	Cluster
P11	Educational attainment	Percent of people aged 25 or older with a high school diploma (or higher degree)	3143	0.0121	Low
P31	Mode of transport to work	Percent of workers who took a car, truck or van to work	3143	0.0111	Low
P4	Age	Age dependency ratio	3143	0.0053	Low
H18b	Rent plus meals	Percent of renter-occupied housing units (with cash rent) with complete kitchen facilities that do not have meals included in rent	2112	0.0049	Low
H8g	Have telephone	Percent of owner-occupied housing units with phone service	3063	0.0045	Low
H6	Business on property	Percent of one-family housing units or mobile homes with no business on the property	3128	0.0039	Low
P3	Sex	Percent of all persons that are female	3143	0.0039	Low
P6	Race	Percent of all persons who are of one race	3110	0.0029	Low
H16.1	Condo status	Percent of owner-occupied housing units that are not a condo	2449	0.0026	Low
H8e	Have stove	Percent of occupied housing units with a stove or range	2950	0.0025	Low
H8a	Have running water	Percent of occupied housing units with hot and cold running water	2841	0.0020	Low
H8b	Have toilet	Percent of occupied housing units with a flush toilet	2710	0.0018	Low
H8c	Have bathtub	Percent of occupied housing units with a bathtub or shower	2726	0.0018	Low
H8f	Have refrigerator	Percent of occupied housing units with a refrigerator	2700	0.0018	Low
H8d	Have sink	Percent of occupied housing units with a sink with a faucet	2646	0.0016	Low
P5	Hispanic origin	Percent of all persons who are Hispanic	3116	0	Low

## 4 Summary

A total of five ACS questions were identified with the highest median county-level CV cluster. The five estimates associated with these questions were:

- Percent of persons with Indian Health Service insurance (P16g),
- Percent of condo fees from \$100 to \$500 (H16 write-in),
- Percent of housing units with rent from \$1000 to \$1,249 (H18a),
- Percent of persons sixteen and older who did not work for pay at a job but did do some work for pay (P29b), and
- Median amount of public assistance income (P47f)

These estimates were given the smallest benefit score for this metric in the ACS Content Review.

The middle cluster had 31 estimates, with CVs ranging from 0.3372 to 0.1353.

The remaining estimates were considered to have low CVs in this clustering. The estimates that were clustered into the low category had CVs ranging from 0.124 to 0. These estimates were given the highest benefit score for this metric in the ACS Content Review.

A median county-level CV of zero was assigned to question P5, Hispanic origin. Over half the counties have "controlled" estimates for the Hispanic population, which means the estimate was "controlled" to be equal or nearly equal to the independent population estimate of Hispanics in the ACS weighting process. Controlled estimates are assigned a standard error of zero, so their CV is zero as well.

**American Community Survey  
Fiscal Year 2014 Content Review  
Interquartile Ranges of  
County-Level ACS Data**

FINAL REPORT

*Sarah Heibel, Decennial Statistical Studies Division*

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## **1 Introduction**

The American Community Survey Office (ACSO) is conducting a review of the content of the American Community Survey (ACS). The ACS Content Review examines multiple facets of the ACS, reviewing key survey measures and conducting meetings with the survey's stakeholders and the general public.

One component of the ACS Content Review identified the interquartile range (IQR) of an estimate from each ACS question in order to measure and compare the spread of data across all counties. Statistically, the IQR measures the variety and dispersion of data. It does not measure survey error.

The IQR of an estimate associated with a particular ACS question was calculated for each of the 3,143 counties (or county equivalents) in the United States.

The IQR is one of nineteen metrics being used in the ACS Content Review. These results will be combined with the eighteen other metrics to inform a decision about the future of questions on the ACS. The nineteen metrics were designated as either being a 'cost' (i.e., the question has a high number of complaints from respondents to Census, or the question takes a relatively long time for the respondent to answer) or a 'benefit' (i.e., the question is used to provide estimates that are statutorily required or is used for establishing the frame of another federal survey). The IQR results were considered in the 'benefit' category of the ACS Content Review. An estimate with a high IQR across the counties is more beneficial because it indicates that relatively large differences exist across the country on the topic; this suggests there is a need and benefit to asking the question regularly and in all areas.

This report directly supports the findings described in the American Community Survey (ACS) Fiscal Year 2014 Content Review Results Final Report. For more information on the ACS Content Review, see the Content Review web page:

[http://www.census.gov/acs/www/about\\_the\\_survey/acs\\_content\\_review/](http://www.census.gov/acs/www/about_the_survey/acs_content_review/)

## **2 Methodology**

### **2.1 Data Collection Mechanism/Tool**

The ACS is an annual survey that provides current demographic, social, economic, and housing information about America's communities. There were 125 distinct questions identified on the ACS questionnaire for analysis in the Content Review. These included person-level questions such as age, relationship status, level of educational attainment, place of birth, and marital status. Housing-level questions included the type of building where the respondent resides, how many rooms exist in the home, and what type of fuel is used for heating. Subsequent discussion of the questions identifies them by number (as found on the paper questionnaire), with either a P or H prefix to designate whether the question is a person-level or housing-level question.

Each question on the ACS questionnaire was defined using one specific estimate which is generated from that question. For instance, the ACS asks each person to identify their sex. The percent of females was designated as the corresponding estimate of interest from the ACS question about a person's sex. That estimate (the percent of females) was calculated for each county (and county equivalent) in the United States and then ranked by size.

The interquartile range is the difference between the 75<sup>th</sup> percentile and the 25<sup>th</sup> percentile. A small IQR indicates that the counties are relatively similar in their responses to a given question. The larger the IQR, the more counties differ in respect to the given question.

The specific estimates that were used in this research were identified by Census Bureau subject matter experts as key estimates associated with each question, due to their importance either for legislative reasons or as one of the most interesting estimates to analysts. For example, the question on relationship status is used to create multiple estimates, such as how many people are the spouse of a householder, how many people are the children of the householder, how many people are the parent of the householder, etc. Only one measure was used from the relationship question in this research however; specifically, what percent of people in each county are the child of a householder.

For the ACS Content Review, the IQR for each of the 125 estimates associated with ACS questions was determined and then grouped into one of three clusters: low, medium or high IQRs. The estimates with the highest IQRs were the most beneficial, while the lowest IQRs were the least beneficial.

## **2.2 Universe**

ACS questionnaires from the 2008-2012 five-year data collection were included in this research. Specifically, eligible returns were those received from January 1, 2008 until December 31, 2012. A small number of IQRs had to be calculated using alternate years of collection, which will be discussed under Limitations in Section 3.2.

All returns from Puerto Rico were excluded. Questionnaires from Group Quarters were included in the person-level analysis as applicable; for instance, no question on relationship status is asked of persons in Group Quarters since there is no reference person.

Completed returns are grouped by their county or county equivalent. For instance, parishes in Louisiana are treated as counties. All references to ‘counties’ in this documentation also includes these county equivalents.

## **2.3 Research Question(s) of Interest**

The research questions of interest are:

- 1) What was the interquartile range of estimates for each question on the ACS questionnaire?
- 2) How do the interquartile ranges for each question compare to each other?

## **2.4 Analysis Design**

The 3,143 county-level estimates per ACS question were ordered and the interquartile range was determined, whereby  $IQR_{estimate} = 75^{th} \text{ percentile}_{estimate} - 25^{th} \text{ percentile}_{estimate}$ .

Estimates were calculated using final ACS weights.

Some IQRs were calculated using existing estimates that had been produced for derived products on American FactFinder. Other IQRs were defined and calculated using ACS microdata or base tables since there was not a published estimate that could be directly tied to the question.

The SAS® PROC MEANS procedure calculated the estimates as well as the quartiles of the distribution. The IQR was then calculated from the quartiles. For the ACS Content Review, the county-level IQR results were to be grouped into three clusters of low, medium and high IQRs. The SAS® PROC FASTCLUS procedure was used to perform the clustering.

The initial clustering algorithm identified only two questions in the cluster with high county-level IQRs. The highest IQR, 40.66% on question H13, was an outlier among the distribution of IQRs (using the 1.5\*IQR method of identifying outliers). For purposes of the ACS Content Review, a decision was made to remove question H13 from clustering and recluster the results. The second clustering led to 13 questions being recognized as having beneficially high IQRs. The final results in Section 4 show these 13 questions in addition to question H13 classified in the high cluster.

### **3 Assumptions and Limitations**

All assumptions or limitations that apply to the ACS production estimates also apply to this research, as mentioned in the documentation found at

[http://www.census.gov/acs/www/data\\_documentation/documentation\\_main/](http://www.census.gov/acs/www/data_documentation/documentation_main/). Notably, there is uncertainty with all the estimates, especially for smaller counties. The IQRs used in the Content Review, and listed in Tables 1 and 2, do not incorporate any measure of sampling error.

In addition, the following assumptions and limitations that are unique to this research are given below.

#### **3.1 Assumptions**

The definition of what constituted a question was determined in the larger ACS Content Review process.

There are instances where one estimate (and thus one IQR) represents multiple ACS questions. For instance, ACS person-level questions 42, 43, and 44 are used jointly by analysts to define the concept of Industry of Employment. Question 42 asks what the name is of the person's employer. It was not feasible to have an estimate for this question that was applicable nation-wide. Instead, one estimate for industry was calculated (specifically, percent of persons in educational services, health care, or social assistance). The county-level IQR for that one estimate was attributed to all three ACS questions, P42, P43, and P44.

P45 and P46 were similarly combined, for the concept of Occupation.

Two ACS questions collect address information: P15b (residence one year ago) and P30 (place of work). All address components are collected for these questions, but one distinct component had to be chosen for the estimate of interest in this research. For P15b, subject matter experts identified the estimate of interest to focus on state of residence while the estimate of interest focused on county of employment for P30.

#### **3.2 Limitations**

Identifying a key estimate was necessary in order to attain one IQR to represent each ACS question. A different collection of estimates would have altered the clustering algorithm and possibly led to some estimates being in a different cluster than presented in this research.

The majority of estimates were percentages (such as the percent of females in a county). However, for some ACS questions, the most useful estimates are not percents. For example, question P34 asks how long it takes a person to get a work. The primary county-level estimate of interest from that question is “What was the mean time a person had to travel to get to work?” The IQR of mean travel time was identified but was not clustered with the IQRs of percentage estimates. The ACS questions with atypical estimates that were excluded from clustering are:

- P4 – age dependency ratio
- P23 –median duration of marriage for married females
- P34 – mean travel time to work
- P47a to P47h – median income amount
- P48 – median total income

In the ACS Content Review process, these questions were given the cluster value of 3, indicative of a neutral benefit score for this metric.

If there was not a 5-year estimate available for a question, then 1-year or 3-year data was used instead. Since there is increased sample variation in the 1-year and 3-year data, the IQRs from those datasets could be different than one found ultimately using 5-year data. However, IQRs are relatively stable compared to other measures of spread, so the impact of using 1-year and 3-year data should be minimal. The following questions did not have 5-year data available.

- H9, H10, and H11: Computer and internet access
  - These questions were added to the ACS questionnaire in 2013. There is only one year of data collected for these estimates so far. The estimates and subsequent IQRs were calculated using the 2013 1-year ACS data.
- P12: Field of Degree
  - This question was added to the ACS questionnaire in 2009. Since the 2009-2013 ACS 5-year data have not yet been released, the estimates and IQR were calculated from the most recent three-year data (2010-2012).

## **4 Results**

In the following section, we answer the research questions that were posed in Section 2.3.

Table 1 shows the results in descending order of IQR. Both the ACS question number and a summary of the question content are listed, along with the resulting cluster used in the ACS Content Review.

**Table 1. County-Level Interquartile Range per ACS Question, Sorted by IQR, for Questions with Percent Estimates**

ACS Question Number	Question Topic	Specific Estimate of Interest <sup>1</sup>	Interquartile Range	Cluster
H13	Type of home heating fuel	Percent of occupied housing units using utility gas	40.06	High
H24	Mobile home costs	Percent of owner-occupied mobile homes that have mobile home costs	28.69	High
P30	Place of work - county code	Percent of workers who worked in the county of their residence	28.47	High
P8	Citizenship status	Percent of foreign-born persons who are not citizens	26.09	High
P8w	Year of naturalization write-in	Percent of naturalized foreign-born persons who were naturalized before 2000	25.66	High
H4	Acreage	Percent of one-family housing units or mobile homes that are on less than one acre	24.65	High
H11c	Modem	Percent of households with cable modem Internet service	24.44	High
H22c	Mortgage include real estate taxes	Percent of owner-occupied housing units with a mortgage that have taxes included in the mortgage	23.61	High
P35c	Informed of recall to work	Of persons 16 and over who were not at work last week and not on layoff, percent who were informed of a recall	22.10	High
P24	Fertility	Births per 1,000 women ages 15 to 50	21.21	High
P25c	Length of time grandparent caring for child	Percent of grandparents responsible for grandchildren who have been responsible for three years or more	21.07	High
P25b	Grandparent responsible for child	Percent of grandparents living with grandchildren who are responsible for most of their basic care	20.74	High
H22d	Mortgage include insurance	Percent of owner-occupied housing units with a mortgage that have insurance included in the mortgage	20.43	High
P13	Ancestry	Percent of people with German ancestry	19.96	High
H14b	Cost of utilities (Gas)	Percent of owner-occupied housing units either with gas not used or at a cost between \$0 and \$100 per month	19.05	Medium

<sup>1</sup> More information about these terms (such as housing unit, civilian, and foreign-born) can be found in the ACS Subject Definitions documentation, located at [http://www.census.gov/acs/www/Downloads/data\\_documentation/SubjectDefinitions/2013\\_ACSSubjectDefinitions.pdf](http://www.census.gov/acs/www/Downloads/data_documentation/SubjectDefinitions/2013_ACSSubjectDefinitions.pdf)

<b>ACS Question Number</b>	<b>Question Topic</b>	<b>Specific Estimate of Interest<sup>1</sup></b>	<b>Interquartile Range</b>	<b>Cluster</b>
H20	Taxes	Percent of owner-occupied housing units with a mortgage that have taxes of \$800 to \$1,499 per year	17.61	Medium
H22a	Mortgage	Percent of owner-occupied housing units with a mortgage	17.17	Medium
H9b	Handheld	Percent of households with a handheld computer	15.34	Medium
H23b	Second mortgage amount	Percent of owner-occupied housing units with a mortgage and with a second mortgage that have a second mortgage of \$100 to \$299 per month	15.00	Medium
H5	Agriculture sales	Percent of one-family housing units or mobile homes on more than one acre of land that had no agricultural sales in the last 12 months	14.89	Medium
P28b	VA disability rating	Percent of service-connected disability veterans with a rating of 10 or 20%	14.64	Medium
H10	Internet access	Percent of households with an Internet subscription	14.46	Medium
H14c	Cost of utilities (Water/Sewer)	Percent of owner-occupied housing units with water and sewer costs between \$500 and \$1,000 in the last 12 months	14.20	Medium
H9a	Laptop, desktop	Percent of households with a laptop or desktop	13.80	Medium
P16a	Health insurance through an employer	Percent of the civilian non-institutionalized population who have employer-based health insurance	13.74	Medium
H14a	Cost of utilities (Electricity)	Percent of owner-occupied housing units with electricity costs between \$50 and \$150 last month	13.41	Medium
H11e	Broadband plan	Percent of households with mobile broadband Internet service	13.11	Medium
H11b	DSL	Percent of households with DSL Internet service	13.10	Medium
H21	Insurance	Percent of owner-occupied housing units with insurance of \$500 to \$999 per year	13.09	Medium
H1	Building/Structure type and units	Percent of all housing units that are one-unit detached housing units	12.36	Medium
H14d	Cost of utilities (Heating Fuel)	Percent of owner-occupied housing units with no heating fuel costs in the last 12 months	12.16	Medium

<b>ACS Question Number</b>	<b>Question Topic</b>	<b>Specific Estimate of Interest<sup>1</sup></b>	<b>Interquartile Range</b>	<b>Cluster</b>
H22b	Mortgage amount	Percent of owner-occupied housing units (with a mortgage) with a mortgage of \$500 to \$999 per month	12.02	Medium
P15b	State of residence one year ago	Of people aged 1 and over that lived in a different house a year ago, percent who lived in the same state	11.69	Medium
P38	Year last worked	Percent of 16 to 64 year olds who worked in the last 12 months	11.29	Medium
P29a	Worked last week	Percent of persons 16 and over who worked for pay at a job last week	10.93	Medium
H23a	Second mortgage	Percent of owner-occupied housing units with a mortgage that have no home equity loan	10.30	Medium
P11	Educational attainment	Percent of people aged 25 or older with a high school diploma (or higher degree)	9.78	Medium
P40	Hours worked last week	Percent of 16 to 64 year olds who worked 35 or more hours per week	9.27	Medium
H17	Tenure	Percent of housing units that are owner-occupied	9.21	Medium
P41	Class of worker	Percent of workers who are private wage or salary workers	9.00	Medium
P16d	Medicaid	Percent of the civilian non-institutionalized population who have Medicaid	8.44	Medium
H3	Date moved in	Percent of occupied housing units where the householder moved into unit from 2000 to 2009	8.27	Low
H15	SNAP/Food stamp benefits	Percent of households that received food stamps or SNAP in the last 12 months	8.17	Low
P21a	Married in last year	Percent of women aged 15 or older who were married in the last 12 months	8.14	Low
H19	Home value	Percent of owner-occupied housing units with a value of \$150,000 to \$199,999	8.10	Low
H2	Year built	Percent of housing units that were built from 2000 to 2009	8.07	Low
P20	Marital status	Percent of females aged 15 and older who have never married	8.01	Low
P45, P46	Occupation	Percent of workers in management, business, science, or arts field	7.68	Low
P14a	Language other than English	Percent of people aged 5 and older who speak a language other than English at home	7.44	Low

<b>ACS Question Number</b>	<b>Question Topic</b>	<b>Specific Estimate of Interest<sup>1</sup></b>	<b>Interquartile Range</b>	<b>Cluster</b>
P12	Undergraduate field of degree	Percent of people at least 25 years old with a bachelor's degree who have a degree in Business	7.41	Low
H7a	Number of rooms	Percent of housing units with exactly five rooms	7.05	Low
P28a	Presence of VA disability rating	Percent of veterans with a service-connected disability	6.71	Low
P5	Hispanic origin	Percent of all persons who are Hispanic	6.70	Low
P10b	Grade level	Percent of the population aged 3 years and older and enrolled in school who are enrolled in grades 1-8	6.45	Low
P27	Period of service	Percent of persons who have been on active duty in the Armed Forces who are Vietnam veterans	6.44	Low
P21c	Divorced in last year	Percent of women aged 15 or older who were divorced in the last 12 months	6.29	Low
H7b	Number of bedrooms	Percent of housing units with exactly two bedrooms	6.24	Low
P31	How get to work	Percent of workers who took a car, truck or van to work	6.11	Low
P39a	50+ weeks	Of people 16 and over who worked last week, percent who worked 50 or more weeks in the past year	6.11	Low
P16c	Medicare	Percent of the civilian non-institutionalized population who have Medicare	5.96	Low
P16b	Health insurance from an insurance company	Percent of the civilian non-institutionalized population who have health insurance through an insurance company	5.90	Low
P37	Availability for labor force	Of persons 16 and over who were not at work last week and not on layoff, percent who were available for work	5.85	Low
H11f	Satellite	Percent of households with satellite Internet service	5.65	Low
P39b	Number of weeks	Of people 16 and over who worked last week, percent who worked less than 50 weeks in the last 12 months	5.44	Low
P42 – P44	Industry	Percent of workers in educational services, health care, or social assistance	5.43	Low
P22	Times married	Percent of females aged 15 and older who have been married exactly twice	5.34	Low
P15a	Moved in last year	Percent of people aged 1 and over who lived in a different house a year ago	5.33	Low

<b>ACS Question Number</b>	<b>Question Topic</b>	<b>Specific Estimate of Interest<sup>1</sup></b>	<b>Interquartile Range</b>	<b>Cluster</b>
P36	Actively looking for work	Percent of the population 16 and over who are actively looking for work	5.32	Low
P21b	Widowed in last year	Percent of women aged 15 or older who were widowed in the last 12 months	5.19	Low
P10a	School enrollment	Percent of persons aged 3 and over who are enrolled in school	5.06	Low
H18a	Rent amount	Percent of renter-occupied housing units (with cash rent) that pay rent of \$1000 to \$1249 per month	5.00	Low
P14b	Language	Percent of people aged 5 and older who speak Spanish at home	4.87	Low
H12	Number of vehicles available	Percent of occupied housing units with exactly two vehicles available	4.73	Low
P2	Relationship	Percent of persons in households that are a child of the householder (biological, adopted, or step)	4.48	Low
H11d	Fiber-optic internet service	Percent of households with fiber-optic Internet service	4.43	Low
P9	Year of entry	Percent of foreign-born persons who entered the country before 2010	4.33	Low
P7	Place of birth	Percent of people who are foreign-born	4.26	Low
P18b	Walking/climbing difficulty	Percent of the civilian non-institutionalized population aged 18 to 64 year olds who have ambulatory difficulty	4.25	Low
P33	Time of departure for work	Percent of workers, who did not work at home, leaving for work from 7:00am to 7:29am	3.96	Low
P32	How many in carpool	Percent of workers who carpooled to work	3.58	Low
H9c	Other computer (e.g., tablet)	Percent of households with an other computer	3.17	Low
P26	Veteran status	Percent of civilians aged 18 and older who are veterans	3.14	Low
P18a	Cognitive difficulty	Percent of the civilian non-institutionalized population aged 18 to 64 year olds who have cognitive difficulty	2.83	Low
P19	Outside home difficulty	Percent of the civilian non-institutionalized population aged 18 to 64 year olds who have independent living difficulty	2.56	Low
P14c	How well speak English	Of people aged 5 and older who speak Spanish at home, percent who speak English less than very well	2.36	Low

<b>ACS Question Number</b>	<b>Question Topic</b>	<b>Specific Estimate of Interest<sup>1</sup></b>	<b>Interquartile Range</b>	<b>Cluster</b>
P25a	Grandparents living with grandchildren	Percent of adults aged 30 or over who live with grandchildren	2.27	Low
P35a	Layoff	Of persons aged 16 and over who did not work last week, percent who are on layoff	2.26	Low
H11a	Dial-up	Percent of households with dial-up Internet service	2.25	Low
P17a	Deaf/Difficulty hearing	Percent of the civilian non-institutionalized population aged 18 to 64 year olds who have hearing difficulty	1.72	Low
P3	Sex	Percent of all persons that are female	1.64	Low
P17b	Blind/Difficulty seeing	Percent of the civilian non-institutionalized population aged 18 to 64 year olds who have vision difficulty	1.62	Low
H18b	Rent include meals	Percent of renter-occupied housing units (with cash rent) with complete kitchen facilities that do not have meals included in rent	1.58	Low
P35b	Temporarily absent from work	Of persons aged 16 and over who were not at work last week and not on layoff, percent who were temporarily absent	1.57	Low
H16.1	Condo status	Percent of owner-occupied housing units that are not a condo	1.53	Low
P16e	TRICARE or military plan	Percent of the civilian non-institutionalized population who have TRICARE or a military health insurance plan	1.53	Low
P16f	Health insurance through VA	Percent of the civilian non-institutionalized population who have health insurance through the VA	1.52	Low
P18c	Dressing/Bathing difficulty	Percent of the civilian non-institutionalized population aged 18 to 64 year olds who have self-care difficulty	1.50	Low
H11g	Other internet service	Percent of households with other internet service	1.37	Low
P6	Race	Percent of all persons who are of one race	1.36	Low
H8g	Telephone service available	Percent of owner-occupied housing units with phone service	1.21	Low
H6	Business/Medical office	Percent of one-family housing units or mobile homes with no business on the property	1.07	Low

ACS Question Number	Question Topic	Specific Estimate of Interest <sup>1</sup>	Interquartile Range	Cluster
H16.2	Condo fee	Percent of owner-occupied housing units with a condo fee from \$100 to \$500 per month	1.04	Low
P29b	Any work for pay last week	Percent of persons 16 and older who did not work for pay at a job but did do some work for pay last week	0.70	Low
H8e	Stove or range	Percent of occupied housing units with a stove or range	0.60	Low
H8a	Hot/Cold water	Percent of occupied housing units with hot and cold running water	0.54	Low
H8f	Refrigerator	Percent of occupied housing units with a refrigerator	0.48	Low
H8b	Flush toilet	Percent of occupied housing units with a flush toilet	0.46	Low
H8c	Bathtub/Shower	Percent of occupied housing units with a bathtub or shower	0.45	Low
H8d	Sink with faucet	Percent of occupied housing units with a sink with a faucet	0.42	Low
P16g	Indian Health Services insurance	Percent of the civilian non-institutionalized population who have Indian Health Service insurance	0.25	Low

Table 2 presents the IQRs for the ACS questions that were defined in the ACS Content Review with an estimate that was not a percent. The estimate is identified in the middle column and the IQR is identified in the right column. All of these questions received a cluster value of 3 in the Content Review, considered a neutral benefit score, as a result of their unorthodox estimates.

**Table 2. County-Level Interquartile Range per ACS Question, Sorted by Question Number, for Questions without Percent Estimates**

ACS Question Number	Question Topic	Specific Estimate of Interest	Interquartile Range
P4	Age	Age dependency ratio	<b>11.41</b>
P23	Year last married	Median duration of current marriage for married, spouse present females aged 15 years and over	<b>4.3 years</b>
P34	Minutes from work to home	Mean travel time to work (in minutes) for workers 16 years and older who did not work at home	<b>7.20 minutes</b>
P47a	Income from wages	Median amount of wages earned for persons 15 and over	<b>\$5,347</b>
P47b	Income from self-employment	Median income from self-employment for persons 15 and over	<b>\$4,916</b>
P47c	Income from interest	Median income from interest for persons 15 and over	<b>\$1,004</b>

<b>ACS Question Number</b>	<b>Question Topic</b>	<b>Specific Estimate of Interest</b>	<b>Interquartile Range</b>
P47d	Income from Social Security	Median income from Social Security for persons 15 and over	<b>\$1,573</b>
P47e	Income from Supplemental Security Income	Median income from Supplemental Security Income for persons 15 and over	<b>\$895</b>
P47f	Income from public assistance	Median income from public assistance for persons 15 and over	<b>\$1,142</b>
P47g	Income from retirement	Median income from retirement for persons 15 and over	<b>\$3,120</b>
P47h	Income from other sources	Median income from other sources for persons 15 and over	<b>\$1,374</b>
P48	Total person income	Median total person income for persons 15 and over	<b>\$5,672</b>

## 5 Summary

The ACS question with the highest interquartile range is H13, “Which fuel is used most for heating this housing unit?” The specific estimate used in this research was “What percent of housing units in each county use utility gas?” The county-level IQR for that estimate was 40.06%, which was a high outlier compared to the rest of the IQRs. Upon excluding H13 from the clustering due to its status as an outlier, 13 other questions were identified by the software as being in the high IQR cluster. Overall, the high IQR cluster had IQRs ranging from 40.06% to 19.96%.

There were 27 questions with percent estimates that were identified to be in the middle IQR cluster, ranging from IQRs of 19.05% to 8.44%. The remaining 69 questions with percent estimates had low IQRs, ranging from 8.27% to 0.25%.

There were 12 questions that had non-percent estimates, as shown in Table 2.

**American Community Survey  
Fiscal Year 2014 Content Review  
Interviewer Survey Results**

FINAL REPORT

*Dave Raglin, American Community Survey Office*

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## **1 Introduction**

The American Community Survey Office (ACSO) is conducting a review of the content on the American Community Survey (ACS). The study covers multiple topics ranging from reviewing key survey measures to conducting meetings with the survey's stakeholders and the general public. The purpose of this research was to create estimates that ACSO can use, along with findings from other studies, to help measure the amount of burden the ACS places on its respondents. To do this, we surveyed our telephone contact center and field staff to determine how burdensome they feel each question is.

This report directly supports the findings described in the American Community Survey (ACS) Fiscal Year 2014 Content Review Results Final Report. For more information on the ACS Content Review, see the Content Review web page:

[http://www.census.gov/acs/www/about\\_the\\_survey/acs\\_content\\_review/](http://www.census.gov/acs/www/about_the_survey/acs_content_review/)

## **2 Methodology**

### **2.1 Data Collection Mechanism/Tool**

The ACS is an annual survey that provides current demographic, social, economic, and housing information about America's communities. The survey uses multiple modes of data collection, starting with the self-response modes of Internet and mail, which encourage households in sample to complete and return the survey on their own. Those who choose not to reply by self-response are eligible to be contacted by an interviewer over the telephone (Computer Assisted Telephone Interview (CATI)) or in person (Computer Assisted Personal Interview (CAPI)).

Our telephone contact center interviewers and field representatives have a unique perspective on the survey. They are the people who collect the data from the public, and therefore have an understanding of how our questions are received by the respondents, the cognitive burden they place on respondents, their sensitivity, and their overall difficulty.

Given that, the Census Bureau decided to reach out to our ambassadors all over the country to get their input on our questions. Below are the criteria, determined in 2013, that the survey was designed to address:

Values	Value Criteria	Description	Best Possible	Worst Possible	Scale
Cost	Interviewer Survey – Cognitive Burden Score	This score is comprised of a “yes” response to any or all of the following questions about this variable: - Respondents find it confusing - Requires probing - Respondents have to retrieve information to answer	1 – Interviewers reported “yes” on this variable less than 20 percent of the time.	5 – Interviewers reported “yes” on this variable more than 60 percent of the time.	1: Low (<20%), 3: Moderate (20% - 60%), 5: High (>60%)
	Interviewer Survey – Sensitivity Score	This score is comprised of a “yes” response to any or all of the following questions about this variable: - Respondent was reluctant to answer - Interviewer was uncomfortable asking	1 - Interviewers reported “yes” on this variable less than 20 percent of the time.	5 - Interviewers reported “yes” on this variable more than 60 percent of the time.	1: Low (<20%), 3: Moderate (20% - 60%), 5: High (>60%)
	Interviewer Survey – Overall Difficulty Score	This score is comprised of responses to any or all of the following questions about this variable: - Ranked 4 or 5 on overall difficulty - Voted in top three difficult questions	1 – Interviewers reported these questions as overall most difficult less than 20 percent of the time.	5 – Interviewers reported this variable as overall most difficult more than 60 percent of the time.	1: Low (<20%), 3: Moderate (20% - 60%), 5: High (>60%)

Figure 2-1: Criteria for Interviewer Survey Items

For each question on the ACS, the contact center and field staff were asked six questions. The first five questions were yes/no, and the sixth used a five point Likert scale: Very Difficult, Difficult, Neutral, Easy, and Very Easy.

2014 FR/Interviewer Feedback to ACS Questions

Basic Person Questions

**\* Please answer all 6 questions for each of the ACS survey items listed**

	Do respondents give answers other than the response categories, causing you to probe further to mark an appropriate response category?	Do respondents take longer to respond to the question because they are not able to immediately retrieve information needed to provide an answer?	Do respondents show discomfort or reluctance to answer this question?	Are you uncomfortable asking the question as worded?	How difficult is it to collect responses for this question?
P1 Relationship	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
P2 Sex	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
P3 Age	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
P4 Hispanic Origin	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
P5 Race	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Figure 2-2: First Six Questions on the Interviewer Survey

After answering these six questions for every question on the ACS, they were asked to identify their three most problematic questions.

2014 FR/Interviewer Feedback to ACS Questions		
Problematic Questions		
<p><b>* Using the question labels below as a reference, what are the three (3) most problematic questions for respondents? (Mark up to 3 questions)</b></p>		
<input type="checkbox"/> P1. Relationship	<input type="checkbox"/> H17. Tenure (Rented or Owned)	<input type="checkbox"/> P26. Veteran Status
<input type="checkbox"/> P2. Sex	<input type="checkbox"/> H18. Rent	<input type="checkbox"/> P27. Period of Military Service
<input type="checkbox"/> P3. Age	<input type="checkbox"/> H19. Value of Property	<input type="checkbox"/> P28. VA Service Connected Disability Rating
<input type="checkbox"/> P4. Hispanic Origin	<input type="checkbox"/> H20. Real Estate Taxes	<input type="checkbox"/> P29. Work for Pay
<input type="checkbox"/> P5. Race	<input type="checkbox"/> H21. Insurance	

Figure 2-3: Problematic Questions on the Interviewer Survey

As you can see from the criteria, the first three questions were used to create the cognitive burden score, the next two for the sensitivity score, and the last of the six questions and the problematic question identification for the overall difficulty score.

The survey was conducted between May 1 and June 3, 2014. All eligible staff received an e-mail in late April telling them they could be receiving the survey. On May 1, an e-mail was sent to selected staff with a link to the survey. Reminder e-mails for nonrespondents were sent on May 8 and May 13. Staff were paid for one hour time to complete the survey.

## 2.2 Universe and Sample

The universe of interest was all of the interviewers and coaches in the three Census Bureau Contact Centers in Hagerstown, MD; Jeffersonville, IN; and Tucson, AZ; as well as field representatives and field supervisors working for the ACS. A sample was taken in each regional office and contact center. The sampling rates differed for each regional office, but the rate was the same for the contact centers.

The Regional Office sample met the following requirements:

- Roughly an even split across all Regional Offices
- All 50 states and the District of Columbia were represented (but Puerto Rico was not included)
- The sample was split among staff assigned to urban and rural areas, with a small number of staff assigned to tribal areas (i.e., roughly a 45-45-10 percentage split)

The Regional Office and Contact Center samples met the following requirements:

- All staff selected had been working on the ACS for more than one year, and have conducted at least 10 ACS interviews across the most recent two months
- No more than approximately 5 percent of the sample were supervisors (field supervisors or contact center coaches)

**Table 2-1: Sample Results, Interviewer Survey, By Regional Office/Contact Center**

Type of Office	Location	Eligible	Sampled	Responded	Response Rate	Weight
Regional Office	New York	282	133	121	91.0	2.33
Regional Office	Philadelphia	285	132	123	93.2	2.32
Regional Office	Chicago	331	133	123	92.5	2.69
Regional Office	Atlanta	336	136	126	92.6	2.67
Regional Office	Denver	432	131	121	92.4	3.57
Regional Office	Los Angeles	303	130	119	91.5	2.55
Contact Center	Hagerstown	136	53	53	100.0	2.57
Contact Center	Jeffersonville	453	177	177	100.0	2.56
Contact Center	Tucson	256	100	100	100.0	2.56
Regional Office	Total	1,969	795	733	92.2	NA
Contact Center	Total	845	330	330	100.0	NA
All	Total	2,814	1125	1,063	94.5	NA

The last column is the weight applied to each respondent’s data. It is the number eligible divided by the number responding, and therefore takes into account nonresponse. That weight was applied to all responses from the given regional office and contact center. The weight is needed because the number of people sampled in each regional office was roughly the same even while the number of eligible staff varied quite a bit, and those rates differed from the rate used to sample contact center staff.

### 2.3 Research Question(s) of Interest

This report answers the following research questions:

- 1) What is the percentage answering “yes” to each of the five yes/no questions for each ACS question?
- 2) What is the percentage distribution to the five-point Likert scale question on overall difficulty for each ACS question and what percentage classified the question as one of the three most problematic questions?
- 3) What is the percentage and score for each of the criteria for each ACS question?

### 2.4 Analysis Design

The data were tabulated using the responses from each field or contact center staff member. The data were weighted, depending on the regional office or contact center, as discussed in section 2.2.

The first set of tabulations are the answers to each of the questions in the interviewer survey for each ACS question.

- The percentage who answered yes to:
  - Does the question contain terms or concepts that your respondents find confusing or difficult to understand?
  - Do respondents give answers other than the response categories, causing you to probe further to mark an appropriate response category?
  - Do respondents take longer to respond to the question because they are not able to immediately retrieve information needed to provide an answer?
  - Do respondents show discomfort or reluctance to answer this question?
  - Are you uncomfortable asking the question as worded?
- The percentage who answered Very Difficult, Difficult, Neutral, Easy, and Very Easy to the difficulty question: How difficult is it to collect responses for this question?
- The percentage who identified the ACS question as one of the three most problematic.

The second set of tabulations create the percentages for each of the three criteria for each ACS question.

- The percentage who answered “yes” to at least one of the following three questions (cognitive burden criterion):
  - Does the question contain terms or concepts that your respondents find confusing or difficult to understand?
  - Do respondents give answers other than the response categories, causing you to probe further to mark an appropriate response category?
  - Do respondents take longer to respond to the question because they are not able to immediately retrieve information needed to provide an answer?
- The percentage who answered yes to at least one of the following two questions (sensitivity criterion):
  - Do respondents show discomfort or reluctance to answer this question?
  - Are you uncomfortable asking the question as worded?
- The percentage who answered the following to the difficulty and ranking questions (difficulty criterion):
  - Very Difficult or Difficult to “How difficult is it to collect responses for this question?”
  - Named the ACS question as one of the problematic questions.

### **3 Assumptions and Limitations**

The questions on the interviewer survey are meant to capture information to set the scores for the three criteria. The assumption is that they do a good job in that task.

A limitation to keep in mind is that these data are subjective. We assume that interviewers' answers to this survey accurately reflect their interaction with and concerns indicated by the respondents.

## 4 Results

The following sections analyze the data to answer the research questions in Section 2.3. The tables show the ACS questions in the order they are presented to respondents.

### 4.1 Question Percentage

What is the percentage answering “yes” to each of the five yes/no questions for each ACS question? The weighted percentage of interviewers saying “Yes” to the question are in Table 4.1.1. Here are the questions that go with each column heading:

- Confusing (Confus): Does the question contain terms or concepts that your respondents find confusing or difficult to understand?
- Other Answer (Oth Ans): Do respondents give answers other than the response categories, causing you to probe further to mark an appropriate response category?
- Longer Response Time (Longer): Do respondents take longer to respond to the question because they are not able to immediately retrieve information needed to provide an answer?
- Respondent Discomfort (RespDisc): Do respondents show discomfort or reluctance to answer this question?
- Interviewer Discomfort (IntDisc): Are you uncomfortable asking the question as worded?

**Table 4-1: Percentage of Interviewers Answering “Yes” to the Five Yes/No Questions**

ACS Question	Confus	OthAns	Longer	RespDisc	IntDisc
P1 Relationship	10.2	26.5	5.4	12.7	10.3
P2 Sex	1.6	2.4	1.0	4.0	15.5
P3 Age	2.3	10.8	10.8	35.0	9.8
P4 Hispanic Origin	37.6	42.0	21.0	24.4	14.8
P5 Race	48.9	59.9	29.7	40.2	18.6
H1 Units in Structure	20.5	25.6	30.8	5.2	8.3
H2 Year Structure Built	17.4	26.7	56.5	8.0	7.1
H3 Year Moved into Unit	3.4	11.1	21.0	4.7	7.2
H4 Acreage	23.6	26.0	28.1	6.7	8.0
H5 Agricultural Sales	13.9	13.1	11.2	12.4	8.8
H6 Business or Medical Office on Property	8.3	7.5	3.7	4.1	7.8
H7a Rooms	43.4	55.4	42.3	15.7	13.1
H7b Bedrooms	9.2	18.5	10.7	9.4	7.5
H8a Hot and Cold Running Water	2.7	2.8	1.1	6.7	9.9
H8b Flush Toilet	2.6	2.4	1.0	7.0	11.2

ACS Question	Confus	OthAns	Longer	RespDisc	IntDisc
H8c Bathtub or Shower	2.6	2.4	1.0	7.0	11.2
H8d Sink with Faucet	3.9	3.4	1.4	6.3	10.7
H8e Stove or Range	4.5	4.9	1.6	5.9	9.5
H8f Refrigerator	2.4	2.0	2.0	6.2	10.5
H8g Telephone Service	13.7	16.2	6.7	5.2	9.0
H9 Computer Usage	32.9	36.7	24.4	17.9	13.3
H10 Internet Access	33.6	40.0	29.8	18.0	13.3
H11 Type of Internet Access	79.4	79.3	72.5	25.5	22.4
H12 Vehicles Available	8.3	9.6	6.2	6.3	7.9
H13 House Heating Fuel	13.9	20.4	18.8	5.3	7.9
H14a Electricity Cost	6.5	19.8	56.1	18.5	8.4
H14b Gas Cost	11.5	27.6	59.8	18.0	9.9
H14c Water and Sewer Cost	18.5	36.5	63.5	16.8	10.7
H14d House Heating Fuel Cost	13.3	23.6	49.4	15.3	10.5
H15 Food Stamps	5.0	6.6	5.2	18.0	13.2
H16 Condominium Fees	14.6	14.2	13.2	8.0	9.6
H17 Tenure (Rented or Owned)	6.9	10.7	6.8	9.8	8.3
H18 Rent	1.8	3.9	4.1	14.7	7.9
H19 Value of Property	28.2	42.7	74.1	52.2	12.7
H20 Real Estate Taxes	19.9	30.9	74.1	36.9	9.8
H21 Insurance Costs	20.9	30.6	71.7	32.9	10.3
H22 Mortgage Costs	10.5	15.5	26.9	51.2	13.7
H23 Second Mortgage Costs	15.0	18.5	19.7	31.6	11.1
H24 Mobile Home Costs	29.0	29.1	31.0	15.7	11.6
P7 Place of Birth	7.9	16.8	4.6	11.1	6.6
P8 Citizenship Status	10.9	17.1	12.0	31.4	9.3
P9 Year of Entry	12.7	20.0	37.8	23.9	6.9
P10 School Enrollment	9.4	12.9	5.3	4.6	11.0
P11 Educational Attainment	13.1	26.2	11.8	11.2	8.3
P12 Undergraduate Field of Degree	5.9	12.4	8.4	5.2	7.2
P13 Ancestry	57.3	63.0	51.6	27.9	10.0
P14a Other Language Spoken at Home	5.9	7.8	3.2	3.4	7.2
P14b Language Spoken	3.7	6.3	2.3	2.0	5.3
P14c English Proficiency	10.9	15.0	8.5	9.2	8.2
P15 Residence One Year Ago	14.0	15.8	18.4	12.0	10.2
P16 Health Insurance Coverage	32.4	44.3	28.8	20.7	11.9
P17 Disability	12.0	23.2	9.1	11.5	8.4
P18a Difficulty Concentrating, Remembering, or Making Decisions?	12.2	19.8	9.4	13.6	10.3
P18b Difficulty Walking/Climbing Stairs	6.6	14.0	5.7	7.5	7.0
P18c Difficulty Dressing or Bathing	4.6	7.4	3.2	10.6	9.9
P19 Disability and Being Alone	10.2	13.6	5.2	10.2	7.3

ACS Question	Confus	OthAns	Longer	RespDisc	IntDisc
P20 Marital Status	6.2	13.2	5.2	16.1	8.4
P21 Change in Marital Status	10.3	12.1	6.2	19.2	15.1
P22 Times Married	5.5	9.7	8.3	42.1	20.8
P23 Year Last Married	10.6	14.4	37.5	22.7	11.1
P24 Fertility	8.2	6.9	4.3	13.4	13.9
P25 Grandparent as Caregivers	12.3	14.7	7.8	5.7	8.6
P26 Veteran Status	7.4	8.4	5.3	1.6	5.8
P27 Period of Military Service	9.7	19.0	21.5	1.9	6.9
P28 VA Service Connected Disability Rating	10.5	11.1	11.5	5.2	5.4
P29 Work for Pay	24.9	26.7	11.9	18.0	10.5
P30 Place of Work	17.0	29.2	31.7	54.4	11.7
P31 Journey to Work	11.3	16.7	11.1	25.9	7.4
P32 Carpooling	15.5	13.9	5.0	7.8	7.8
P33 Time Left for Work	12.7	23.9	17.2	58.9	15.4
P34 Minutes to Work	9.1	15.3	11.6	27.6	10.0
P35 Labor Force Status	13.7	17.7	7.3	12.7	7.1
P36 Actively Looking for Work	6.4	11.9	6.1	10.6	5.9
P37 Availability for Labor Force	7.5	10.6	5.2	7.6	5.9
P38 Year Last Worked	9.2	19.1	23.4	10.7	5.9
P39 Weeks Worked	37.6	46.2	51.8	15.1	10.7
P40 Hours Worked per Week	12.8	25.9	26.0	10.9	6.3
P41 Class of Worker	27.3	34.3	23.5	15.2	9.7
P42 Employer	9.2	17.8	14.9	48.8	10.0
P43 Industry	25.2	34.0	19.4	12.3	8.5
P44 Manufacturing, Trade, or Other	28.8	36.9	20.9	9.1	8.3
P45 Occupation	16.6	27.2	15.1	18.1	10.0
P46 Most Important Duties	30.9	39.8	29.1	16.4	11.8
P47a Income - Wages	18.1	31.9	57.1	83.8	18.8
P47b Income - Self Employment	18.6	29.7	43.5	66.9	16.6
P47c Income - Interest/Dividends	27.5	32.1	49.4	65.5	17.0
P47d Income - Social Security	11.6	21.3	41.3	55.7	14.5
P47e Income - SSI	32.5	35.6	39.5	40.9	11.2
P47f Income - Public Assistance	16.7	25.0	25.3	35.2	12.5
P47g Income - Retirement	16.1	28.2	43.3	64.5	12.2
P47h Income - Other	16.1	25.1	36.7	50.8	12.1
P48 Total Income	12.3	23.6	40.5	69.4	14.7

The top four “confusing” questions were the same as the top four for “other answers provided”:

- H11 Type of Internet Access (79.4 confusing, 79.3 other answers)
- P13 Ancestry (57.3 confusing, 63.0 other answers)

- P5 Race (48.9 confusing, 59.9 other answers)
- H7a Rooms (43.4 confusing, 55.4 other answers)

Type of Internet Access was the overwhelming leader in both categories. People don't think of their service as "dial-up", "DSL", cable modem", fiber-optic", or other categories. They think of it as the company they purchase the service from, like Verizon or Comcast. Ancestry and Race are questions where people do not necessarily think of the concept the same as we do.

"Rooms" is a difficult question because of the very specific definition we have: "The next questions are about the number and kinds of rooms at this place. Rooms must be separated by built-in archways or walls that extend out at least 6 inches and go from floor to ceiling. How many separate rooms are in this residence, not counting bathrooms, porches, balconies, foyers, halls or unfinished basements?"

Other questions that were high for both include:

- P39 Weeks Worked
- P16 Health Insurance Coverage
- H19 Value of Property
- P4 Hispanic Origin
- H10 Internet Access
- P46 Most Important Duties
- P44 Manufacturing, Trade, or Other
- H9 Computer Usage
- P47e Income - SSI
- P41 Class of Worker
- P43 Industry
- P47c Income - Interest/Dividends

These questions cover a variety of topics in the ACS questionnaire. Several of them involve industry and occupation (Class of Worker; Industry; Manufacturing, Trade, or other; and Most Important Duties). Weeks Worked is confusing because respondents don't generally think of a year as 52 weeks. We changed the question for that reason in 2008, but the concept seems like it is still not clear. The two other computer and Internet questions, Computer Usage and Internet Access, are on this list.

There were 11 questions where more than half of the interviewers said that respondents take longer to answer because they are not able to immediately retrieve the necessary information:

- H19 Value of Property
- H20 Real Estate Taxes
- H11 Type of Internet Access
- H21 Insurance Costs
- H14c Water and Sewer Cost
- H14b Gas Cost

- P47a Income - Wages
- H2 Year Structure Built
- H14a Electricity Cost
- P39 Weeks Worked
- P13 Ancestry

Most of these are monetary variables, but Type of Internet Access and Weeks Worked show up here too.

There were 12 questions where more than half of the interviewers said the respondent showed discomfort or reluctance:

- P47a Income - Wages
- P48 Total Income
- P47b Income - Self Employment
- P47c Income - Interest/Dividends
- P47g Income - Retirement
- P33 Time Left for Work
- P47d Income - Social Security
- P30 Place of Work
- H19 Value of Property
- H22 Mortgage
- P47h Income – Other

Not surprisingly, most of these were income or other monetary questions. Wages was clearly the highest at 83.8 percent. Another question known to be a concern is “Time Left For Work,” as respondents are evidently concerned that the interviewer will know when the residence is vacant. A higher percentage of CATI interviewers said yes to that question (77.6 percent for CATI staff versus 51.0 percent of CAPI staff).

Interviewers, though, did not have as much discomfort about asking questions. For the highest question, Type of Internet Access, only 22.4 percent of interviewers said they were uncomfortable asking the question as worded. The five questions with the highest rates are below:

- H11 Type of Internet Access
- P22 Times Married
- P47a Income - Wages
- P5 Race
- P47c Income - Interest/Dividends

This is a mixture of questions referenced previously in this section. One ACS question that rated low in each of the other interviewer survey questions was sex. That was a bit of a surprise, but further analysis showed the rate was much higher for CATI interviewers than for CAPI field staff. This is not surprising, as the visual cues that could help with that question are not available over the telephone.

## 4.2 Percentage Distribution

What is the percentage distribution to the five-point Likert scale question on overall difficulty for each ACS question and what percentage classified the question as one of the three most problematic questions?

**Table 4-2: Percentage Distribution - Difficulty and Problematic Questions**

Question	VeryDiff	Difficult	Neutral	Easy	VeryEasy	Top3Prob
P1 Relationship	0.4	2.0	13.8	40.5	43.3	0.6
P2 Sex	0.3	1.5	8.0	28.8	61.5	0.1
P3 Age	0.9	6.2	27.3	37.7	27.8	2.2
P4 Hispanic Origin	4.0	11.6	25.1	34.6	24.7	6.1
P5 Race	3.9	16.8	33.5	29.5	16.3	17.2
H1 Units in Structure	0.6	7.4	22.8	41.2	28.0	0.4
H2 Year Structure Built	5.2	18.9	31.8	29.9	14.2	9.5
H3 Year Moved into Unit	0.4	2.5	19.0	47.7	30.4	0.3
H4 Acreage	1.2	7.7	22.7	41.2	27.2	0.8
H5 Agricultural Sales	1.2	5.4	18.8	35.5	39.1	0.5
H6 Business or Medical Office on Property	0.1	1.4	9.5	37.2	51.8	0.0
H7a Rooms	1.6	10.9	26.0	41.0	20.5	3.0
H7b Bedrooms	0.6	4.3	11.8	37.2	46.0	0.5
H8a Hot and Cold Running Water	0.0	1.1	7.1	30.0	61.9	0.4
H8b Flush Toilet	0.2	1.2	7.0	30.5	61.2	0.1
H8c Bathtub or Shower	0.2	1.2	7.0	30.5	61.2	0.1
H8d Sink with Faucet	0.2	1.1	7.0	30.0	61.7	0.0
H8e Stove or Range	0.4	0.7	7.5	30.3	61.1	0.0
H8f Refrigerator	0.2	0.8	7.0	29.4	62.8	0.0
H8g Telephone Service	0.2	2.6	15.1	37.7	44.4	0.1
H9 Computer Usage	2.5	11.7	20.7	38.1	27.1	2.2
H10 Internet Access	4.4	12.4	22.7	34.8	25.7	2.6
H11 Type of Internet Access	15.1	30.9	28.3	16.8	8.8	30.9
H12 Vehicles Available	0.2	0.6	11.2	42.4	45.6	0.0
H13 House Heating Fuel	0.7	3.8	15.9	42.9	36.7	0.3
H14a Electricity Cost	0.5	9.0	32.7	40.8	17.0	0.4
H14b Gas Cost	1.4	12.7	33.7	37.0	15.2	1.5
H14c Water and Sewer Cost	3.4	17.0	33.8	32.4	13.3	2.8
H14d House Heating Fuel Cost	1.5	12.0	31.9	38.4	16.2	0.6
H15 Food Stamps	0.7	4.5	17.2	44.7	32.8	0.3
H16 Condominium Fees	0.5	3.6	21.4	39.9	34.7	0.3
H17 Tenure (Rented or Owned)	0.5	3.0	14.0	43.6	38.9	0.1
H18 Rent	0.4	3.4	15.8	46.5	33.9	0.0
H19 Value of Property	5.0	28.9	37.9	20.8	7.4	19.1

Question	VeryDiff	Difficult	Neutral	Easy	VeryEasy	Top3Prob
H20 Real Estate Taxes	4.5	27.0	37.1	23.9	7.5	4.3
H21 Insurance Costs	4.3	26.0	37.0	24.6	8.1	2.9
H22 Mortgage Costs	4.1	18.0	32.7	31.9	13.3	5.4
H23 Second Mortgage Costs	3.4	11.9	26.0	38.5	20.2	0.2
H24 Mobile Home Costs	3.2	13.1	28.6	34.3	20.9	1.3
P7 Place of Birth	0.5	2.4	14.4	43.3	39.4	0.2
P8 Citizenship Status	1.4	8.3	24.2	38.9	27.2	3.4
P9 Year of Entry	1.6	12.4	27.0	38.9	20.0	0.7
P10 School Enrollment	0.4	2.3	13.7	47.1	36.5	0.4
P11 Educational Attainment	0.2	4.2	18.1	47.0	30.4	0.4
P12 Undergraduate Field of Degree	0.3	1.9	15.4	46.4	36.0	0.0
P13 Ancestry	4.3	22.2	31.7	29.8	12.0	10.6
P14a Other Language Spoken at Home	0.3	1.2	9.8	41.8	47.0	0.0
P14b Language Spoken	0.3	0.8	9.3	43.0	46.6	0.0
P14c English Proficiency	0.5	4.0	15.7	43.5	36.3	0.0
P15 Residence One Year Ago	0.8	5.5	20.1	42.8	30.8	0.5
P16 Health Insurance Coverage	2.9	13.3	27.5	35.4	20.8	5.2
P17 Disability	0.5	4.3	19.8	44.7	30.6	0.3
P18a Difficulty Concentrating, Remembering, or Making Decisions?	1.0	4.9	18.9	42.5	32.6	0.3
P18b Difficulty Walking/Climbing Stairs	0.6	2.1	14.6	44.3	38.4	0.0
P18c Difficulty Dressing or Bathing	0.1	1.8	14.7	43.4	40.1	0.1
P19 Disability and Being Alone	0.4	3.1	16.9	41.8	37.9	0.0
P20 Marital Status	0.5	2.9	16.0	46.9	33.7	0.4
P21 Change in Marital Status	1.2	4.8	21.4	42.6	30.0	0.7
P22 Times Married	1.8	7.4	26.1	39.8	24.9	4.1
P23 Year Last Married	1.4	8.5	27.8	41.1	21.2	0.9
P24 Fertility	1.1	3.3	20.6	42.2	32.7	0.5
P25 Grandparent as Caregivers	0.3	2.7	16.1	45.2	35.7	0.4
P26 Veteran Status	0.1	1.5	10.8	43.4	44.3	0.0
P27 Period of Military Service	0.4	3.9	15.0	48.1	32.6	0.2
P28 VA Service Connected Disability Rating	0.3	3.0	16.0	45.6	35.2	0.2
P29 Work for Pay	1.5	6.3	24.7	44.5	23.1	2.1
P30 Place of Work	3.7	17.7	34.6	31.6	12.4	6.9
P31 Journey to Work	1.9	7.9	24.7	42.1	23.4	1.2
P32 Carpooling	0.5	2.5	15.7	48.1	33.2	0.3
P33 Time Left for Work	4.4	17.6	31.0	32.9	14.1	11.4
P34 Minutes to Work	2.3	9.1	22.1	42.0	24.5	0.2
P35 Labor Force Status	0.8	3.8	20.8	46.7	27.9	0.3
P36 Actively Looking for Work	0.5	2.0	18.2	49.1	30.2	0.1
P37 Availability for Labor Force	0.5	2.8	18.2	47.7	30.8	0.3
P38 Year Last Worked	1.0	5.0	23.2	46.3	24.4	0.2

Question	VeryDiff	Difficult	Neutral	Easy	VeryEasy	Top3Prob
P39 Weeks Worked	2.9	15.6	32.7	35.3	13.5	6.2
P40 Hours Worked per Week	0.8	7.3	26.2	45.7	19.9	0.9
P41 Class of Worker	1.8	10.0	28.1	42.3	17.8	1.0
P42 Employer	2.6	15.3	29.9	36.7	15.5	7.2
P43 Industry	1.3	8.8	25.1	44.4	20.5	0.4
P44 Manufacturing, Trade, or Other	1.4	8.1	26.8	43.3	20.4	1.9
P45 Occupation	1.4	8.3	25.2	45.5	19.7	1.0
P46 Most Important Duties	2.1	12.6	29.1	40.4	15.8	3.1
P47a Income - Wages	11.3	35.4	34.4	14.7	4.2	51.7
P47b Income - Self Employment	10.9	30.4	30.4	20.3	7.9	8.2
P47c Income - Interest/Dividends	12.1	30.8	28.5	20.0	8.6	9.6
P47d Income - Social Security	6.3	22.5	32.7	28.3	10.1	4.1
P47e Income - SSI	4.4	17.4	32.8	31.5	14.0	0.7
P47f Income - Public Assistance	4.1	12.8	30.1	35.3	17.7	1.1
P47g Income - Retirement	5.6	23.5	35.8	26.3	8.8	3.8
P47h Income - Other	5.6	20.7	35.7	26.4	11.6	1.1
P48 Total Income	8.8	25.3	36.2	21.2	8.5	25.6

Most questions were not rated to be very difficult by many interviewers; only 30 of the 92 questions were very difficult for more than two percent of interviewers. However, there were several questions that stood out. The ten questions rated as very difficult by more than five percent of the interviewers were:

- H11 Type of Internet Access
- P47c Income - Interest/Dividends
- P47a Income - Wages
- P47b Income - Self Employment
- P48 Total Income
- P47d Income - Social Security
- P47h Income - Other
- P47g Income - Retirement
- H2 Year Structure Built
- H19 Value of Property

After the Type of Internet Access question, the next seven questions are from the income series. Year Structure Built was listed once before, as one of the questions that took longer to answer, probably because the concept is not one respondents think much about.

The ranking of the most problematic questions was not surprising, as the top of the list contained many of the same questions that have already been discussed. These are the ten questions named as one of the top three most problematic questions by at least eight percent of interviewers:

- P47a Income - Wages
- H11 Type of Internet Access
- P48 Total Income
- H19 Value of Property
- P5 Race
- P33 Time Left for Work
- P13 Ancestry
- P47c Income - Interest/Dividends
- H2 Year Structure Built
- P47b Income - Self Employment

The top three were named by far the most often, with Wages at 51.7 percent, Type of Internet Access at 30.9 percent, and Total Income at 25.6 percent.

### 4.3 Percentages and Scores

What is the percentage and score for each of the criteria for each ACS question?

This table is the most important for the content review process, for this shows the percentages and scores that go into the decision-making process. The cognitive percentage is the percentage of interviewers that said the ACS question was confusing, other answers were given, or took longer to answer. The sensitivity percentage is the percentage of time either the interviewer or the respondent was uncomfortable with the question, and the difficulty percentage was the percentage of time the interviewer felt the question was very difficult or difficult or the interviewer listed it as one of the three most problematic questions.

The previously-agreed-upon criteria were that a percentage of 60 percent or greater got a score of five, 20 to 60 percent got a three, and less than 20 percent got a 1.

**Table 4-3: Percentages and Scores, Using the Decision Criteria**

ACS Question	Pct of Yes/Difficult to Any			Decision Criteria Score			
	Cognitive	Sensitive	Difficulty	Cog	Sen	Dif	Total
P1 Relationship	29.2	20.5	2.9	3	3	1	7
P2 Sex	3.8	17.1	1.8	1	1	1	3
P3 Age	17.9	40.0	8.4	1	3	1	5
P4 Hispanic Origin	49.6	32.5	17.8	3	3	1	7
P5 Race	66.1	46.7	29.7	5	3	3	11
H1 Units in Structure	43.5	12.0	8.1	3	1	1	5
H2 Year Structure Built	63.7	13.8	29.3	5	1	3	9
H3 Year Moved into Unit	24.6	10.9	3.2	3	1	1	5
H4 Acreage	40.7	13.2	9.5	3	1	1	5
H5 Agricultural Sales	23.5	18.2	6.8	3	1	1	5
H6 Business or Medical Office on Property	12.2	10.8	1.5	1	1	1	3
H7a Rooms	66.6	24.3	14.4	5	3	1	9

ACS Question	Pct of Yes/Difficult to Any			Decision Criteria Score			
	Cognitive	Sensitive	Difficulty	Cog	Sen	Dif	Total
H7b Bedrooms	22.6	14.1	5.3	3	1	1	5
H8a Hot and Cold Running Water	5.0	14.3	1.4	1	1	1	3
H8b Flush Toilet	4.5	15.1	1.4	1	1	1	3
H8c Bathtub or Shower	4.5	15.1	1.4	1	1	1	3
H8d Sink with Faucet	6.4	14.3	1.3	1	1	1	3
H8e Stove or Range	7.7	13.0	1.1	1	1	1	3
H8f Refrigerator	4.5	13.9	0.9	1	1	1	3
H8g Telephone Service	21.4	12.5	2.9	3	1	1	5
H9 Computer Usage	44.4	25.6	15.7	3	3	1	7
H10 Internet Access	46.8	24.7	18.2	3	3	1	7
H11 Type of Internet Access	88.4	35.4	55.5	5	3	3	11
H12 Vehicles Available	14.8	12.6	0.8	1	1	1	3
H13 House Heating Fuel	29.6	11.8	4.8	3	1	1	5
H14a Electricity Cost	57.6	23.4	9.6	3	3	1	7
H14b Gas Cost	63.1	24.2	14.6	5	3	1	9
H14c Water and Sewer Cost	66.7	24.0	21.7	5	3	3	11
H14d House Heating Fuel Cost	52.6	21.7	14.0	3	3	1	7
H15 Food Stamps	10.7	26.1	5.4	1	3	1	5
H16 Condominium Fees	24.0	15.6	4.3	3	1	1	5
H17 Tenure (Rented or Owned)	15.6	15.9	3.6	1	1	1	3
H18 Rent	7.0	20.3	3.8	1	3	1	5
H19 Value of Property	79.1	55.9	44.3	5	3	3	11
H20 Real Estate Taxes	76.6	41.1	33.2	5	3	3	11
H21 Insurance Costs	74.3	38.3	32.1	5	3	3	11
H22 Mortgage Costs	32.8	55.6	25.0	3	3	3	9
H23 Second Mortgage Costs	29.0	36.5	15.4	3	3	1	7
H24 Mobile Home Costs	42.1	23.2	16.6	3	3	1	7
P7 Place of Birth	19.7	16.0	3.1	1	1	1	3
P8 Citizenship Status	23.6	35.3	11.7	3	3	1	7
P9 Year of Entry	43.1	27.7	14.3	3	3	1	7
P10 School Enrollment	17.0	14.5	3.1	1	1	1	3
P11 Educational Attainment	30.5	17.5	4.6	3	1	1	5
P12 Undergraduate Field of Degree	16.7	11.2	2.2	1	1	1	3
P13 Ancestry	75.1	32.8	32.9	5	3	3	11
P14a Other Language Spoken at Home	10.3	9.6	1.5	1	1	1	3
P14b Language Spoken	8.2	6.7	1.1	1	1	1	3
P14c English Proficiency	20.3	15.0	4.5	3	1	1	5
P15 Residence One Year Ago	29.1	18.7	6.5	3	1	1	5
P16 Health Insurance Coverage	50.5	26.5	19.3	3	3	1	7
P17 Disability	26.5	17.2	5.0	3	1	1	5

ACS Question	Pct of Yes/Difficult to Any			Decision Criteria Score			
	Cognitive	Sensitive	Difficulty	Cog	Sen	Dif	Total
P18a Difficulty Concentrating, Remembering, or Making Decisions?	24.1	19.7	6.1	3	1	1	5
P18b Difficulty Walking/Climbing Stairs	17.1	12.6	2.7	1	1	1	3
P18c Difficulty Dressing or Bathing	10.6	16.4	1.9	1	1	1	3
P19 Disability and Being Alone	17.4	14.9	3.4	1	1	1	3
P20 Marital Status	17.4	20.7	3.7	1	3	1	5
P21 Change in Marital Status	17.5	25.9	6.4	1	3	1	5
P22 Times Married	15.4	48.7	11.4	1	3	1	5
P23 Year Last Married	42.6	27.3	10.6	3	3	1	7
P24 Fertility	10.8	21.2	4.7	1	3	1	5
P25 Grandparent as Caregivers	19.9	12.4	3.4	1	1	1	3
P26 Veteran Status	13.3	7.0	1.6	1	1	1	3
P27 Period of Military Service	29.8	8.1	4.4	3	1	1	5
P28 VA Service Connected Disability Rating	20.5	9.4	3.5	3	1	1	5
P29 Work for Pay	35.6	24.6	9.5	3	3	1	7
P30 Place of Work	44.3	56.3	25.5	3	3	3	9
P31 Journey to Work	23.9	28.4	10.5	3	3	1	7
P32 Carpooling	21.1	14.1	3.3	3	1	1	5
P33 Time Left for Work	32.1	61.0	28.4	3	5	3	11
P34 Minutes to Work	22.3	30.8	11.5	3	3	1	7
P35 Labor Force Status	22.3	17.1	4.7	3	1	1	5
P36 Actively Looking for Work	15.7	14.6	2.5	1	1	1	3
P37 Availability for Labor Force	14.4	11.5	3.6	1	1	1	3
P38 Year Last Worked	30.5	14.9	6.1	3	1	1	5
P39 Weeks Worked	63.2	22.5	22.3	5	3	3	11
P40 Hours Worked per Week	34.8	15.4	9.0	3	1	1	5
P41 Class of Worker	41.7	21.0	12.4	3	3	1	7
P42 Employer	24.5	51.1	22.1	3	3	3	9
P43 Industry	40.5	17.4	10.4	3	1	1	5
P44 Manufacturing, Trade, or Other	42.2	14.7	10.6	3	1	1	5
P45 Occupation	31.9	23.5	10.4	3	3	1	7
P46 Most Important Duties	50.6	23.2	16.4	3	3	1	7
P47a Income - Wages	63.0	84.9	69.6	5	5	5	15
P47b Income - Self Employment	51.4	69.0	44.1	3	5	3	11
P47c Income - Interest/Dividends	56.9	67.3	46.1	3	5	3	11
P47d Income - Social Security	46.6	58.3	30.8	3	3	3	9
P47e Income - SSI	54.4	44.1	22.1	3	3	3	9
P47f Income - Public Assistance	38.6	39.8	17.4	3	3	1	7
P47g Income - Retirement	49.8	65.6	31.1	3	5	3	11
P47h Income - Other	43.4	53.6	26.7	3	3	3	9
P48 Total Income	45.5	71.1	47.0	3	5	3	11

Only one question, “Wages,” got fives for every criteria, for a score of 15. The following 13 questions got a score of 11, in all cases getting a score of three for two of the criteria and a score of five for one criteria.

- H11 Type of Internet Access
- H14c Water and Sewer Cost
- H19 Value of Property
- H20 Real Estate Taxes
- H21 Insurance Costs
- P5 Race
- P13 Ancestry
- P33 Time Left for Work
- P39 Weeks Worked
- P47b Income - Self Employment
- P47c Income - Interest/Dividends
- P47g Income - Retirement
- P48 Total Income

## **5 Summary**

The goal of the interviewer survey was to identify which questions our CATI interviewers and coaches, and our CAPI field representatives and field supervisors identified as a concern. We used a questionnaire that the staff completed online, and this report summarizes the results. These data are now available for use in the ACS Content Review.

**American Community Survey  
Fiscal Year 2014 Content Review  
Response Time per Item**

FINAL REPORT

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*Sandra Clark, American Community Survey Office*



U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. CENSUS BUREAU  
census.gov

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## 1 Introduction

The American Community Survey Office (ACSO) is conducting a review of the content on the American Community Survey (ACS). The study covers multiple topics ranging from reviewing key survey measures to conducting meetings with the survey's stakeholders and the general public. The purpose of this research was to create estimates that ACSO can use, along with findings from other studies, to help measure the amount of burden the ACS places on its respondents. To do this, we estimated the length of time it takes ACS respondents to complete each survey item. We created time estimates for the following data collection modes: Internet, Computer Assisted Telephone Interviews (CATI) and Computer Assisted Personal Interviews (CAPI).

This report directly supports the findings described in the American Community Survey (ACS) Fiscal Year 2014 Content Review Results Final Report. For more information on the ACS Content Review, see the Content Review web page:

[http://www.census.gov/acs/www/about\\_the\\_survey/acs\\_content\\_review/](http://www.census.gov/acs/www/about_the_survey/acs_content_review/)

## 2 Methodology

### 2.1 Data Collection Mechanism/Tool

The ACS is an annual survey that provides current demographic, social, economic, and housing information about America's communities. The survey uses multiple modes of data collection, starting with self-response modes, which encourage households in sample to complete and return the survey on their own. There are two self-response modes: Internet and mail. Initial mailings are sent to sampled households instructing them to complete the survey online. If an online response is not received within two weeks, we send a mail questionnaire. Those who choose not to reply by self-response are eligible to be contacted by an interviewer over the telephone (Computer Assisted Telephone Interview (CATI)) or in person (Computer Assisted Personal Interview (CAPI)). In addition, we follow-up (by phone) with some mail and Internet returns in an attempt to retrieve missing data through our Failed Edit Follow-up Operation (FEFU). Note that some returns are completed over the phone as a result of the respondent calling our help line for Telephone Questionnaire Assistance (TQA). This research focuses on the Internet, CATI, and CAPI modes.

The ACS uses a series of monthly samples to produce annual estimates. Sample addresses selected for a particular survey year are assigned to a panel with three months allocated for data collection across the four modes. The panel represents the month during which cases are assigned for collection, not necessarily the month in which data are collected or tabulated. Table 1 shows the data collection modes by panel and calendar month. The October panel is missing because the panel was cancelled due to the government shutdown in October 2013. In a normal year, we would have conducted telephone interviews for the October panel in November, but during November 2013, we conducted September panel telephone interviews. In December 2013, we

conducted September 2013 panel personal interviews, November 2013 panel telephone interviews, and we received December 2013 panel mail/Internet survey returns. Note that we accept mail and Internet responses throughout the full three-month data collection period<sup>1</sup>. This research uses data collected during calendar months, December 2013, January 2014, and February 2014.

**Table 1: Data Collection by Panel and Calendar Month**

	Calendar Month					
	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14
Sep-13		Personal				
	Telephone	Visit				
Nov-13	Mail/Internet	Telephone	Personal Visit			
Dec-13		Mail/Internet	Telephone	Personal Visit		
Jan-14			Mail/Internet	Telephone	Personal Visit	
Feb-14				Mail/Internet	Telephone	Personal Visit

The ACS was designed to replace the Decennial Census long form. The mail questionnaire has over 70 numbered questions, many of which have multiple parts, and many of which are asked about each person in the household. It is organized into three main sections. These sections are:

- **Basic Demographic** – demographic population items, such as relationship, age, sex, Hispanic origin, and race
- **Housing** – physical and financial characteristics of housing items, such as type of building, kitchen and plumbing facilities, household utilities, and number of rooms
- **Detailed Population** – social and economic population items, such as citizenship, educational attainment, and employment status

With all the different modes, the large sample size, and the large number of questions asked, some people believe that the ACS is burdensome and intrusive to the households included in the survey. Households in sample for the survey are required by law to participate. The Census Bureau has agreed to research ways to decrease the burden the ACS places on respondents. This study examines the length of time it takes respondents to complete each item on the survey so we can identify which items take the longest time, and could be considered the most burdensome to respondents. We excluded mail returns from the study because we do not have metrics to calculate time spent on items from this mode. We will use three months of paradata captured during Internet survey and CATI and CAPI interviews to create our estimates.

<sup>1</sup> The workload for each mode is assigned to a calendar month; however, a small number of cases are received prior to the assigned calendar month. In addition, the official closeout of the panel occurs at the beginning of the calendar month following the month that personal visits are conducted.

## 2.2 Universe

We only use data from occupied households (we excluded vacant housing units) and we only included returns we considered responses. This includes Internet returns we classify as a “complete,” a “sufficient partial,” or an acceptable “insufficient partial.” An insufficient partial is “acceptable” if it is the only return we get for the household and the unit is occupied. We consider CATI and CAPI interviews a response if they are a “complete,” or a “sufficient partial.” We used the final outcome codes on the control file and Technologies Management Office (TMO) files to determine the status of the returns. This shows the codes we used to identify “responses”:

Internet: inet\_out in ('35','50','55') or (inet\_out='28' and no other return)

CAPI: final in ('201','203','204')

CATI: final in ('001','002','003','004','185')

We excluded data from group quarters and Puerto Rico returns.

## 2.3 Research Question(s) of Interest

This report answers the following research questions:

- 1) How long does it take Internet, CATI, and CAPI respondents to answer each survey item for everyone in their household? What is the time estimate once we adjust for how frequently the ACS asks the survey item to households?
- 2) Which items are the most burdensome to respondents?

## 2.4 Analysis Design

To answer the first research question, we calculated the median time (in seconds) it took households to answer each survey item. First we calculated the total amount of time it took each household to answer survey item X for everyone in the household. Then, we used the household level estimates to create median time estimates for each survey item. Not all households are required to answer every survey item. In addition, not all households reach every item on the survey. Our calculations used for research question 1 only include item time estimates for households that received the item. Households not asked the survey item were not included in our calculations for research question 1.

In addition to time estimates for individual survey items, we grouped some items to capture time estimates for a group of related items. For these calculations, we took the median of the sum of the total amount of time it takes households to answer all items within the group.

To answer research question 2, we applied adjustments to the estimates calculated for question 1. Not all survey items are asked about every household or household member. It is possible that a particular survey item takes a long time to answer, and therefore it is very burdensome for the households asked the item. However, if the item is asked of very few households then the item

presents no burden to most respondents completing the survey. In this case, the item has a high burden to some households but very little burden to the survey as a whole. To account for this, we applied adjustment factors to the medians. We calculated the adjustment factors by dividing the number of households asked the survey item by the total number of households in the research dataset.

To calculate the medians, we used the SAS® PROC MEANS procedure. We also calculated other percentiles (25<sup>th</sup>, 75<sup>th</sup>, and 99<sup>th</sup>).

We calculated the estimates described above separately for each mode and together for combined estimates. We used paradata files collected by the Application Services Division (ASD) during December 2013, January 2014, and February 2014 to create the Internet estimates and the audit trail files captured by the Technologies Management Office (TMO) during the same months to create the CATI and CAPI estimates. We calculated the time spent on each item by subtracting the time the respondent entered the screen containing the item from the time they exited the screen.

To answer the third research question, we used the SAS® PROC FASTCLUS procedure to cluster each item into one of three groups. This part of the research used the median estimates based on all modes combined. We used a 3-point scale and assigned each item a score of 1, 3, or 5, with 5 representing the most burden. Initially, each item received two scores – one for the median and one for the adjusted median. We determined the final score for each item using the larger of the two scores.

### 3 Assumptions and Limitations

These response time estimates alone do not measure cognitive burden, because we did not make adjustments for things such as question length or difficulty.

We could not create individual Internet time estimates for a handful of items included in the study. These items are displayed together on the same Internet screen and since we use the entry and exit timestamps of the screen, it is impossible to separate the items. The affected Internet screens and items are:

<u>Screen Name</u>	<u>Items</u>
Rooms	Total rooms, Bedrooms
Facilities	Running Water, Toilet, Bath, Sink, Stove, Refrigerator, Telephone
Type of Computer	Laptop, Handheld, Other
Internet Subscription	Dialup, DSL, Modem, Fiberoptic, Broadband, Satellite, Other
Health Insurance	Employer, Direct, Medicare, Medicaid, Military, VA, Indian, Other
Place of Work	Street Address, City, City Limits, County, State, Zipcode

For the items listed above, we created Internet estimates using the Internet screen times and the CATI item times. We summed the CATI item times for each topic (screen) and determined the proportion for each item within the topic (screen). We applied these proportions to the Internet screen totals to estimate the length of time Internet responders spent on each item with the screen. For example:

CATI Median for Rooms = 36  
 CATI Median for Bedrooms = 7  
 Total = 43

CATI Proportions  
 Rooms -  $36/43 = 0.84$   
 Bedrooms -  $7/43 = 0.16$

Internet Median for Topic (screen) Rooms = 44

Estimated Internet Item Medians  
 Rooms -  $44 * 0.84 = 37$   
 Bedrooms -  $44 * 0.16 = 7$

The sample of returns used in this research is not a random sample. Returns received by mail, Telephone Questionnaire Assistance (TQA), Failed Edit Follow-up (FEFU), and Group Quarter interviewing were not in scope for this project. This research provides estimates of response time based on three months of survey responses from Internet, CATI, and CAPI. Thus, results may not reflect the experience of the entire ACS sample.

In addition, response time estimates are not weighted or adjusted for the probability of selection, nonresponse, or under coverage to account for the sample design. We did not calculate measures of sampling error to assess statistical uncertainty of the estimates.

## **4 Results**

In the following sections, we analyze the data to answer the research questions in Section 2.4.

### **4.1 Research Question 1**

How long does it take Internet, CATI, and CAPI respondents to answer each survey item for everyone in their household? What is the time estimate once we adjust for how frequently the ACS asks the survey item to households?

Table 2 answers the first research questions. It shows the median response time and adjusted median response time by survey question. These estimates include response times from Internet, CATI and CAPI together. Additional estimates, including time estimates by mode, additional groupings, and additional percentiles are available upon request.

**Table 2: Median Response Time by Survey Question**

ACS Topic	Question #	Median Response Time	
		Non-Adj	Adj
Building/Structure Type and Units	H1	15	15
Year Built	H2	11	11
Year Moved In	H3	14	14
Acreage	H4	6	5
Agriculture Sales	H5	7	1
Business/Medical Office Rooms	H6	5	4
Bedrooms	H7a	23	12
Hot/Cold Water	H7b	13	1
Flush Toilet	H8a	3	1
Bathtub/Shower	H8b	2	1
Sink with Faucet	H8c	2	1
Stove or Range	H8d	2	1
Refrigerator	H8e	2	1
Telephone Service Available	H8f	2	1
Computer Use	H8g	3	1
Internet Use	H9	22	22
Internet Subscription	H10	10	10
Vehicles Available	H11	24	19
Home Heating Fuel	H12	9	9
Cost of Utilities	H13	11	11
Cost of Utilities (Electricity)	H14	71	71
Cost of Utilities (Gas)	H14a	22	22
Cost of Utilities (Water/Sewer)	H14b	11	11
Cost of Utilities (Heating Fuel)	H14c	6	6
SNAP/Food Stamp Benefit	H14d	20	20
Condo Status and Fee	H15	7	7
Condo Status	H16	4	4
Condo Fee	H16 (Y/N)	4	4
Tenure	H16 (Amount)	11	1
Rent	H17	11	11
Rent Amount	H18	11	3
Rent Include Meals	H18a	7	2
Home Value	H18b	3	1
Taxes	H19	17	11
	H20	14	9

ACS Topic	Question #	Median Response Time	
		Non-Adj	Adj
Insurance	H21	14	9
Mortgage	H22	31	17
Mortgage	H22a	11	6
Mortgage Amount	H22b	12	5
Mortgage Include Real			
Estate Taxes	H22c	7	3
Mortgage Include			
Insurance	H22d	5	2
Second Mortgage	H23	7	5
Second Mortgage	H23a	7	5
Second Mortgage	H23b		
Amount		11	1
Mobile Home Costs	H24	18	1
Relationship	P2	12	9
Sex	P3	6	6
Age/Date of Birth	P4	36	36
Hispanic Origin	P5	11	11
Race	P6	14	14
Place of Birth	P7	29	29
Citizenship Status	P8	19	4
Year of Entry	P9	17	3
School Enrollment	P10	18	18
School Enrollment	P10a	16	16
Grade Level	P10b	13	5
Educational Attainment	P11	29	29
Undergraduate Field of			
Degree	P12	23	9
Ancestry	P13	34	34
Language at Home	P14	10	10
Language other than	P14a		
English		9	9
Language	P14b	10	2
How well speak	P14c		
English		9	2
Residence 1 Year Ago	P15	12	12
Person live in this	P15a		
house/apartment		11	11
Where live?	P15b	48	7
Health Insurance	P16		
Coverage		53	52
Disability	P17	22	22
Deaf/Difficulty	P17a		
Hearing		12	12
Blind/Difficulty Seeing	P17b	9	9

ACS Topic	Question #	Median Response Time	
		Non-Adj	Adj
Cognitive Difficulty	P18a	11	11
Walking/Climbing Difficulty	P18b	7	7
Dressing/Bathing Difficulty	P18c	6	6
Outside Home Difficulty	P19	9	9
Marital Status	P20	8	5
Marital Status (Past 12 mos)	P21	17	14
Get Married?	P21a	4	3
Get Widowed?	P21b	6	5
Get Divorced?	P21c	5	4
Times Married	P22	7	6
Year Last Married	P23	9	7
Fertility	P24	5	2
Grandparents as Caregivers	P25	8	2
Have grandchildren?	P25a	8	2
Responsible?	P25b	11	0
How long responsible?	P25c	13	0
Veteran Status	P26	12	12
Period of Service	P27	18	3
VA-Service Connected Disability Rating and Status	P28	7	1
Have rating?	P28a	7	1
What is rating?	P28b	5	0
Worked Last Week	P29	16	16
Worked Last Week	P29a	13	13
ANY Work?	P29b	6	4
Place of Work	P30	78	57
How Get to Work	P31	9	6
How Many in Carpool	P32	9	6
What Time Left	P33	19	13
How Many Minutes to Work	P34	11	8
Labor Force Status	P35	12	7
Layoff	P35a	5	3
Temporarily Absent	P35b	6	3
Informed of Recall	P35c	7	0
Actively Looking for Work	P36	5	3

ACS Topic	Question #	Median Response Time	
		Non-Adj	Adj
Availability for Labor Force	P37	8	1
Year Last Worked	P38	12	7
Work Status Last Year	P39	19	15
50+ Weeks	P39a	15	12
Number of Weeks	P39b	17	5
Hours Worked Last Week	P40	16	12
Class of Worker	P41	30	25
Employer Name (Ind)	P42	30	25
Kind of Business (Ind)	P43	20	17
Manuf./Wholesale/Retail (Ind)	P44	10	8
Kind of Work (Occ)	P45	20	17
Most Imp. Activities (Occ)	P46	27	23
Income	P47	155	152
Wages	P47a	49	41
Self-employment	P47b	10	8
Interest/Dividends	P47c	21	20
Social Security	P47d	11	10
SSI	P47e	8	8
Public Assistance	P47f	8	8
Retirement	P47g	9	8
Other	P47h	12	11
Total Income	P48	13	13

Source: Paradata from Dec 2013, Jan 2014, and Feb 2014 ACS Survey

On average, items in the detailed population section tend to take households longer than items in the other sections of the survey. Not surprisingly items asked of only a small portion of the population have much lower adjusted medians. For example, question P15b, “Where did this person live one year ago?” is only asked to respondents who answer, “No, different house in the United States or Puerto Rico” when asked question P15a, “Did this person live in this house or apartment 1 year ago?” The median time it takes households asked question P15b is 48 seconds. However only a very small number of households get this question, therefore the adjusted median is only 7 seconds.

#### 4.2 Research Question 2

Which items are the most burdensome to respondents?

Table 3 answers the third research question. It displays the final cluster scores we assigned to each item. Items with scores of 5 present the most burden, in terms of time spent on survey

questions. Seven items were assigned a score of 5. These items are: Number of Total Rooms (Qh7a), Age/Date of Birth (Qp4), Place of Birth (Qp7), Educational Attainment (Qp11), Ancestry (Qp13), Address of Residence One Year Ago (Qp15b), and Wages (Qp47a).

**Table 3: Burden Score by Survey Question**

ACS Topic	Question	Median	Adjmed	Medclust	Adjmedclust	FINALclust
Building/Structure Type and Units	H1	15	15	1	3	3
Year Built	H2	11	11	1	3	3
Year Moved In	H3	14	14	1	3	3
Acreage	H4	6	5	1	1	1
Agriculture Sales	H5	7	1	1	1	1
Business/Medical Office	H6	5	4	1	1	1
Rooms	H7a	31	31	3	5	5
Bedrooms	H7b	6	6	1	1	1
Hot/Cold Water	H8a	3	3	1	1	1
Flush Toilet	H8b	2	2	1	1	1
Bathtub/Shower	H8c	2	2	1	1	1
Sink with Faucet	H8d	2	2	1	1	1
Stove or Range	H8e	2	2	1	1	1
Refrigerator	H8f	2	2	1	1	1
Telephone Service Available	H8g	3	3	1	1	1
Desktop, laptop, etc	H9a	11	11	1	3	3
Handheld computer	H9b	6	6	1	1	1
Other	H9c	4	4	1	1	1
Internet Use	H10	10	10	1	3	3
Dial-up	H11a	4	3	1	1	1
DSL	H11b	3	3	1	1	1
Cable modem	H11c	3	2	1	1	1
Fiber-optic	H11d	3	2	1	1	1
Mobile broadband	H11e	4	3	1	1	1
Satellite	H11f	3	2	1	1	1
Other	H11g	3	2	1	1	1
Vehicles Available	H12	9	9	1	1	1
Home Heating Fuel	H13	11	11	1	3	3
Cost of Utilities (Electricity)	H14a	22	22	3	3	3
Cost of Utilities (Gas)	H14b	11	11	1	3	3
Cost of Utilities (Water/Sewer)	H14c	6	6	1	1	1
Cost of Utilities (Heating Fuel)	H14d	20	20	3	3	3
SNAP/Food Stamp Benefit	H15	7	7	1	1	1
Condo Status	H16a	4	4	1	1	1
Condo Fee	H16b	11	1	1	1	1

ACS Topic	Question	Median	Adjmed	Medclust	Adjmedclust	FINALclust
Tenure	H17	11	11	1	3	3
Rent Amount	H18a	7	2	1	1	1
Rent Include Meals	H18b	3	1	1	1	1
Home Value	H19	17	11	3	3	3
Taxes	H20	14	9	1	1	1
Insurance	H21	14	9	1	1	1
Mortgage	H22a	11	6	1	1	1
Mortgage Amount	H22b	12	5	1	1	1
Mortgage Include Real Estate						
Taxes	H22c	7	3	1	1	1
Mortgage Include Insurance	H22d	5	2	1	1	1
Second Mortgage	H23a	7	5	1	1	1
Second Mortgage Amount	H23b	11	1	1	1	1
Mobile Home Costs	H24	18	1	3	1	3
Relationship	P2	12	9	1	1	1
Sex	P3	6	6	1	1	1
Age/Date of Birth	P4	36	36	5	5	5
Hispanic Origin	P5	11	11	1	3	3
Race	P6	14	14	1	3	3
Place of Birth	P7	29	29	3	5	5
Citizenship Status	P8	19	4	3	1	3
Year of Entry	P9	17	3	3	1	3
School Enrollment	P10a	16	16	3	3	3
Grade Level	P10b	13	5	1	1	1
Educational Attainment	P11	29	29	3	5	5
Undergraduate Field of Degree	P12	23	9	3	1	3
Ancestry	P13	34	34	3	5	5
Language other than English	P14a	9	9	1	1	1
Language	P14b	10	2	1	1	1
How well speak English	P14c	9	2	1	1	1
Person live in this house/apartment	P15a	11	11	1	3	3
Where live?	P15b	48	7	5	1	5
Insurance through a current or former employer?	P16a	16	16	3	3	3
Insurance purchased directly from an insurance company?	P16b	8	8	1	1	1
Medicare?	P16c	5	5	1	1	1
Medicaid or govt-assistance plan?	P16d	5	5	1	1	1
TRICARE or military plan?	P16e	4	4	1	1	1
VA?	P16f	4	4	1	1	1
Indian Health Services?	P16g	3	3	1	1	1

ACS Topic	Question	Median	Adjmed	Medclust	Adjmedclust	FINALclust
Other	P16h	5	5	1	1	1
Deaf/Difficulty Hearing	P17a	12	12	1	3	3
Blind/Difficulty Seeing	P17b	9	9	1	1	1
Cognitive Difficulty	P18a	11	11	1	3	3
Walking/Climbing Difficulty	P18b	7	7	1	1	1
Dressing/Bathing Difficulty	P18c	6	6	1	1	1
Outside Home Difficulty	P19	9	9	1	1	1
Marital Status	P20	8	5	1	1	1
Get Married?	P21a	4	3	1	1	1
Get Widowed?	P21b	6	5	1	1	1
Get Divorced?	P21c	5	4	1	1	1
Times Married	P22	7	6	1	1	1
Year Last Married	P23	9	7	1	1	1
Fertility	P24	5	2	1	1	1
Have grandchildren?	P25a	8	2	1	1	1
Responsible?	P25b	11	0	1	1	1
How long responsible?	P25c	13	0	1	1	1
Veteran Status	P26	12	12	1	3	3
Period of Service	P27	18	3	3	1	3
Have rating?	P28a	7	1	1	1	1
What is rating?	P28b	5	0	1	1	1
Worked Last Week	P29a	13	13	1	3	3
ANY Work?	P29b	6	4	1	1	1
POW- Street Address	P30a	33	24	3	3	3
POW-City	P30b	12	9	1	1	1
POW-City Limits	P30c	6	4	1	1	1
POW-County	P30d	11	8	1	1	1
POW-State	P30e	6	4	1	1	1
POW-Zip Code	P30f	8	6	1	1	1
How Get to Work	P31	9	6	1	1	1
How Many in Carpool	P32	9	6	1	1	1
What Time Left	P33	19	13	3	3	3
How Many Minutes to Work	P34	11	8	1	1	1
Layoff	P35a	5	3	1	1	1
Temporarily Absent	P35b	6	3	1	1	1
Informed of Recall	P35c	7	0	1	1	1
Actively Looking for Work	P36	5	3	1	1	1
Availability for Labor Force	P37	8	1	1	1	1
Year Last Worked	P38	12	7	1	1	1
50+ Weeks	P39a	15	12	1	3	3
Number of Weeks	P39b	17	5	3	1	3
Hours Worked Last Week	P40	16	12	3	3	3

ACS Topic	Question	Median	Adjmed	Medclust	Adjmedclust	FINALclust
Class of Worker	P41	30	25	3	3	3
Employer Name (Ind)	P42	30	25	3	3	3
Kind of Business (Ind)	P43	20	17	3	3	3
Manuf./Wholesale/Retail (Ind)	P44	10	8	1	1	1
Kind of Work (Occ)	P45	20	17	3	3	3
Most Imp. Activities (Occ)	P46	27	23	3	3	3
Wages	P47a	49	41	5	5	5
Self-employment	P47b	10	8	1	1	1
Interest/Dividends	P47c	21	20	3	3	3
Social Security	P47d	11	10	1	3	3
SSI	P47e	8	8	1	1	1
Public Assistance	P47f	8	8	1	1	1
Retirement	P47g	9	8	1	1	1
Other	P47h	12	11	1	3	3
Total Income	P48	13	13	1	3	3

## 5 Summary

Questions asked in the detailed population section tend to take longer than questions asked in the housing section. This is not surprising as the population items are usually asked multiple times during a single survey/interview. Of the over 100 items shown in the tables above, only seven were assigned the highest score. All of these seven items required respondents to provide a written response, and many were questions with multiple parts. Further research is necessary to see if any of these items could be removed from the survey or modified to decrease response burden.

**American Community Survey  
Fiscal Year 2014 Content Review  
Median County-Level  
Allocation Rates of ACS Data**

FINAL REPORT

*Sarah Heibel, Decennial Statistical Studies Division*

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## 1 Introduction

The American Community Survey Office (ACSO) is conducting a review of the content on the American Community Survey (ACS). The ACS Content Review examines multiple facets of the ACS, reviewing key survey measures and conducting meetings with the survey's stakeholders and the general public.

This component of the ACS Content Review examines how often data had to be allocated, an important measure of data quality related to the frequency with which respondents leave a question blank while completing the survey. Allocation rates assess how reliable an estimate is; it is one of the Census Bureau's standard measures of measuring statistical quality.<sup>1</sup>

The Census Bureau uses imputation methods to correct for item nonresponse or inconsistent/contrary responses. The methods either use rules to determine acceptable answers or use answers from similar housing units or people who provided the item information.

"Assignment" involves logical imputation where a response to one question implies the value for a missing response to another question. For example, first name can often be used to assign a value to sex, if sex was left blank. Assignment also edits answers that are inconsistent, such as a six-year-old being in 10<sup>th</sup> grade. Allocation, on the other hand, uses statistical procedures, such as within-household or nearest neighbor matrices populated by donors, to impute for missing values.

The allocation rate per ACS question was calculated for each of the 3,143 counties (or county equivalents) in the United States (excluding Puerto Rico). The median county-level rate is reported in this paper.

The median allocation rate per ACS question across all counties is one of nineteen metrics being used in the ACS Content Review. These results will be combined with the eighteen other metrics to inform a decision about the future of questions on the ACS. The nineteen metrics were designated as either being a 'cost' (i.e., the question has a high number of complaints from respondents to Census, or the question takes a relatively long time for the respondent to answer) or a 'benefit' (i.e., the question is used to provide estimates that are statutorily required or is used for establishing the frame of another federal survey). The allocation rates were considered in the 'cost' category of the ACS Content Review; estimates with high county-level median allocation rates are more costly in terms of data quality.

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<sup>1</sup> More information on allocation rates can be found at [http://www.census.gov/acs/www/methodology/item\\_allocation\\_rates\\_definitions/index.php](http://www.census.gov/acs/www/methodology/item_allocation_rates_definitions/index.php).

This report directly supports the findings described in the American Community Survey (ACS) Fiscal Year 2014 Content Review Results Final Report. For more information on the ACS Content Review, see the Content Review web page:

[http://www.census.gov/acs/www/about\\_the\\_survey/acs\\_content\\_review/](http://www.census.gov/acs/www/about_the_survey/acs_content_review/)

## **2 Methodology**

### **2.1 Data Collection Mechanism/Tool**

The ACS is an annual survey that provides current demographic, social, economic, and housing information about America's communities. There were 125 distinct questions identified on the ACS questionnaire for inclusion in the Content Review. These included person-level questions such as age, relationship status, level of educational attainment, place of birth, and marital status. Housing-level questions included the type of building where the respondent resides, how many rooms exist in the home, and what type of fuel is used for heating. Subsequent discussion of the questions identifies them by number (as found on the paper questionnaire), with either a P or H prefix to designate whether a person or housing question.

For the ACS Content Review, the county-level allocation rate for each question was determined. From the 3,143 counties, the median value was identified for each question, resulting in 125 allocation rates that were the median value of each question on the ACS. These median rates were grouped into one of three clusters: low, medium or high allocation rates. The ACS questions with the highest value medians were the most costly, while the lowest medians were the least costly. SAS® was used to perform the clustering and found natural breaks in the data, specifically using the PROC FASTCLUS procedure. These clusters are shown in the final results of this paper.

### **2.2 Universe**

ACS questionnaires from the 2008-2012 five-year data collection were included in this research. Specifically, eligible returns were those received from January 1, 2008 until December 31, 2012. A small number of allocation rates had to be determined using alternate years of collection, which will be discussed under Limitations in Section 3.2.

All returns from Puerto Rico were excluded. Questionnaires from Group Quarters were included in the person-level analysis as applicable; for instance, no question on relationship status is asked of persons in Group Quarters.

Completed returns are grouped by their county or county equivalent. For instance, parishes in Louisiana are treated as counties. All references to 'counties' in this documentation also includes these county equivalents.

### 2.3 Research Questions of Interest

The research questions of interest are:

- 1) What was the median county-level allocation rate for each question on the ACS questionnaire?
- 2) How do the median allocation rates for each question compare to each other?

Allocation rate is used by the Census Bureau as the key measure of item nonresponse error. A value is allocated for a question if it is left blank by the respondent and cannot be assigned using information provided in an answer to another question (such as assigning a child's race based on the parent's race).

In the ACS Content Review analysis, it is considered a 'cost' to have a high allocation rate. Final estimates can be adversely impacted when item nonresponse and allocation rates are high; bias can be introduced if the characteristics of the nonrespondents differ from those reported by respondents.

### 2.4 Analysis Design

The allocation rate is defined as:

number of persons (or cases) that needed a value allocated for a given question  
number of persons (or cases) that were expected to answer the question

Allocation rates are calculated using final ACS weights.

Allocation rates are only relevant for those persons or cases that were to have answered the question, according to the questionnaire skip patterns. For instance, only persons at least fifteen years of age were asked their marital status. Children under fifteen did not need to answer the question on marital status and so are not considered part of the denominator. Universes for each question can be found online at

[http://www.census.gov/acs/www/methodology/item\\_allocation\\_rates\\_data/](http://www.census.gov/acs/www/methodology/item_allocation_rates_data/).

There are some situations where the denominator of the allocation rate for a county is zero; that is, no one sampled for ACS in the county fits the criteria to have been asked a given question on the survey. For instance, if there were no persons who were foreign-born in the ACS sample for a county, then no responses would have answered the question of when the person entered the United States. The allocation rate for that county would be irrelevant, and mathematically undefined. There would then be one less county allocation rate to ultimately use in deterring the median allocation rate for that question. Thus, for some ACS questions, there were fewer than 3,143 counties contributing an allocation rate to a given question. The table of results in Section 4.1 contains a column with the number of counties contributing to the median for a given ACS question.

### 3 Assumptions and Limitations

All assumptions or limitations that apply to the ACS production estimates also apply to this research, as mentioned in the documentation found at

[http://www.census.gov/acs/www/data\\_documentation/documentation\\_main/](http://www.census.gov/acs/www/data_documentation/documentation_main/)

In addition, the following assumptions and limitations that are unique to this research are given below.

#### 3.1 Assumptions

The definition of what constituted a question was determined in the larger ACS Content Review process.

#### 3.2 Limitations

For some ACS questions, it was not possible to follow the prescribed methodology without some modification. The following modifications were applied:

- Question H3: “When did Person 1 move into this house?” – collects both month and year
  - There is one allocation rate available for the month of move in, and a separate allocation rate available for the year of move in. In order to understand how often both had to be allocated, additional programming would have been required and seemed unnecessary since the month is not as essential information as the year. The allocation rate for year alone was also larger than the allocation rate for month alone, so the allocation rate for year is used to represent H3.
- H9, H10, and H11: Computer and internet access
  - These questions were added to the ACS questionnaire in 2013, so only have one year of data collected. Allocation rates were calculated using the 1-year data instead of the 5-year data.
- H23a: “Do you have a second mortgage or home equity loan on this property?”
  - Typically, two allocation rates are computed from this one question; an allocation rate for second mortgage and an allocation rate for home equity loan. For the purposes of the ACS Content Review however, there could only be one allocation rate associated with the question. Additional programming was performed to obtain one comprehensive allocation rate.
- P4: Age and Date of Birth
  - An allocated answer to question P4 is necessary when a respondent does not answer either the age or the date of birth question. Date of birth is not allocated however; so the allocation rate for age was used without regard to responses for date of birth.
- P12: Field of Degree

- This question was added to the ACS questionnaire in 2009. Since the 2009-2013 ACS five-year data have not been released yet, an allocation rate was calculated from the most recent three-year ACS data (2010-2012).
- P13: Ancestry
  - Responses for ancestry are not allocated. An item nonresponse rate for ancestry was calculated instead of an allocation rate; this included uncodeable responses as well as missing responses.
- P15b: Migration
  - All address components for the person's residence a year ago are collected and allocated (such as city, county, and state), but only one allocation rate can be used for this question in the ACS Content Review project. The rate at which state of last residence had to be allocated was chosen by experts as the unique allocation rate to represent this question.
- P30: Place of work, county
  - All address components for the person's place of work are collected and allocated (such as city, county, and state), but only one allocation rate can be used for this question in the ACS Content Review project. The rate at which county of employment had to be allocated was chosen by experts in SEHSD as the unique allocation rate to represent this question.
- Employment status recode
  - A number of questions are used jointly by analysts to determine a person's employment status. As a result, the individual questions do not have their own allocation rates, but all share the allocation rate for the employment status recode. These questions are P29, 35, 36, 37, and P39.
- Industry recode
  - Three questions are used jointly by analysts to determine a person's industry of employment. As a result, the individual questions do not have their own allocation rates, but all share the allocation rate for the industry recode. These questions are P42, P43, and P44.
- Occupation recode
  - Two questions are used jointly by analysts to determine a person's occupation. As a result, the individual questions do not have their own allocation rates, but all share the allocation rate for the occupation recode. These questions are P45 and P46.

## 4 Results

In the following section, we answer the research questions that were posed in Section 2.3.

Table 1 shows the allocation rates per question, sorted with the highest allocation rate cluster on top.

**Table 1. Median County-Level Allocation Rates per ACS Question, sorted by median value**

ACS Question Number	Question Topic	Number of counties included	Median county rate	Cluster
H11e	Internet subscription: Broadband plan	3143	<b>25.60</b>	High
H21	Home insurance	3142	<b>24.55</b>	High
P48	Total person income	3143	<b>21.31</b>	High
H24	Mobile home costs	3133	<b>19.51</b>	High
H20	Real estate taxes	3142	<b>16.45</b>	Middle
H23B	Second mortgage amount	3104	<b>15.81</b>	Middle
H2	Year residence was built	3143	<b>14.94</b>	Middle
P13	Ancestry	3143	<b>14.41</b>	Middle
P47A	Amount of wages earned	3143	<b>14.10</b>	Middle
H19	Home value	3142	<b>13.66</b>	Middle
H14B	Cost of gas for home	3143	<b>11.42</b>	Middle
P25C	Length of time grandparent caring for child	3079	<b>11.15</b>	Middle
H14D	Cost of fuel for home	3143	<b>10.88</b>	Middle
H22D	Mortgage includes insurance	3141	<b>10.70</b>	Middle
P33	Time of departure for work	3143	<b>10.54</b>	Middle
H22C	Mortgage includes taxes	3141	<b>9.90</b>	Middle
P23	Year last married	3143	<b>9.58</b>	Middle
P14A	Foreign Language at home, yes/no	3138	<b>9.46</b>	Middle
P25B	Grandparent responsible for child	3109	<b>9.26</b>	Middle
H22B	Monthly mortgage payment	3141	<b>9.23</b>	Middle
H18A	Monthly rent	3143	<b>8.79</b>	Middle
P16G	Indian Health Service	3143	<b>8.74</b>	Middle
P12	Undergraduate Field of Degree	3142	<b>8.52</b>	Middle
P9	Year of entry to the U.S.	3138	<b>8.42</b>	Middle
P47D	Amount received from Social Security	3143	<b>8.40</b>	Middle
P16E	TRICARE or military insurance	3143	<b>8.35</b>	Middle
P16F	Health insurance through VA	3143	<b>8.22</b>	Middle
P47C	Income from Interest	3143	<b>8.10</b>	Middle
P16D	Medicaid	3143	<b>8.02</b>	Middle
P34	Minutes from work to home	3143	<b>7.89</b>	Middle
P15B	State of residence one year ago	3142	<b>7.43</b>	Middle
H14C	Cost of water for home	3143	<b>7.12</b>	Middle
P45&46	Occupation	3143	<b>6.93</b>	Low
P16B	Health insurance from insurance company	3143	<b>6.72</b>	Low
P40	Hours worked per week	3143	<b>6.62</b>	Low
P42-44	Industry of employment	3143	<b>6.61</b>	Low
P47G	Income from retirement	3143	<b>6.59</b>	Low

ACS Question Number	Question Topic	Number of counties included	Median county rate	Cluster
P41	Class of worker	3143	<b>6.56</b>	Low
P30	County of place of work	3143	<b>6.28</b>	Low
P47H	Income from other sources	3143	<b>6.23</b>	Low
P16A	Health insurance through work	3143	<b>6.10</b>	Low
H14A	Cost of electricity	3143	<b>5.97</b>	Low
P32	How many people in carpool	3143	<b>5.91</b>	Low
P27	Period of military service	3143	<b>5.83</b>	Low
P47F	Income from public assistance	3143	<b>5.72</b>	Low
P39B	Weeks worked per year	3143	<b>5.72</b>	Low
P47E	Income from Supplemental Security Income	3143	<b>5.68</b>	Low
P7	Place of birth	3143	<b>5.61</b>	Low
P47B	Income from Self-employment	3143	<b>5.51</b>	Low
H11b	Internet subscription: DSL	3143	<b>5.04</b>	Low
H11c	Internet subscription: Modem	3143	<b>5.04</b>	Low
H11d	Internet subscription: Fiber-optic internet service	3143	<b>5.04</b>	Low
H11f	Internet subscription: Satellite	3143	<b>5.04</b>	Low
H11g	Internet subscription: Other internet service	3143	<b>5.04</b>	Low
H11a	Internet subscription: Dial-up	3143	<b>5.02</b>	Low
H7A	Number of rooms in house	3143	<b>5.00</b>	Low
P38	When last worked	3143	<b>4.99</b>	Low
P10B	Current grade in school	3142	<b>4.82</b>	Low
P31	Mode of transport to work	3143	<b>4.81</b>	Low
P16C	Medicare	3143	<b>4.68</b>	Low
H7B	Number of bedrooms in house	3143	<b>4.54</b>	Low
P29, 35-37, 39a	Employment status recode	3143	<b>4.53</b>	Low
P11	Educational attainment	3143	<b>4.44</b>	Low
H5	Sales from agriculture	3143	<b>4.34</b>	Low
P22	Number of times married	3143	<b>4.32</b>	Low
P14C	English fluency	3138	<b>4.28</b>	Low
P21B	Widowed in last year	3143	<b>4.18</b>	Low
P21C	Divorced in last year	3143	<b>4.14</b>	Low
H10	Internet access	3143	<b>3.96</b>	Low
P21A	Married in last year	3143	<b>3.92</b>	Low
H4	Acreage	3143	<b>3.76</b>	Low
P15A	Moved in last year	3143	<b>3.50</b>	Low
H9c	Own/use other type of computer	3143	<b>3.43</b>	Low
P28A	Presence of VA disability rating	3143	<b>3.36</b>	Low
H23a	Second mortgage	3141	<b>3.19</b>	Low
P26	Military service	3143	<b>3.13</b>	Low
P18B	Difficulty walking	3143	<b>3.06</b>	Low
P18C	Difficulty dressing	3143	<b>3.04</b>	Low
P19	Difficulty doing errands	3143	<b>3.03</b>	Low
P18A	Difficulty remembering	3143	<b>3.03</b>	Low
P17B	Difficulty seeing	3143	<b>2.96</b>	Low

ACS Question Number	Question Topic	Number of counties included	Median county rate	Cluster
H13	Type of heating fuel	3143	<b>2.96</b>	Low
P10A	Attended school recently	3143	<b>2.94</b>	Low
H9b	Own/use a handheld computer	3143	<b>2.91</b>	Low
P14B	Foreign language at home, which language	3143	<b>2.86</b>	Low
H8F	Have refrigerator	3143	<b>2.81</b>	Low
H9a	Own/use a laptop or desktop	3143	<b>2.72</b>	Low
P24	Given birth in last year	3143	<b>2.68</b>	Low
P17A	Difficulty hearing	3143	<b>2.65</b>	Low
H8E	Have stove	3143	<b>2.65</b>	Low
H3	Year moved in	3143	<b>2.39</b>	Low
H6	Business on property	3143	<b>2.30</b>	Low
P20	Marital status	3143	<b>2.19</b>	Low
P8	Citizen	3143	<b>1.91</b>	Low
H8C	Have bathtub	3143	<b>1.87</b>	Low
H8B	Have toilet	3143	<b>1.81</b>	Low
H8A	Have running water	3143	<b>1.81</b>	Low
H8D	Have sink	3143	<b>1.79</b>	Low
P5	Hispanic origin	3143	<b>1.77</b>	Low
H18B	Rent plus meals	3143	<b>1.63</b>	Low
H22A	Have mortgage	3142	<b>1.52</b>	Low
P6	Race	3143	<b>1.02</b>	Low
H12	Number of vehicles	3143	<b>0.94</b>	Low
H15	Food stamps	3143	<b>0.90</b>	Low
P2	Relationship	3143	<b>0.88</b>	Low
H17	Tenure	3143	<b>0.87</b>	Low
H8G	Have telephone	3143	<b>0.86</b>	Low
P4	Age	3143	<b>0.86</b>	Low
H1	Type of structure	3143	<b>0.68</b>	Low
P25A	Presence of grandchildren	3143	<b>0.59</b>	Low
H3	Month moved in	3143	<b>0.51</b>	Low
H16	Condo status and fee	3142	<b>0.16</b>	Low
P3	Sex	3143	<b>0.10</b>	Low
P28B	VA disability rating	3132	<b>0.00</b>	Low

## 5 Summary

Median county-level allocation rates ranged from 25.60% to 0.00%.

Four questions were determined to be in the highest allocation rate cluster; broadband internet subscription, home insurance, total person income, and mobile home costs. Another 28 questions were identified in the middle allocation rate cluster, ranging from 16.45% to 7.12% allocated. The remaining 93 questions were considered by the software to have low allocation rates.

**American Community Survey  
Fiscal Year 2014 Content Review  
Complaints Analysis**

FINAL REPORT

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U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. CENSUS BUREAU  
census.gov

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## **Executive Summary**

### **Objective**

The overall objective of the American Community Survey (ACS) complaints analysis was to systematically organize complaints about the ACS by category and topic and link the specific ACS question to the complaint. The specific objective was to analyze the number of complaints about each question using pre-specified criteria. The complaints data was one of the nine data streams that directly fed into the Decision Criteria Algorithm to determine the potential candidate questions for removal.

### **Scope**

The scope of the complaints analysis included emails, phone calls and hard copy correspondence received between January 1 and May 31, 2014. This effort coincided with the implementation of performance measures associated with complaint information and helped ensure standardized responses. Specifically, the following types of correspondence were included in the analysis:

- Emails: Direct, GovDelivery, Non-Controlled
- Letters: CQAS congressional, CQAS non-congressional
- Phone Calls: Call Center, Direct, Other Sources

### **Methodology**

In January 2014, ACSO staff began logging the above-listed correspondence in a Communications Log database maintained on SharePoint. The correspondence was organized by category and topic. The GovDelivery correspondence had not yet been included in the Communications Log and was still being maintained in a separate database. Therefore, the data analysis sub-team compiled the complaints data in two stages:

1. A report was run on each Communications Log topic. The totals for each topic were then linked to specific ACS questions.
2. The sub-team manually reviewed 249 GovDelivery emails to identify complaints that could be linked to specific ACS questions. If the correspondence could not be linked to a specific ACS question, it was not included in the compiled results.

The results of the Communications Log reports and the GovDelivery manual review were added together, and the total complaints for each question were included as one of the nine data streams that directly fed into the Decision Criteria Algorithm.

The Complaint clusters were pre-specified in the design criteria as follows:

- No complaints: scale = 0, points added to cost score = 0.
- Some complaints: scale = 3, points added to cost score = 7.8
- Top 3 number of complaints: scale = 5, points added to cost score = 13

Because there was a tie for the top 3 number of complaints, four questions were included in the top tier.

## **Summary**

Because of high volume of complaint data, several people analyzed the data. Additionally, there was not a clear operating definition of a complaint at the time the data were analyzed, so the results from the three sources (i.e., emails, letters, and phone calls) may have been inconsistent. The number of reported complaints may have been too high; however, due to the high volume and short timeframe, the data analysis team decided to accept the results as is.

## 1 Introduction

The purpose of the American Community Survey (ACS) Content Review was to obtain a comprehensive understanding of the usages, justification, and merit of each question on the ACS. The goal was to minimize the reporting burden imposed on a subset of households while providing quality information to federal, state, local and tribal governments along with business decision-makers.

The overall objective of the American Community Survey (ACS) complaints analysis was to systematically organize complaints about the ACS by category and topic and link the specific ACS question to the complaint. The specific objective was to analyze the number of complaints about each question using pre-specified criteria. The complaints analysis was one of the nine data streams that directly fed into the Decision Criteria Algorithm to determine the potential candidate questions for removal.

The scope of the complaints analysis included emails, phone calls and hard copy correspondence received at Census Bureau headquarters between January 1 and May 31, 2014. This effort coincided with the implementation of performance measures associated with complaint information and helped ensure standardized responses. Specifically, the following types of correspondence were included in the analysis:

- Emails: Direct, GovDelivery, Non-Controlled
- Letters: CQAS congressional, CQAS non-congressional
- Phone Calls: Call Center, Direct, Other Sources

Details regarding the complaints analysis process are outlined in the methodology below.

This document directly supports the findings described in the American Community Survey (ACS) Fiscal Year 2014 Content Review Results Final Report. For more information on the ACS Content Review, see the Content Review web page:

[http://www.census.gov/acs/www/about\\_the\\_survey/acs\\_content\\_review/](http://www.census.gov/acs/www/about_the_survey/acs_content_review/)

## 2 Methodology

The complaints analysis included the correspondence described below.

Correspondence Type	Definition
Email - Direct	Emails received via Lotus Notes
Email - GovDelivery	Emails logged in the GovDelivery database
Email - Non-controlled	Emails received as a result of the Paperwork Reduction Project and forwarded to ACSO by the OMB Ombudsman
Letter - CQAS (Congressional)	Official controlled correspondence from Senate and House members
Letter - CQAS (Non-congressional)	Official controlled correspondence from other official sources (not Senate or House members)
Letter - Non-controlled	Letters from the general public
Phone Call - Call Center	Phone calls received at the Census Bureau Call Center and then transferred to ACSO
Phone Call - Direct	Phone calls directly received by ACSO
Phone Call - Other Sources	Phone calls received at the Census Bureau and transferred to ACSO

All but one of the above-listed correspondence types was logged into a Communications Log that was maintained on a SharePoint site. The correspondence logged in the GovDelivery database was maintained separately at the time of the analysis.

An additional correspondence type - “Letter - Non-controlled - No Response Necessary (NRN)” was not included in the analysis because this type of correspondence was general in nature, did not require a response, and was not a typical source of question-based complaints.

## 2.1 Communications Log Correspondence Results

Correspondence in the Communications Log was organized by Category and Topic.

### Categories:

- Address problem
- Addressed to Resident
- Age/Illness/Death
- Behavior - Field Representative
- Behavior - Telephone Interviewer
- Complaint - General
- Complaint - Government
- Confidentiality/Privacy/ID Theft
- Constitutionality
- Decennial Confusion
- Decline to Participate
- Invasive/Intrusive
- Legitimate
- Mail Response Problem
- Mandatory (Title 13)
- Online Response Problem
- Phone Call
- Question - General
- Request a Questionnaire
- Selection
- Time to Complete

### Topics:

- Age/Birth Date
- Ancestry
- Citizenship/Place of Birth
- Commuting/Place of Work
- Computer/Internet
- Disability
- Education/School Enrollment
- Employment Status/Labor Force
- Fertility
- Food Stamps/SNAP
- Group Quarters
- Health Insurance
- Housing - Cost
- Housing Rooms
- Housing - General
- Housing - Plumbing/Kitchen
- Housing - Utilities
- Income/Earnings
- Industry/Occupation
- Language
- Marital Status/History
- Migration
- Name/Phone Number
- Poverty
- Race/Ethnicity
- Relationship
- Sex
- Veteran Status

A report was run on each Communications Log topic. Regardless of the category, the totals for each topic were then linked to specific ACS questions and considered complaints.

## 2.2 GovDelivery Correspondence Results

The sub-team manually reviewed 249 GovDelivery emails to identify complaints that could be linked to specific ACS questions. Of the 249 emails reviewed, the sub-team identified 38 complaints that were linked to specific ACS questions. If the correspondence was not a complaint or if the complaint was of a general nature that could not be linked to a specific ACS question, it was not included in the results.

## 2.3 Complaints Analysis

Complaints about the ACS were examined and associated with questions so that counts could be obtained. The results of the Communications Log reports and the GovDelivery manual review were added together, and the total complaints for each question were included as one of the nine data sets that directly fed into the Decision Criteria Algorithm. Five of the data sets concerned Benefits, and four data sets, including Complaints, were considered Costs. Each data stream (e.g., Complaints) was calculated individually, and each question on the ACS was thus assessed to obtain the raw results.

The Complaint clusters were pre-specified in the design criteria on a scale of 0 to 5 as follows:

- No complaints: scale = 0, points added to cost score = 0.
- Some complaints: scale = 3, points added to cost score = 7.8
- Top 3 number of complaints: scale = 5, points added to cost score = 13

This value was comprised of counting the number of complaints that have been received at call centers and via letters, emails or phone calls to the Census Bureau or program directors. Since there was a tie for the top 3 number of complaints, four questions were included in the top tier.

## 3 Assumptions and Limitations

### 3.1 Assumptions

- All correspondence would be logged into the Communications Log maintained on SharePoint
- A clear operating definition of a complaint would be provided prior to the time the data were analyzed.
- Reports on the Communications Log would distinguish between complaints against a specific ACS question versus complaints of a general nature.
- The complaint data would be included as one of the nine data streams that directly fed into the Decision Criteria Algorithm.
- Complaint clusters were pre-specified in the design criteria.

### 3.2 Limitations

- Correspondence was maintained two separate systems, i.e., the Communications Log and GovDelivery.
- Because of the high volume of complaint data, several people analyzed the data.
- Because there was not a clear operating definition of a complaint at the time the data were analyzed, the results from the three sources (i.e., emails, letters, and phone calls) in the Communications Log results and the GovDelivery results may not have been consistent.

## 4 Summary

Because of high volume of complaint data, several people analyzed the data. Additionally, there was not a clear operating definition of a complaint at the time the data were analyzed, so the results from the three sources (i.e., emails, letters, and phone calls) may have been inconsistent. The number of reported complaints may have been too high; however, due to the high volume and short timeframe, the data analysis team decided to accept the results as is.

# **American Community Survey Fiscal Year 2014 Content Review Approach for Generating Results**

FINAL REPORT

*Karen King, American Community Survey Office  
Sarah Heimel, Decennial Statistical Studies Division*

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## 1 Introduction

The purpose of the American Community Survey (ACS) Content Review was to obtain a comprehensive understanding of the usages, justification, and merit of each question on the ACS. The goal was to minimize the reporting burden imposed on a subset of households while providing quality information to federal, state, local and tribal governments along with business decision-makers. The ACS Content Review examined multiple facets of the ACS, reviewing key survey measures and conducting meetings with the survey’s stakeholders and the general public.

This report outlines the methodology used to obtain the results and directly supports the findings described in the American Community Survey (ACS) Fiscal Year 2014 Content Review Results Final Report. For more information on the ACS Content Review, see the Content Review web page:

[http://www.census.gov/acs/www/about\\_the\\_survey/acs\\_content\\_review/](http://www.census.gov/acs/www/about_the_survey/acs_content_review/)

## 2 Methodology

Nineteen metrics were used to describe costs and benefits of each question on the ACS questionnaire. For instance, one metric that was considered as a ‘cost’ was the median length of time that respondents needed in order to answer each question. Each metric was calculated individually, in methodology described in separate documents/sections. Each question on the ACS was thus assessed, and the raw results were entered into a column of an Excel spreadsheet. An extract of the spreadsheet is shown below in Figure 1; the actual spreadsheet has rows for all 125 ACS questions included in the Content Review and columns for all nineteen metrics.

ACS Question Number	Topic	**** COST METRICS ****			
		Int. Survey Overall Difficulty	Adjusted Median Seconds to Answer	Allocation Rates	....
H1	Building/Structure Type and Units	8.1%	15	0.68	....
H2	Year Built	29.3%	11	14.94	....
H3	Date moved in	3.2%	14	2.39	....
H4	Acreage	9.5%	5	3.76	....
...	....	....	....	....	....

Figure 1: Spreadsheet Extract

A subsequent spreadsheet captured the cluster values associated with the raw results. In the extract below (Figure 2), question H1 had a low overall difficulty, a mid-level length of time to answer, and a low allocation rate. Figure 1 shows how question H2 had a higher allocation rate and a higher difficulty score, compared to the other questions. Those translated into mid-level cluster values in Figure 2.

ACS Question Number	Topic	**** COST METRICS ****			
		Int. Survey Overall Difficulty	Adjusted Median Seconds to Answer	Allocation Rates	....
H1	Building/Structure Type and Units	1	3	1	....
H2	Year Built	3	3	3	....
H3	Date moved in	1	3	1	....
H4	Acreage	1	1	1	....
...	....	....	....	....	....

Figure 2: Example of Mid-level Cluster Values

A third spreadsheet expanded upon the cluster values in Figure 2 by adding the weights that were to be assessed on each metric. This is shown in Figure 3. The top row identifies the weights associated with each metric (i.e., of the 100 points to be distributed among cost metrics, overall survey difficulty had 15.5 points, seconds to answer had 10 points and allocation rates had a weight of 23.5). The shaded columns then multiply the weight by the cluster value; the higher the cluster, the higher the final score for that metric. The Total Costs column sums all six cost metrics (only three are shown in Figure 3) and divides the sum by 5 in order to use a scale of 0 to 100 for the scatterplot.

ACS Question Number	Topic	Int. Survey Overall Difficulty	15.5	Seconds to Answer	10	Allocation Rates	23.5	Total Costs
H1	Building/Structure Type and Units	1	15.5	3	30	1	23.5	37.00
H2	Year Built	3	46.5	3	30	3	70.5	60.40
H3	Date moved in	1	15.5	3	30	1	23.5	37.00
H4	Acreage	1	15.5	1	10	1	23.5	33.00

Figure 3: Example of Weights and Total Costs Calculations

Similar actions were taken for all 13 benefits metrics as well, resulting in a final Total Benefits Score. The two values of Total Costs and Total Benefits were then used to create a scatterplot. Figure 4a and 4b show samples of the final cost and benefit sums, and resulting scatterplot.

ACS Question Number	Topic	Costs	Benefits
H1	Building/Structure Type and Units	37.00	78.45
H2	Year Built	60.40	80.60
H3	Date moved in	37.00	57.99
H4	Acreage	33.00	52.17

Figure 4a: Example of Total Benefits Calculation

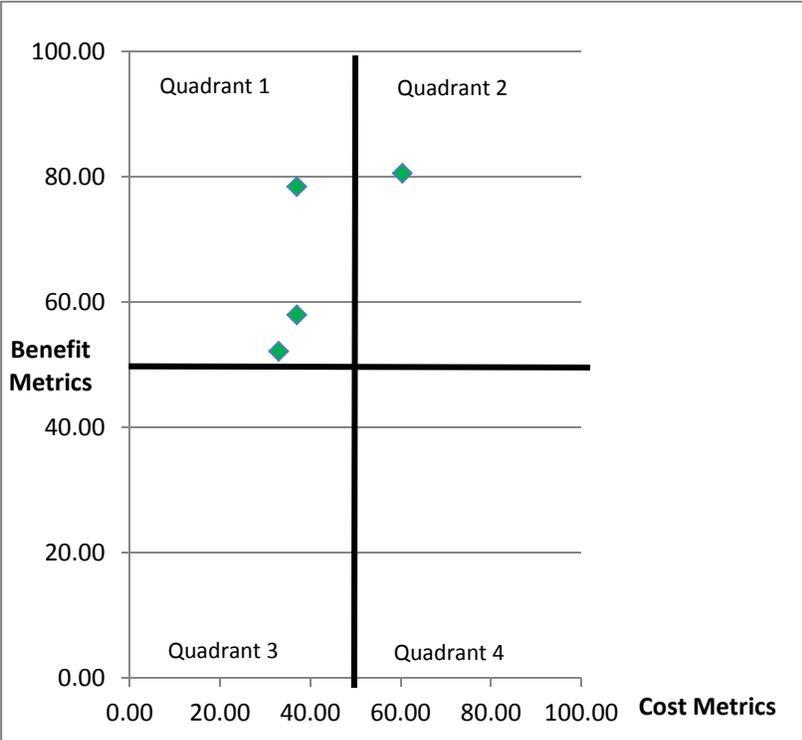


Figure 5b: Scatterplot Example

For a summary of the results of the four quadrants, see the appendix in section 3 below.

### 3 Appendix: Summary of Quadrant Results

#### Total Questions<sup>1</sup>

Total Questions			
Quadrant 1:	High Use/Low Cost	68	54%
Quadrant 2:	High Use/High Cost	33	26%
Quadrant 3:	Low Use/Low Cost	21	17%
Quadrant 4:	Low Use/High Cost	3	3%
All:		125	100%

#### Quadrant I Results

ACS Question Number	Questions in Quadrant 1 (High Use/Low Cost)	Mandatory	Required (sub-state)
H1	Building/Structure Type and Units	Y	Y
H3	Year Moved In	Y	N
H4	Acreage	N	Y
H7b	Bedrooms	Y	Y
H8a	Hot/Cold Water	Y	Y
H8b	Flush Toilet	Y	Y
H8c	Bathtub/Shower	Y	Y
H8d	Sink with Faucet	Y	Y
H8e	Stove or Range	Y	Y
H8f	Refrigerator	Y	Y
H9a	Computer Use - Desktop, laptop, etc.	Y	N
H9b	Computer Use - Handheld computer	Y	N
H9c	Computer Use - Other	Y	N
H10	Internet Use	Y	N
H14a	Cost of Utilities (Electricity)	Y	Y
H16a	Condo Status	Y	Y
H16b	Condo Fee	Y	Y
H17	Tenure	Y	Y
H18a	Rent Amount	Y	Y
H18b	Rent Include Meals	Y	Y
H22a	Mortgage	Y	Y
H23a	Second Mortgage	Y	Y
H23b	Second Mortgage Amount	Y	Y
P2	Relationship	Y	Y
P3	Sex	N	Y
P4	Age/Date of Birth	Y	Y
P5	Hispanic Origin	Y	Y

<sup>1</sup> Percentages were rounded to equal 100 percent.

ACS Question Number	Questions in Quadrant 1 (High Use/Low Cost)	Mandatory	Required (sub-state)
P7	Place of Birth	N	Y
P8	Citizenship Status	Y	Y
P11	Educational Attainment	Y	Y
P14a	Language other than English	Y	Y
P14b	Language	Y	Y
P14c	How well speak English	Y	Y
P16a	Health Insurance through a current or former employer?	Y	N
P16b	Health Insurance purchased directly from an insurance company?	Y	N
P16c	Medicare?	Y	N
P16d	Medicaid or govt-assistance plan?	Y	N
P16e	TRICARE or military plan?	Y	Y
P16f	VA Health Insurance?	Y	Y
P16g	Indian Health Services Health Insurance?	Y	Y
P17a	Deaf/Difficulty Hearing	Y	Y
P17b	Blind/Difficulty Seeing	Y	Y
P18a	Cognitive Difficulty	Y	Y
P18b	Walking/Climbing Difficulty	Y	Y
P18c	Dressing/Bathing Difficulty	Y	Y
P19	Outside Home Difficulty	Y	N
P20	Marital Status	N	Y
P24	Fertility	N	Y
P26	Veteran Status	Y	Y
P27	Period of Service	Y	N
P29a	Worked Last Week	N	Y
P29b	ANY Work?	N	Y
P31	How Get to Work	N	Y
P32	How Many in Carpool	N	Y
P34	How Many Minutes to Work	N	Y
P35a	Layoff	N	Y
P35b	Temporarily Absent	N	Y
P35c	Informed of Recall	N	Y
P36	Actively Looking for Work	N	Y
P37	Availability for Labor Force	N	Y
P38	Year Last Worked	N	Y
P41	Class of Worker	Y	Y
P42	Employer Name (Ind)	N	Y
P43	Kind of Business (Ind)	N	Y
P44	Manuf./Wholesale/Retail (Ind)	N	Y
P45	Kind of Work (Occ)	N	Y

ACS Question Number	Questions in Quadrant 1 (High Use/Low Cost)	Mandatory	Required (sub-state)
P46	Most Imp. Activities (Occ)	N	Y
P47	Income - Public Assistance	Y	Y

**Quadrant 2 Results**

ACS Question Number	Questions in Quadrant 2 (High Use/High Cost)	Mandatory	Required (sub-state)
H2	Year Built	Y	Y
H7a	Rooms	Y	Y
H11a	Internet Subscription - Dial-up	Y	N
H11b	Internet Subscription - DSL	Y	N
H11c	Internet Subscription - Cable modem	Y	N
H11d	Internet Subscription - Fiber-optic	Y	N
H11e	Internet Subscription - Mobile broadband	Y	Y
H11f	Internet Subscription - Satellite	Y	N
H11g	Internet Subscription - Other	Y	Y
H14b	Cost of Utilities (Gas)	Y	Y
H14c	Cost of Utilities (Water/Sewer)	Y	Y
H14d	Cost of Utilities (Heating Fuel)	Y	Y
H19	Home Value	Y	Y
H20	Taxes	Y	Y
H21	Insurance	Y	Y
H22b	Mortgage Amount	Y	Y
H22c	Mortgage Include Real Estate Taxes	Y	Y
H22d	Mortgage Include Insurance	Y	Y
H24	Mobile Home Costs	Y	Y
P6	Race	Y	Y
P8w	Year Naturalization Write-in	Y	Y
P9	Year of Entry	N	Y
P13	Ancestry	N	Y
P30	Place of Work	N	Y
P33	What Time Left	N	Y
P47a	Income - Wages	Y	Y
P47b	Income - Self-employment	Y	Y
P47c	Income - Interest/Dividends	Y	Y
P47d	Income - Social Security	Y	Y
P47e	Income - SSI	Y	Y
P47g	Income - Retirement	Y	Y
P47h	Income - Other	Y	Y
P48	Total Income	Y	Y

**Quadrant 3 Results**

ACS Question Number	Questions in Quadrant 3 (Low Use/Low Cost)	Mandatory	Required (sub-state)
H5	Agriculture Sales	retain	
H6	Business/Medical Office	remove	remove
H8g	Telephone Service Available	remove	retain
H12	Vehicles Available	remove	retain
H13	Home Heating Fuel	remove	retain
H15	SNAP/Food Stamp Benefit	retain	
P10a	School Enrollment	remove	retain
P10b	Grade Level	remove	retain
P12	Undergraduate Field of Degree	remove	remove
P15a	Residence 1 year ago - Person live in this house/apartment	remove	retain
P21a	Get Married?	remove	remove
P21b	Get Widowed?	remove	remove
P21c	Get Divorced?	remove	remove
P22	Times Married	remove	remove
P23	Year Last Married	remove	remove
P25a	Grandparents - Have grandchildren?	retain	
P25b	Grandparents - Responsible?	retain	
P25c	Grandparents - How long responsible?	retain	
P28a	Have VA-Service Connected Disability Rating?	retain	
P28b	What is VA-Service Connected Disability Rating?	retain	
P40	Hours Worked Last Week	remove	retain

**Quadrant 4 Results**

ACS Question Number	Questions in Quadrant 4 (Low Use/High Cost)	Mandatory	Required (sub-state)
P15b	Residence 1 year ago - Where live?	remove	retain
P39a	50+ Weeks	retain	
P39b	Number of Weeks	retain	

# ACS Content Review Phases I, II, and III Data Analysis Results

James Treat

September 23, 2014

# Objectives and Scope

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- **Objectives:**
  - Use pre-specified, unbiased criteria to identify potential questions for removal (Phase I)
  - Obtain comprehensive understanding of ACS question uses, justification, and merit for potential revision or removal (Phase II & III)
- **Scope:** All questions (and subparts) currently on the 2013 ACS Questionnaire

# Project Phases

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- **Phase I** – assess full survey content and identify questions for removal in 2016
- **Phase II** – assess availability of other sources and additional needs
- **Phase III** – research modifications to existing questions

# “Problematic” Topics Scored Well

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Based on ICSP Subcommittee pre-specified criteria...

- Flush Toilets – High Benefit/Low Cost
- Disability – High Benefit/Low Cost
- Journey to Work – High Benefit/Low to High Cost
- Income – High Benefit/Low to High Cost (mostly High Cost)

# Weighting Approach

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For each geographic level (Block Group/Tract, Place/County/MSA, State/Nation) we examined legal uses – Mandatory (M), Required (R), or Programmatic (P)

## Legal Definitions

- Mandatory – a federal law explicitly calls for use of decennial census or ACS data on that question
- Required – a federal law (or implementing regulation) explicitly requires the use of data and the decennial or the ACS is the historical source; or the data are needed for case law requirements imposed by the U.S. federal court system
- Programmatic – the data are needed for program planning, implementation, or evaluation and there is no explicit mandate or requirement

# Notional Weighting Example

	Mandatory Uses	Required Uses	Programmatic Uses
Lowest Geographic Level is the Block Group or Tract	0	0	1
Lowest Geographic Level is Place, County or MSA	1	1	0
Lowest Geographic Level is State or Nation	0	0	1

# Design Criteria- Benefits Extract

ACS Topic		Q#	Phase I Benefit Cluster Analysis								
			Federal Data Uses								
			Block Group/ Tract Level			Place/County/MSA Level			State/Natl. Level		
			M	R	P	M	R	P	M	R	P
Building/Structure Type and Units	H1	5	5	5	0	5	5	0	5	5	
Year Built	H2	5	5	5	5	5	5	5	0	5	
Year Moved In	H3	5	0	5	5	0	5	0	0	5	
Acreage	H4	0	5	5	0	5	5	0	0	5	
Agriculture Sales	H5	0	0	5	0	0	5	5	0	5	

+

Other Data Source	CV	IQR	Frame
5	5	3	5
5	5	1	0
3	5	1	0
3	5	5	0
1	5	3	0

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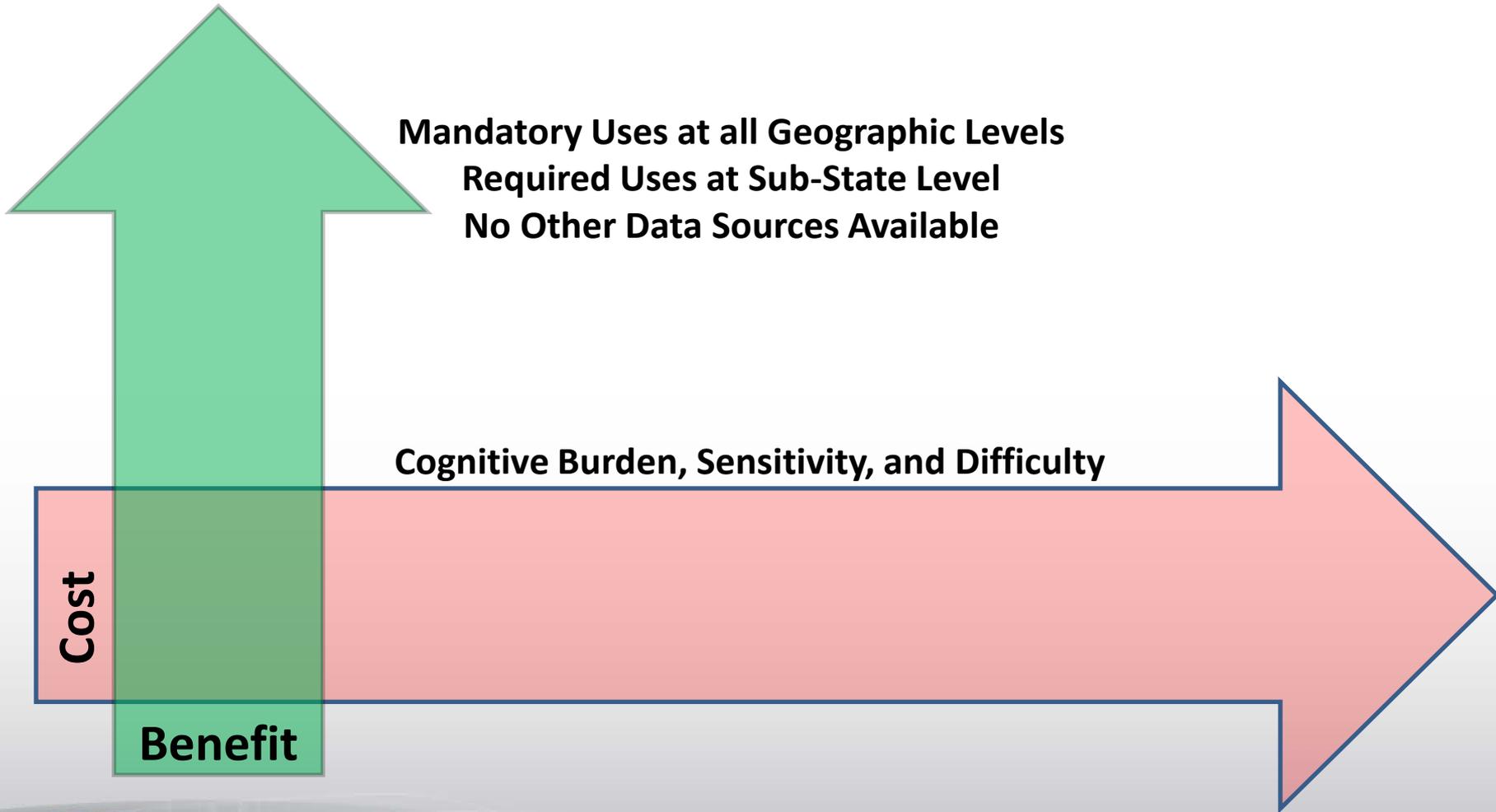
Total Benefits	
78.45	H
80.60	H
57.99	H
52.17	H
37.78	L

# Design Criteria- Costs Extract

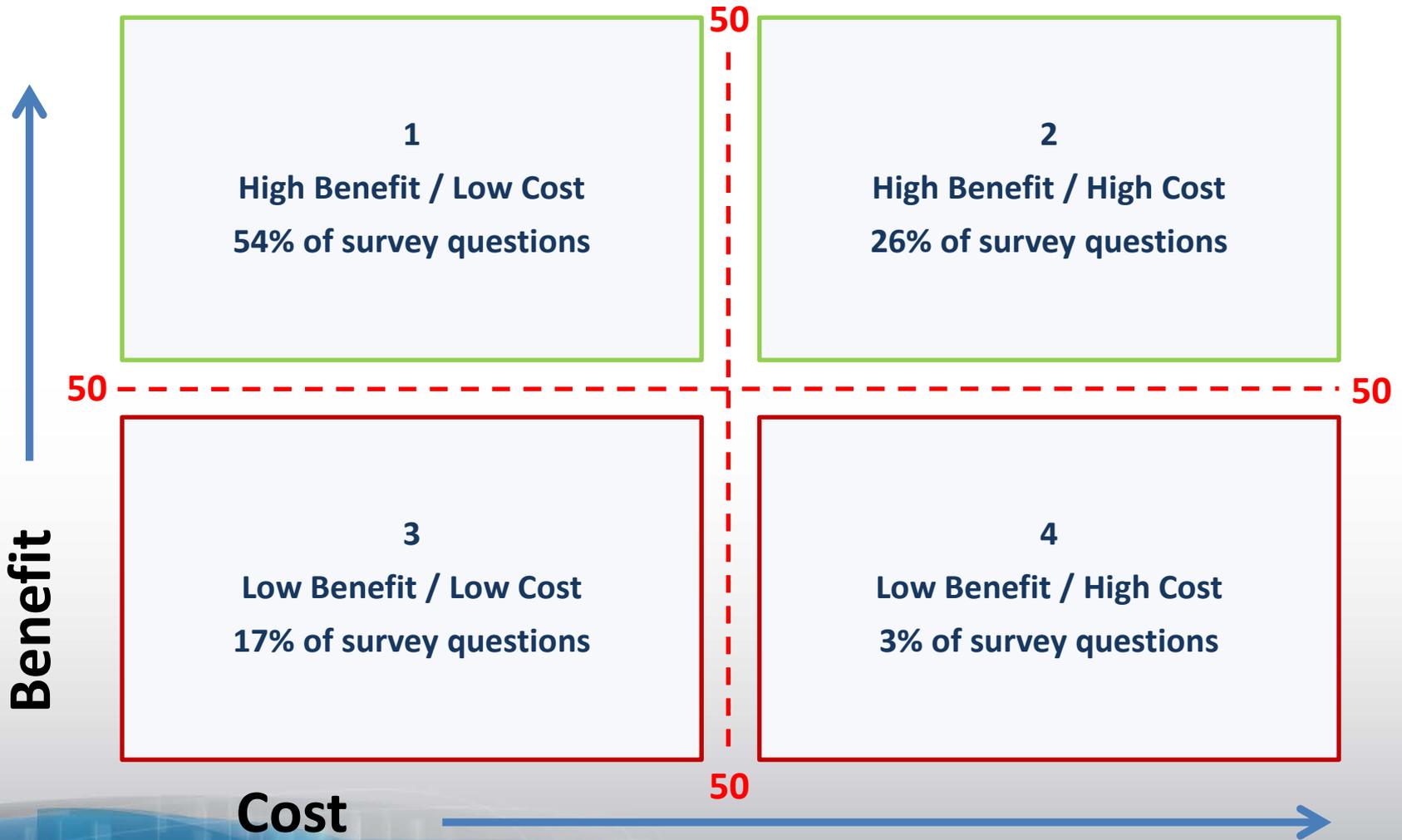
ACS Topic	Int. Survey Cognitive Burden (Clusters)	Int. Survey Sensitivity (Clusters)	Int. Survey Overall Difficulty (Clusters)	Adjusted Median Seconds to Answer (Clusters)	Allocation Rates (Clusters)	Complaints (Clusters)	
Building/Structure Type and Units	3	1	1	3	1	3	<b>Total Costs</b>
Year Built	5	1	3	3	3	3	
Year Moved In	3	1	1	3	1	3	
Acreage	3	1	1	1	1	3	
Agriculture Sales	3	1	1	1	1	3	
							37.00
							=
							60.40
							37.00
							33.00
							33.00

# Driving Factors for Benefits and Costs

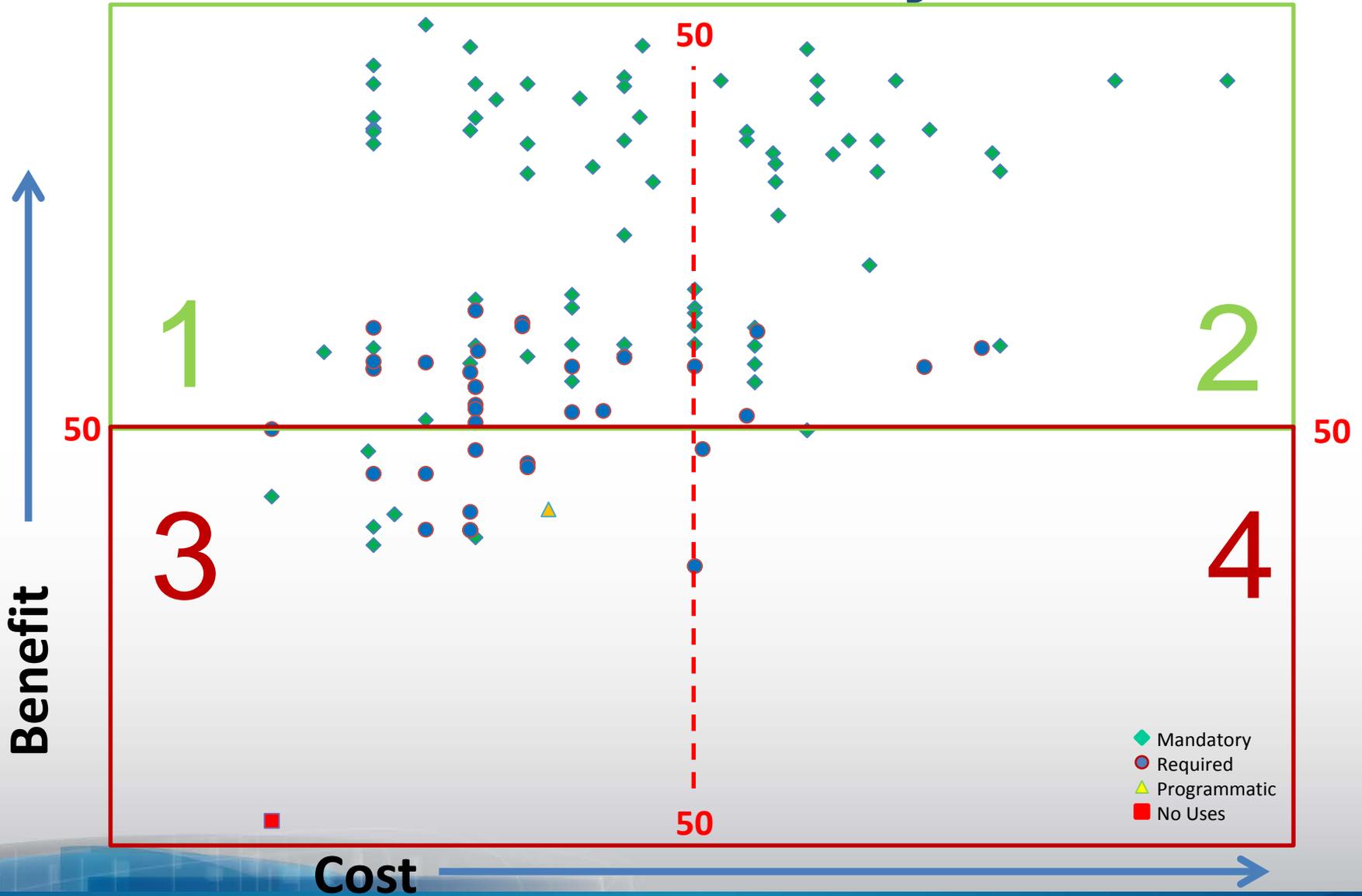
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# Quadrant Analysis

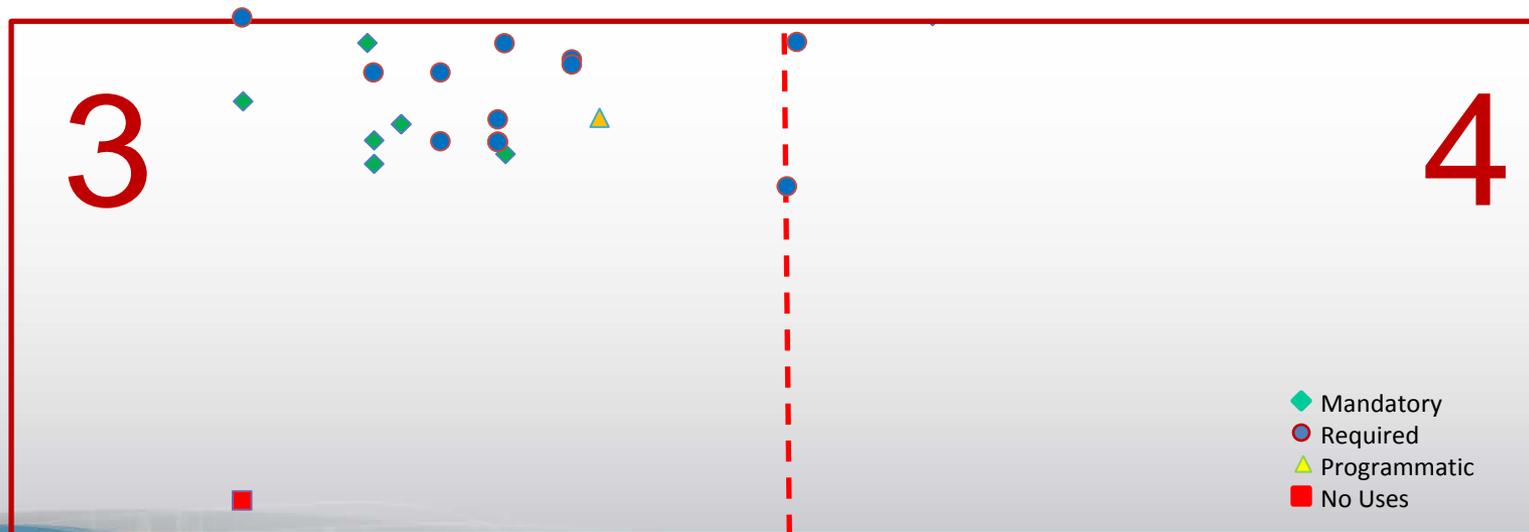


# Quadrant Analysis



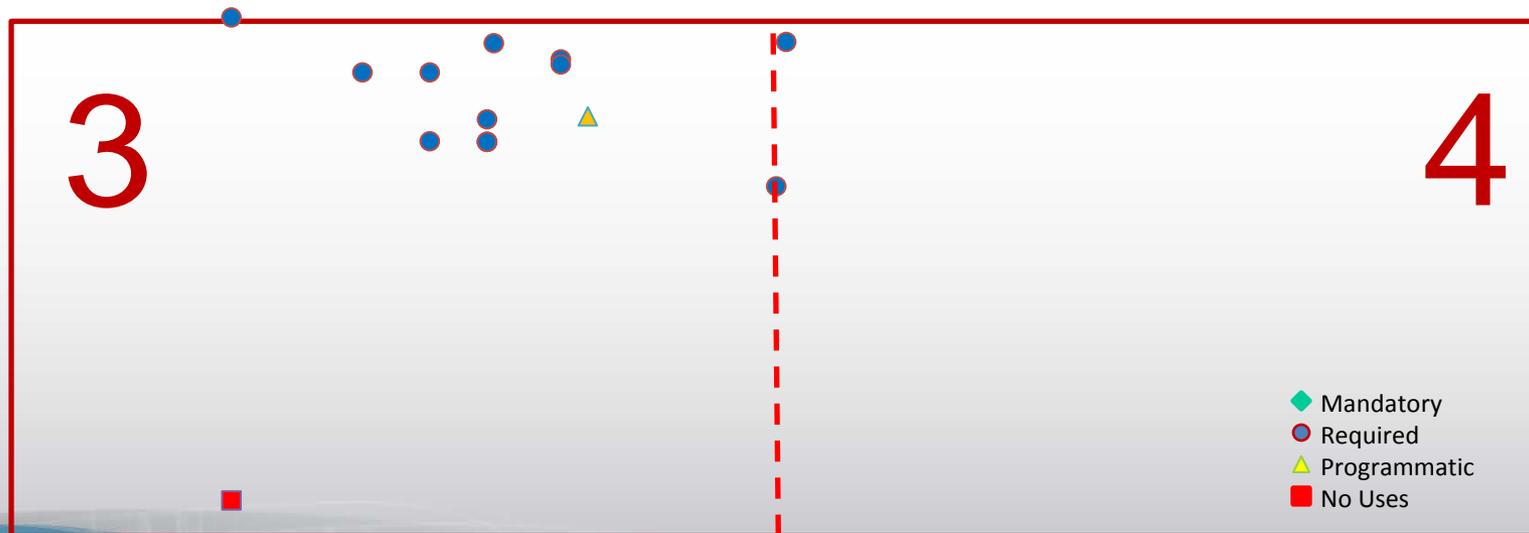
# Quadrants 3 & 4 Analysis

- Begin with full array of M, R, P, and X (no uses)
- Exclude M from consideration for removal
- Exclude R with Sub-state Uses from consideration for removal



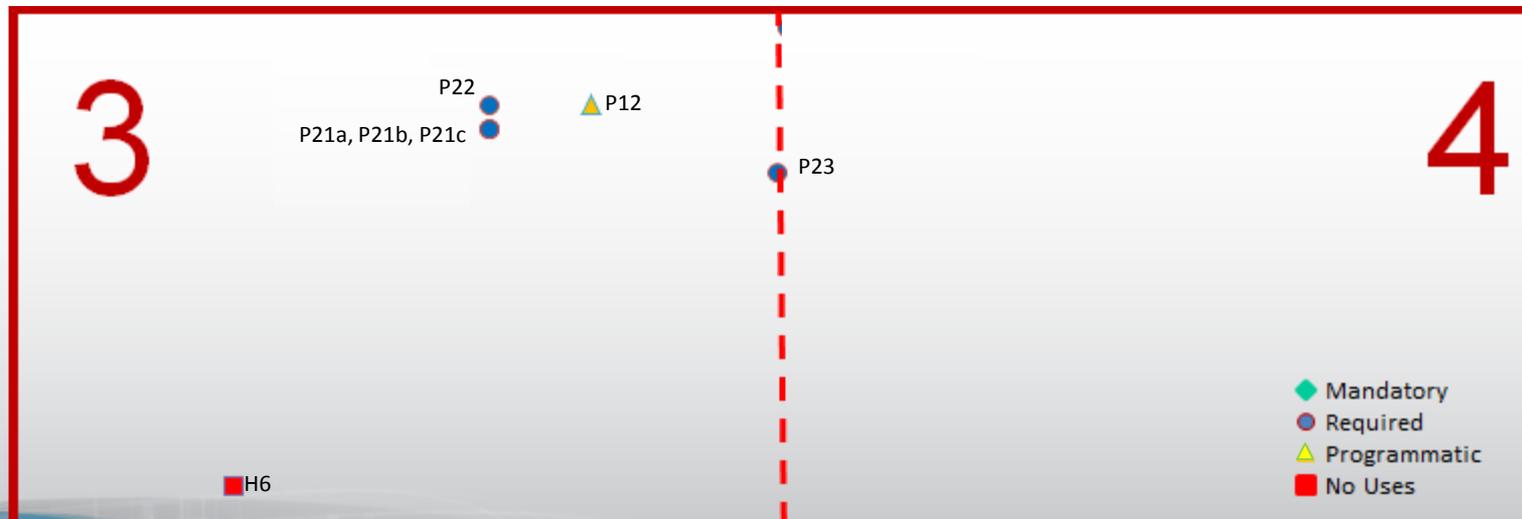
# Quadrants 3 & 4 Analysis

- Begin with full array of M, R, P, and X (no uses)
- Exclude M from consideration for removal
- Exclude R with Sub-state Uses from consideration for removal



# Quadrants 3 & 4 Analysis

- Begin with full array of M, R, P, and X (no uses)
- Exclude M from consideration for removal
- Exclude R with Sub-state Uses from consideration for removal



# Attributes of Candidates for Removal

Attribute	Agency Impacted/Comments	Other Agencies with Programmatic Uses
<b>No Uses</b>		
<ul style="list-style-type: none"> <li>H6 – Business/Medical Office on Property (X)</li> </ul>	No current agency uses; supports comparative estimates	N/A
<b>No M and No R Uses</b>		
<ul style="list-style-type: none"> <li>P12 – Undergraduate Field of Degree (P)</li> </ul>	NSF – used to target sampling frame for National Survey of College Graduates (NSCG); also supports STEM migration analyses	EPA, NTIA, HHS, DOL, DOT, EEOC
<b>No M and No R Uses at Block Group/Tract Level or Place/County/MSA Level</b>		
<ul style="list-style-type: none"> <li>P21a – Get Married (R)</li> <li>P21b – Get Widowed (R)</li> <li>P21c – Get Divorced (R)</li> <li>P22 – Times Married (R)</li> <li>P23 – Year Last Married (R)</li> </ul>	SSA – State-level actuarial targeting	FCC, NSF, HHS, EEOC FCC, NSF, HHS, EEOC FCC, NSF, HHS, EEOC FCC, NSF, HHS FCC, NSF, HHS

# Phase I Decisions

Action	Date
Brief Senior Management	
<ul style="list-style-type: none"> <li>• Associate Director for Demographic Programs</li> </ul>	8/20/14 C
<ul style="list-style-type: none"> <li>• Associate Director for 2020 Census</li> </ul>	8/22/14 C
<ul style="list-style-type: none"> <li>• Deputy Director</li> </ul>	8/25/14 C
<ul style="list-style-type: none"> <li>• Director</li> </ul>	8/27/14 C
<ul style="list-style-type: none"> <li>• Under Secretary</li> </ul>	9/5/14 C
<ul style="list-style-type: none"> <li>• Office of Management and Budget (OMB)</li> </ul>	9/15/14 C
BOC or OMB sends results to ICSP Sub-Committee	NLT 9/19/14
BOC provides immediate “heads-up” to Participating Agencies	NLT 9/23/14
BOC completes Phase I documentation	NLT 9/30/14
BOC informs Congress of intent to publish Federal Register Notice	NLT 10/1/14
BOC publishes Federal Register Notice	NLT 10/15/14

We are requesting comments on all aspects of this information collection to help us to:

(1) Evaluate whether the collection of information is necessary for the proper performance of the functions of the agencies, including whether the information will have practical utility;

(2) Evaluate the accuracy of the agency's estimate of burden including the validity of the methodology and assumptions used;

(3) Enhance the quality, utility and clarity of the information to be collected;

(4) Minimize the burden of the collection of information on those who are to respond through use of appropriate automated, electronic, mechanical, or other technological collection techniques or other forms to technology.

All comments in response to this notice, including names and addresses when provided, will be a matter of public record. Comments will be summarized and included in the request for Office of Management and Budget (OMB) approval.

Signed on October 27, 2014.

**Michael T. Scuse,**

*Under Secretary, Farm and Foreign Agricultural Services.*

[FR Doc. 2014-25904 Filed 10-30-14; 8:45 am]

**BILLING CODE 3410-08-P**

## DEPARTMENT OF COMMERCE

### Census Bureau

#### Proposed Information Collection; Comment Request; Quarterly Survey of Public Pensions

**AGENCY:** U.S. Census Bureau, Commerce.

**ACTION:** Notice.

**SUMMARY:** The Department of Commerce, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995.

**DATES:** To ensure consideration, written comments must be submitted on or before December 30, 2014.

**ADDRESSES:** Direct all written comments to Jennifer Jessup, Departmental Paperwork Clearance Officer, Department of Commerce, Room 6616, 14th and Constitution Avenue NW, Washington, DC 20230 (or via the Internet at [jjessup@doc.gov](mailto:jjessup@doc.gov)).

#### FOR FURTHER INFORMATION CONTACT:

Requests for additional information or copies of the information collection instrument(s) and instructions should be directed to Paul W. Villena, Acting Chief, Employment and Benefit Statistics Branch, Governments Division, U.S. Census Bureau, Headquarters: 6K151, Washington, DC 20233; telephone: 301-763-7286; facsimile: 301-763-6833; email: [paul.w.villena@census.gov](mailto:paul.w.villena@census.gov).

#### SUPPLEMENTARY INFORMATION:

##### I. Abstract

The Census Bureau plans to request clearance for the form necessary to conduct the Quarterly Survey of Public Pensions. The quarterly survey was initiated by the Census Bureau in 1968 at the request of both the Council of Economic Advisers and the Federal Reserve Board.

The Quarterly Survey of Public Pensions provides national summary data on the revenues, expenditures, and composition of assets of the largest pension systems of state and local governments. These data are used by the Federal Reserve Board to track the public sector portion of the Flow of Funds Accounts. The Bureau of Economic Analysis uses these data as part of the government sector projections in the Gross Domestic Product. Economists and public policy analysts use these data to assess general economic conditions and state and local government financial activities.

Data are collected from a panel of defined benefit plans of the 100 largest state and local government pension systems as determined by their total cash and security holdings reported in the 2012 Census of Governments.

The defined benefit plans of these 100 largest pension systems comprise 87.2 percent of financial activity among such entities, based on the 2012 Census of Governments.

##### II. Method of Collection

Survey data are collected through the Census Bureau's Web collection system that enables public entities to respond to the questionnaire via the Internet. The questionnaire is available online for respondents to print when they choose to mail or fax. Most respondents choose to report their data online. In addition to reporting current quarter data, respondents may report data for the previous seven quarters or submit revisions to their previously submitted data.

Usable replies are received each quarter from 80 to 95 percent of the systems canvassed. In those instances

when we are not able to obtain a response, we conduct follow-up operations using email and phone calls. Imputations are developed for each of the remaining nonresponse systems in the panel from the latest available data.

##### III. Data

*OMB Control Number:* 0607-0143.

*Form Number(s):* F-10.

*Type of Review:* Regular submission.

*Affected Public:* State and locally-administered public pension plans.

*Estimated Number of Respondents:* 100.

*Estimated Time per Response:* 45 minutes.

*Estimated Total Annual Burden Hours:* 300.

*Estimated Total Annual Cost to Public:* \$0.

*Respondent's Obligation:* Voluntary.

*Legal Authority:* Title 13 U.S.C. Section 182.

##### IV. Request for Comments

Comments are invited on: (a) Whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden (including hours and cost) of the proposed collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology.

Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval of this information collection; they also will become a matter of public record.

Dated: October 28, 2014.

**Glenna Mickelson,**

*Management Analyst, Office of the Chief Information Officer.*

[FR Doc. 2014-25925 Filed 10-30-14; 8:45 am]

**BILLING CODE 3510-07-P**

## DEPARTMENT OF COMMERCE

### Census Bureau

#### Proposed Information Collection; Comment Request; The American Community Survey Content Review Results

**AGENCY:** U.S. Census Bureau, Commerce.

**ACTION:** Notice.

**SUMMARY:** The Department of Commerce, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to take this opportunity to comment on proposed and/or continuing information collections, as required by the Paperwork Reduction Act of 1995, Public Law 104–13 (44 U.S.C. 3506(c)(2)(A)). The Department of Commerce is particularly interested in comments on seven American Community Survey (ACS) questions, highlighted in the **SUPPLEMENTARY INFORMATION** section of this Notice, which are slated for removal from the questionnaire based on the results of the 2014 ACS Content Review. Concurrently, Federal agencies that are the principal sponsors of these seven questions are invited to respond either to the U.S. Census Bureau directly or through this notice and to provide revised or additional justification for retaining these questions on the ACS.

**DATES:** To ensure consideration, written comments must be submitted on or before December 30, 2014.

**ADDRESSES:** Direct all written comments to Jennifer Jessup, Departmental Paperwork Clearance Officer, Department of Commerce, Room 6616, 14th and Constitution Avenue NW., Washington, DC 20230 (or via the Internet at [jjessup@doc.gov](mailto:jjessup@doc.gov)).

**FOR FURTHER INFORMATION CONTACT:** Requests for additional information or copies of the information collection instrument(s) and instructions should be directed to Cheryl Chambers, Rm. 3K067, U.S. Census Bureau, American Community Survey Office, Washington, DC 20233 or via email to [ACSO.communications@census.gov](mailto:ACSO.communications@census.gov).

**SUPPLEMENTARY INFORMATION:**

**I. Abstract**

Since the founding of the nation, the U.S. Census has mediated between the demands of a growing country for information about its economy and people, and the people's privacy and respondent burden. Beginning with the 1810 Census, Congress added questions to support a range of public concerns and uses, and over the course of a century questions were added about agriculture, industry, and commerce, as well as occupation, ancestry, marital status, disabilities, and other topics. In 1940, the U.S. Census Bureau introduced the long form and since then only the more detailed questions were asked of a sample of the public.

The ACS, launched in 2005, is the current embodiment of the long form of the census, and is asked each year of a

sample of the U.S. population in order to provide current data needed more often than once every ten years. In December of 2010, five years after its launch, the ACS program accomplished its primary objective with the release of its first set of estimates for every area of the United States. The Census Bureau concluded it was an appropriate time to conduct a comprehensive assessment of the ACS program. This program assessment focused on strengthening programmatic, technical, and methodological aspects of the survey to assure that the Census Bureau is an efficient and effective shared service provider. The assessment also provided an opportunity to examine and confirm the value of each question on the ACS, which resulted in the 2014 ACS Content Review.

The 2014 ACS Content Review is the most comprehensive effort ever undertaken by the Census Bureau to review content on the survey, seeking to understand which federal programs use the information collected by each question, the justification for each question, and assess how the Census Bureau might reduce respondent burden. This review included examination of all 72 questions contained on the 2014 ACS questionnaire, including 24 housing-related questions and 48 person-related questions. Prior to this review, there were approximately 175 known federal uses. As a result of the federal agencies' commitment to the review, over 125 additional uses were identified, bringing the total number to over 300.

Each participating agency provided the Census Bureau with the uses and justifications for questions, and each corresponding Office of General Counsel validated the legal basis for each question. The Department of Commerce Office of General Counsel further confirmed these legal statements and categorized each use as either mandatory,<sup>1</sup> regulatory,<sup>2</sup> or programmatic.<sup>3</sup> Of the 72 questions, only three of the questions did not have either a mandatory or required use, with 39 questions having at least one mandatory use, 64 questions having at least one regulatory use, and 70 questions having at least one

<sup>1</sup> A federal law explicitly calls for use of decennial census or American Community Survey data on that question.

<sup>2</sup> A federal law (or implementing regulation) explicitly requires the use of data and the decennial or the American Community Survey is the historical source; or the data are needed for case law requirements imposed by the U.S. federal court system.

<sup>3</sup> The data are needed for program planning, implementation, or evaluation and there is no explicit mandate or requirement.

programmatic use. The outcome of the Content Review is to identify questions for removal or modification, while continuing to provide information to meet federal agencies' needs.

**II. Method of Collection**

In August 2012, the OMB and the Census Bureau chartered the Interagency Council of Statistical Policy (ICSP) Subcommittee for the ACS to “provide advice to the Director of the Census Bureau and the Chief Statistician at OMB on how the ACS can best fulfill its role in the portfolio of Federal household surveys and provide the most useful information with the least amount of burden.” The Subcommittee charter also states that the Subcommittee would be expected to “conduct regular, periodic reviews of the ACS content . . . designed to ensure that there is clear and specific authority and justification for each question to be on the ACS, the ACS is the appropriate vehicle for collecting the information, respondent burden is being minimized, and the quality of the data from ACS is appropriate for its intended use.”

The ICSP Subcommittee established the two analysis factors—benefit as defined by the level of usefulness and cost as defined by the level of respondent burden or difficulty in obtaining the data. The Subcommittee also established the 19 decision criteria—13 benefit criteria and six cost criteria. Given these criteria, the collection of nine data sets was required. The five data sets that were collected to demonstrate ACS benefits (usefulness) included:

*Federal Agency ACS Data Uses*—Agencies were asked to document: (1) Justification for question use; (2) mandatory, regulatory, and programmatic uses; (3) lowest level of geography required; (4) frequency of use; (5) funding formulas and the amount of funding distributed based on the questions; and, (6) characteristics of the population supported by the question. The Office of General Counsel for each agency submitting uses to the Census Bureau confirmed the legal citations associated with each of the stated uses. The Department of Commerce Office of General Counsel subsequently validated each use to adjudicate whether the use is Mandatory, Regulatory, or Programmatic.

*Federal Agency Alternative Data Sources*—Agencies were also asked to identify alternative data sources to the ACS.

*Computation of Questions' Estimates Coefficients of Variation*—Census Bureau subject matter experts examined

the coefficient of variation (CV) associated with an estimate for each question at the county level, providing insight into the quality of the measure by geography.

*Computation of Questions' Estimates Interquartile Ranges*—Census Bureau subject matter experts computed interquartile ranges associated with an estimate for each question at the county level, providing insight into the amount of variability in the estimates by geography.

*ACS Used as another Survey's Sampling Frame*—Other surveys that used the ACS as a sampling frame were identified, including the ACS questions that were used to identify the survey sample of respondents.

Four data sets reflecting measures of cost (burden) were collected. These included:

*Survey of Interviewers*—ACS interviewers were surveyed to identify three of the cost indicators: Which questions respondents find cognitively burdensome, or sensitive, and which ones are the most difficult.

*Time to Respond Response*—Response times to questionnaires via automated modes (Internet, call center, and in-person interviews) were measured to determine how long it took respondents to answer each question.

*Allocation Rates*—Allocation rates by questions were computed to determine which questions were left blank requiring statistical methods to fill in the response. That is, which questions required more imputation due to missing information.

*Complaints*—Complaints about the ACS received by email, letter, or telephone were examined and associated with questions so that counts could be obtained.

Based on the analysis of the 9 data sets reflecting the 19 decision criteria, each question received a total number of points between 0 and 100 based on its benefits, and 0 and 100 points based on its costs. These points were then used as the basis for creating four categories: *High Benefit and Low Cost; High Benefit and High Cost; Low Benefit and Low Cost; or Low Benefit and High Cost*. For this analysis, any question that was designated as either *Low Benefit and Low Cost* or *Low Benefit and High Cost* and was *NOT* designated as *Mandatory* (i.e., statutory) by the Department of Commerce Office of General Counsel or *NOT* Required (i.e., regulatory) with a sub-state use, was identified as a potential candidate for removal. Initially 21 questions (17 percent) fell into the *Low Benefit/Low Cost* category and three questions (3 percent) fell into the *Low Benefit/High Cost* category, for a

combined total of 24 questions in either of the *Low Benefit* categories. However, after removing those that were *Mandatory* or *Required* with a sub-state use, only seven (6 percent) of the 24 questions remained. These seven questions were all in the *Low Benefit* and *Low Cost* category.

These seven questions include, with the 2014 ACS questionnaire wording in italics: *Housing Question No. 6—Business/Medical Office on Property—Is there a business (such as a store or barber shop) or a medical office on this property?*

*Person Question No. 12—Undergraduate Field of Degree—This question focuses on this person's Bachelor's Degree. Please print below the specific major(s) of any Bachelor's Degrees this person has received.*

*Person Question No. 21a—Get Married—In the past 12 months did this person get—Married?*

*Person Question No. 21b—Get Widowed—In the past 12 months did this person get—Widowed?*

*Person Question No. 21c—Get Divorced—In the past 12 months did this person get—Divorced?*

*Person Question No. 22—Times Married—How many times has this person been married?*

*Person Question No. 23—Year Last Married—In what year did this person last get married?*

The public is invited to comment on all questions on the American Community Survey; however, the Census Bureau is particularly interested in comments on these seven ACS questions listed above, which are slated for removal from the questionnaire based on the results of the 2014 Content Review. Concurrently, Federal agencies that are the principal sponsors of these seven questions are invited to respond either directly to the Census Bureau or through this notice and provide revised or additional justification for these questions, especially concerning strategies to reduce respondent burden. We would anticipate comments concerning such strategies as examining alternative data sources, changes to wording or presentation, using a more limited sample, reducing question frequency, federal agency collaboration on the review of statutes or regulations, among others.

To view all 2014 ACS questions by category with their associated justifications, please visit: [http://www.census.gov/acs/www/about\\_the\\_survey/acs\\_content\\_review/](http://www.census.gov/acs/www/about_the_survey/acs_content_review/).

### III. Data

*OMB Control Number:* 0607–0810.  
*Form Number(s):* ACS–1(2014).

*Type of Review:* Regular submission.

*Affected Public:* Federal and legislative agencies, individuals, households, and businesses. We plan to contact the following number of respondents each year: 3,540,000 households; 200,000 persons in group quarters; 20,000 contacts in group quarters; 43,000 households for reinterview; and 1,500 group quarters contacts for reinterview.

*Estimated Time per Response:* 40 minutes for the average household questionnaire.

*Estimated Total Annual Burden Hours:* The estimate is an annual average of 2,337,900 burden hours.

*Estimated Total Annual Cost to Public:* Except for their time, there is no cost to respondents.

*Respondent's Obligation:* Mandatory.

**Legal Authority:** Title 13 U.S.C. Sections 141 and 193 or other authority authorizing or requiring the collection.

### IV. Request for Comments

Comments are invited on: (a) Whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden (including hours and cost) of the proposed collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology.

Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval of this information collection; they also will become a matter of public record.

Dated: October 28, 2014.

**Glenna Mickelson,**

*Management Analyst, Office of the Chief Information Officer.*

[FR Doc. 2014–25912 Filed 10–30–14; 8:45 am]

**BILLING CODE 3510–07–P**

## DEPARTMENT OF COMMERCE

### Bureau of the Census

[Docket Number 141016857–4857–01]

### Annual Retail Trade Survey

**AGENCY:** Bureau of the Census, Department of Commerce.

**ACTION:** Notice of determination.

**American Community Survey  
Fiscal Year 2014 Content Review  
Communications Strategy  
External**

FINAL REPORT

*Tasha Boone, American Community Survey Office*

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## **1 Introduction and Background**

Since the founding of the nation, the Congress has mediated between the demands of a growing country for information about its economy and people, and the people's privacy and freedom from undue intrusion. Beginning with the 1810 Census, Congress added questions to support a range of public concerns and uses, and over the course of a century questions were added about agriculture, industry, and commerce, as well as occupation, ancestry, marital status, disabilities, and other topics. In 1940, the U.S. Census Bureau introduced the long form and since then only the more detailed questions were asked of a sample of the public.

The American Community Survey (ACS), launched in 2005, is the current embodiment of the census long form, and is asked each year of a sample of the U.S. population in order to provide current data that is needed more often than once every ten years. In December of 2010, five years after its launch, the ACS program accomplished its primary objective with the release of its first set of estimates for every area of the United States. The Census Bureau concluded it was an appropriate time to conduct a comprehensive assessment of the ACS program. This program review, in compliance with the requirements of the Paperwork Reduction Act, includes an initiative to examine and confirm the value of each question on the ACS and to understand better which specific programs use the information collected by each question. The program assessment focused on strengthening programmatic, technical, and methodological aspects of the survey. The assessment also provided an opportunity to examine and confirm the value of each question on the ACS, which resulted in the Fiscal Year 2014 ACS Content Review.

The Content Review process is a thorough exploration of statutory requirements and programmatic value to data users, which is executed with the burden to ACS respondents in mind. This communications plan is intended to help ensure a transparent, customer-centric process that informs data users of the review and its criteria, and enable public comment throughout the process.

This document directly supports the findings described in the American Community Survey (ACS) Fiscal Year 2014 Content Review Results Final Report. For more information on the ACS Content Review, see the Content Review web page:

[http://www.census.gov/acs/www/about\\_the\\_survey/acs\\_content\\_review/](http://www.census.gov/acs/www/about_the_survey/acs_content_review/)

## **2 Purpose and Scope**

The purpose of the Communications Strategy for the American Community Survey Questionnaire Content Review (will be referred to as "Plan") is to define and outline key stakeholders (internal and external) who are part of or affected by the Content Review process and our communication activities with them regarding the content review process. Plan goals with include:

- Raise awareness of the Content Review process
- Provide insight and transparency into the Content Review process
- Provide basic key messages that are clear, consistent, and emphasize the goals of the ACS Content Review process
- Provide for the inclusion of non-federal comment on the substance and process of the Content Review.

This Strategy is the operative document detailing efforts to engage its internal and external stakeholders.

### 3 Strategy

We will build an outreach strategy that is clear and transparent to stakeholders, and offers opportunities for valuable input to be captured throughout the process. Recommendations gleaned from analysis of stakeholder inputs regarding the questionnaire will be provided for review and comments to key audiences.

We developed a digital comment collection tool (or tools) that will allow internal and external stakeholders the opportunity to provide comments on the questionnaire – similar to the process conducted for *Federal Register* notices, but earlier in the process and with a more interactive component, sorted by topic or question.

Communication to stakeholders about the Content Review is comprised of eight phases. Time frames and high-level communications milestones have been identified below. Note: some of the phases may overlap and activities may be concurrent.

Phase	Activity	Activity Timeline
1	Inform/Create General Awareness	August 2013–January 2014
2	Gather Input	January 2014–July 2014
3	Provide Status Updates and Report Out	May 2014–July 2014
4	Validate and Analyze Feedback	June 2014–August 2014
5	Share Initial Comments/Results	September 2014–October 2014
6	<i>Federal Register</i> notice Public Comment Period	October 31, 2014–December 30, 2014 (60 days)
7	Share Final Outcomes/Results	January 2015–March 2015
8	<i>Federal Register</i> notice Public Comment Period II	April–May 2015 (30 days)

- Communications Phase 1: Inform/Create General Awareness (*August 2013–January 2014*)
  - Pre-communications about Content Review with Department of Commerce (DOC).
    - Validate initial criteria
  - Share proposed project milestones and outcomes with Census staff leadership.
  - Reach out to active members of the National Advisory Committee (NAC) for guidance.
  - Coordinate across Census Bureau directorates to validate stakeholders and contacts.
  - Begin drafting communications materials:
    - Draft ACS website page outline
    - Draft and release paragraph for press release
    - Develop Content Review slides 101 High-Level Information PowerPoint
    - Develop general elevator speech
    - Develop talking points
  - Frame messaging on basic FAQs:
    - What is the Content Review?
    - Why are we doing the Content Review?
    - Who is participating in the Content Review?
    - What do we need from you/how can you participate in the Content Review?
    - Why do we need you to participate?
    - What is the expected outcome/benefit?
    - Where do you go for more information?
  - Develop stakeholder questions:
    - Interview questions to ask federal agencies
    - Questions to ask ACS-invested stakeholder groups/development of online tool to solicit feedback
    - Online tool to solicit feedback from general public
  - Determine congressional outreach plan.
  - Attend meetings/host webinars and conference calls with External Advisory Groups and External Groups - Census Support Networks to let them know we are starting this process.
  - Launch high-level ACS Content Review website, [http://www.census.gov/acs/www/about\\_the\\_survey/acs\\_content\\_review/](http://www.census.gov/acs/www/about_the_survey/acs_content_review/).
- Communications Phase 2: Gather Input (*January 2014–July 2014*)

- Launch online tool(s) to solicit feedback from stakeholders with approved communications materials (i.e., FAQs, 101 Briefing).
- Hold information gathering sessions with agency points of contact and other stakeholders.
- Determine need for additional communications materials such as:
  - Director's Blog (announce that tool is launched for feedback)
  - Additional FAQs
- Communications Phase 3: Provide Status Updates and Report Out (*April 2014–July 2014*)
  - Provide midway status report to stakeholders.
  - Develop PPT summarizing where we are in the process and who we talked to.
  - Note: We will also be giving periodic updates to identified internal DOC stakeholders throughout the Content Review process.
- Communications Phase 4: Validate and Analyze Feedback (*June 2014–August 2014*)
  - Communicate to stakeholders that we are analyzing feedback.
  - Provide updates and dates when we will have more information.
  - Review data and make changes with the Economics and Statistics Administration (ESA) and the Interagency Council on Statistical Policy (ICSP).
- Communications Phase 5: Share Initial Outcomes/Results (*September 2014–October 2014*)
  - Communicate initial results internally.
  - Share results with all stakeholders.
  - Submit *Federal Register* notice.
  - Provide forum for answering questions/addressing concerns about results.
  - Draft summary reports/communications materials to include:
    - Summary PPT of process, who submitted input, results, and changes
    - Press release (can add summary paragraph to one-year data release)
    - U-Stream video highlighting results
    - ACS Blog
    - Post approved materials to website.
- Communications Phase 6: *Federal Register* Public Comment Period (*October 31, 2014–December 30, 2014*)
  - Post *Federal Register* notice.
  - Develop Talking Points on *Federal Register* notice responses.

- Communications Phase 7: Share Final Outcomes/Results (*January 2015–March 2015*)
  - Finalize survey changes and communicate results.
- Communications Phase 8: OMB *Federal Register* Public Comment Period II (*April 2015–May 2015*)
  - Public comment period is 30 days.
  - OMB provides approval to the Census Bureau.

## 4 Audiences

Each audience has different needs and will be reached with products, activities, and messages tailored to these needs. Many of the stakeholders identified below are priority stakeholders as ACS seeks their input on the ACS questionnaire and the questions/topics asked. ACS will also be sharing information about the Content Review process, progress, and results with stakeholders.

Stakeholder	What is our objective? Why do we want to communicate with them? What questions are we trying to answer?	Primary Concerns
<b>Tier 1 Stakeholders: Highest priority/level of communications engagement and outreach concentrated on the stakeholders below</b>		
<b>External Federal Agencies/Groups:</b>		
<ul style="list-style-type: none"> <li>• Bureau of Economic Analysis (BEA)</li> <li>• Bureau of Justice Statistics (BJS)</li> <li>• Department of Agriculture (USDA)</li> <li>• Department of Education (DoEd)</li> <li>• Department of Energy (DOE)</li> <li>• Department of Health and Human Services (HHS)</li> <li>• Department of Housing and Urban Development (HUD)</li> <li>• Department of Labor (DOL)</li> <li>• Department of Transportation (DOT)</li> <li>• Department of Veteran’s Affairs (VA)</li> <li>• Environmental Protection Agency (EPA)</li> <li>• Equal Employment Opportunity Commission (EEOC)</li> <li>• Federal Communications Commission (FCC)</li> <li>• Federal Reserve Board (FRS)</li> <li>• FTC</li> <li>• National Science Foundation (NSF)</li> <li>• National Telecommunications and Information Administration (NTIA)</li> <li>• Social Security Administration (SSA)</li> </ul>	(1) Obtain input (2) Share information about project We need to learn: <ul style="list-style-type: none"> <li>• Specific legal citations requiring the use of ACS or Census data</li> <li>• Statutory vs. Programmatic</li> <li>• Levels of geography required</li> <li>• Relative importance of specific data uses</li> <li>• Specifics on other uses of data</li> <li>• Any potential alternate sources of ACS-type data</li> </ul>	<ul style="list-style-type: none"> <li>• Action they need to take</li> <li>• Deadlines/ Timelines</li> </ul>

Stakeholder	What is our objective? Why do we want to communicate with them? What questions are we trying to answer?	Primary Concerns
<b>Congress – Members and Staff:</b>		
Congress	(1) Obtain input (2) Share information about project	<ul style="list-style-type: none"> <li>• Relieving the burden on constituents</li> <li>• Weighing cost (burden, sensitivity, cost) and benefit (federal programs affected, district and state benefits)</li> </ul>
<b>Tier 2 Stakeholders: Medium priority/level of communications engagement and outreach concentrated on the stakeholders below</b>		
<b>Public:</b>		
<p>ACS Respondents</p> <p>Note: Rather than place additional burden on respondents through a formal survey, we are providing a feedback form on the ACS website and gathering information from the first-line survey and outreach staff (Field Representatives, Telephone Center Staff, and Data Disseminators).</p>	<p>(1) Obtain input (2) Share information about project</p> <p>We need to learn:</p> <ul style="list-style-type: none"> <li>• Which specific questions are particularly burdensome</li> <li>• What concerns they have about the survey content</li> </ul>	<ul style="list-style-type: none"> <li>• Confidentiality, privacy</li> <li>• How the information they provide helps the community</li> </ul>
<b>Data Users:</b>		
<p>State, local, and tribal governments, via:</p> <ul style="list-style-type: none"> <li>• League of Cities</li> <li>• National Association of Counties</li> <li>• National Association of Towns and Townships</li> <li>• National Association of Latino Elected Officials</li> <li>• National Indian Education Association</li> <li>• National Congress of American Indians</li> <li>• National Governors Association</li> <li>• U.S. Conference of Mayors</li> <li>• American Association of State Highway and Transportation Officials</li> <li>• Association of Public Data Users</li> </ul>	<p>(1) Obtain input (2) Obtain input from their networks (3) Share information about project</p> <p>We need to learn:</p> <ul style="list-style-type: none"> <li>• Importance of specific questions to their constituencies</li> <li>• Impact to their constituency and ability to govern if specific questions were removed</li> <li>• Any potential alternate sources of ACS-type data</li> </ul>	Impact on their ability to govern, economy
ACS Data User Group	(1) Obtain input (2) Obtain input from their networks	Multiple, varies

Stakeholder	What is our objective? Why do we want to communicate with them? What questions are we trying to answer?	Primary Concerns
	(3) Share information about project We need to learn: <ul style="list-style-type: none"> <li>• Importance of specific questions to their constituencies</li> <li>• Impact on their constituency and ability to govern if specific questions were removed</li> </ul>	
Topic-Specific Interest Groups, including: <ul style="list-style-type: none"> <li>• Human Rights Campaign</li> <li>• American Association of People with Disabilities</li> </ul>	(1) Obtain input (2) Obtain input from their networks (3) Share information about project We need to learn: <ul style="list-style-type: none"> <li>• Importance of specific questions to their constituencies</li> <li>• Any potential alternate sources of ACS-type data</li> </ul>	Ability to accurately understand their constituencies
Business organizations: <ul style="list-style-type: none"> <li>• U.S. Chamber of Commerce</li> </ul>	(1) Obtain input (2) Obtain input from their networks (3) Share information about project We need to learn: <ul style="list-style-type: none"> <li>• ACS questions that are of the most importance to businesses</li> <li>• Any potential alternate sources of ACS-type data</li> <li>• Impact on America’s businesses if specific questions were removed</li> </ul>	Impact on business, competitiveness, economy
Academic and research organizations: <ul style="list-style-type: none"> <li>• American Statistical Association</li> <li>• American Sociological Association</li> <li>• Population Association of America</li> </ul>	(1) Obtain input (2) Obtain input from their networks (3) Share information about project We need to learn: <ul style="list-style-type: none"> <li>• ACS questions that are of the most importance to their areas of study</li> <li>• Any potential alternate sources of ACS-type data</li> <li>• Impact on their areas of study if specific questions were removed</li> </ul>	Impact on their research capabilities
The Census Project’s Stakeholder List <a href="http://www.thecensusproject.org/Stakeholderlist.htm">http://www.thecensusproject.org/Stakeholderlist.htm</a>	(1) Obtain input (2) Obtain input from their networks (3) Share information about project with academic and research organizations: <ul style="list-style-type: none"> <li>• American Statistical Association</li> <li>• American Sociological Association</li> <li>• Population Association of America</li> </ul>	All of the above

Stakeholder	What is our objective? Why do we want to communicate with them? What questions are we trying to answer?	Primary Concerns
<b>Advisory Groups:</b>		
<ul style="list-style-type: none"> <li>• Interagency Council on Statistical Policy (ICSP)</li> <li>• National Advisory Committee (NAC)</li> <li>• Census Scientific Advisory Committee (CSAC)</li> <li>• Federal Economic Statistics Advisory Committee (FESAC)</li> <li>• Federal State Cooperative for Population Estimates (FSCPE)</li> <li>• State demographers assigned to work with Census on demographic topics.</li> <li>• National Academy of Sciences (NAS)</li> <li>• Office of Management and Budget (OMB)</li> <li>• Council of Professional Associations on Federal Statistics (COPAFS)</li> <li>• Office of Community Oriented Policing Services (COPS)</li> </ul>	(1) Obtain input (2) Obtain input from their networks (3) Share information about project	
<b>Census Data Dissemination Support Networks:</b>		
<ul style="list-style-type: none"> <li>• State Data Centers</li> <li>• Census Information Centers</li> </ul>	(1) Obtain input (2) Obtain input from their networks (3) Share information about project  They will help us disseminate information/serve as facilitators.	The need for timely, up-to-date, small area statistics and how they compare to previous years. Getting content in plain language that is easily discernible to mass audiences.
Data Dissemination Staff in Regional Offices	(1) Obtain input (2) Obtain input from their networks (3) Share information about project	Getting timely information from headquarters
Census Partners/All Partners	(1) Obtain input (2) Obtain input from their networks (3) Share information about project	All of the above
Media	(1) Share information about project	Transparency, motivations

In addition to the stakeholders above, ACS has identified groups that **require tailored reporting out on the status** of the ACS Questionnaire Content Review. These groups may advise on next steps and provide feedback on the direction of the review.

Department of Commerce (DOC) /Census Bureau groups:

- DOC –ESA
- DOC – Office of Public Affairs
- Interagency Council on Statistical Policy Subcommittee on the American Community Survey
- Office of Management and Budget (OMB): Chief Statistician
- General Accounting Office
- Census Bureau
  - All Employees
  - Operating Committee
  - Division Chiefs Forum
  - ACSO Senior Staff

## 5 Messages

Key messages will explain why we are reviewing the content of the ACS, what the criteria are for continued inclusion, and the potential impact on stakeholders. They will change over time as the project advances through its sometimes concurrent phases of data gathering, analysis, public comment, and reporting out.

### Phase I: Inform/Create General Awareness

- General Elevator Speech (updated December 9, 2013)
  - The Census Bureau is reviewing every topic on the American Community Survey to ensure that the benefits each topic adds to the nation's data infrastructure outweigh the costs, in terms of burden and time, to the 3.5 million households each year that must respond to the survey.
  - The ACS is the only source of local statistics for most of the 40 topics it covers, such as educational attainment, housing, employment, commuting, language spoken at home, nativity, ancestry, and selected monthly homeowner costs. As such, federal programs, state and local governments, businesses, researchers, and many others rely on the data it produces to make program or investment decisions.
  - In early 2014, the Census Bureau will invite the public to give feedback on each question asked in the survey. We will use objective criteria to weight and score the relative importance and usefulness of each topic, and report findings by the end of 2014.

- General Talking Points (updated December 9, 2013)
  - A group of the nation's primary federal statistical agencies is reviewing the need for all topics on the American Community Survey.
  - The Content Review is weighing the benefits of the data produced by each topic on the survey against the costs of requiring response for that topic.
  - The primary criterion for review is the statutory and programmatic justification for each topic by federal agencies.
  - We will also gather feedback from non-federal data users using an online survey, including state, local, and tribal governments, businesses, nonprofits, and academia.
  - The Content Review is using an objective scoring system to analyze the importance and usefulness of each topic.
  - The Census Bureau is committed to a robust, transparent process for public input.
  - The results and recommendations of the Content Review will be released in January 2015.
  
- Approved description for Media Releases (*PIO released August 28, 2013*)
  - The policies, communities, businesses, and funding you care about are affected by statistics collected from the American Community Survey.
  - The Census Bureau is reviewing every question on the American Community Survey. It is necessary to have a periodic review to ensure adequate coverage for some government functions.
  - If you or your community depends on statistics about any of the 40 topics covered in the American Community Survey, or any policies and programs depend on that information, you have the opportunity to make your voice heard on how the survey is conducted in the future. Visit [www.census.gov/ACScontent](http://www.census.gov/ACScontent).

**Phase 6: *Federal Register* notice Public Comment Period**

- Talking Points for *Federal Register* notice (*Updated October 14, 2014*)
  - The 2014 ACS Content Review is an in-depth, large-scale, public cost-benefit analysis of each and every question on the ACS.
  - There are 3 phases of the Content Review. The Census Bureau just completed Phase 1: identifying, documenting, scoring and analyzing all known federal uses of ACS survey data.
  - PHASE 1-This phase resulted in assigning a point value to each question on the survey according to its benefits and costs.
  - PHASE 1 also found that topics respondents complain most about actually score highly in terms of overall cost/benefit.
  - Phase 2 digs deeper to understand if there are other ways to obtain necessary data without burdening as many respondents.

- Phase 3 examines questions that may need to be revised to ensure they resonate with the respondent and provide the best quality data.
- The American Community Survey could reflect changes that result from this review as early as 2016, after analysis and testing is complete.

## 6 Assumptions

Successful implementation of the communications activities outlined in this Strategy is based on the following assumptions:

- Resources are available to implement the communications activities.
- Management and leadership support the implementation of the plan and participate in the delivery of key activities and messages.
- Existing communications channels within the Communications Directorate and ACSO are available to distribute communications.
- Subject matter and outreach specialists and senior staff within the Communications, Decennial, Demographic, Economic, and Research Directorates are willing to compile, share, and contact lists of key groups and influential stakeholders.

## 7 Issues and Risks

### 7.1 Communications Milestone Deliverables and Activities

Activity	Due Date	Notes	
<b>Communications Phase 1: Inform/Create General Awareness (August 2013–January 2014)</b>			
1	Draft <b>2-3 slides</b> on ACS Content Review to show at stakeholder Fall Meetings	9/5/13	COMPLETE
2	Design website page and draft basic content	9/5/13	COMPLETE
3	Meet with ESA – provide update	11/6/13	COMPLETE
4	ACS Presentation at <b>FSCPE</b> meeting	9/13/13	COMPLETE
5	ACS Presentation at <b>APDU</b> meeting	9/16/13–9/17/13	COMPLETE
6	Draft and release <b>press release</b> for 1 year data release – last paragraph on Content Review	9/19/13	COMPLETE
7	ACS Presentation at <b>CSAC</b> meeting	9/19/13–9/20/13	COMPLETE
8	Launch basic ACS Content Review website page	9/27/13	COMPLETE
9	Develop initial draft Communications plan -Validate stakeholders, messages, needs	9/29/13	COMPLETE
10	Article in DEMO Sponsors Newsletter	Oct/Nov 2013	COMPLETE
11	Develop key <b>messages</b> <ul style="list-style-type: none"> <li>• Elevator Speech</li> <li>• Talking Points</li> <li>• External 1-Pager</li> </ul>	10/15/13	COMPLETE

Activity		Due Date	Notes
12	ACS Presentation at <b>CSAC</b> meeting	10/17/13–10/18/13	COMPLETE
13	ACS Presentation with <b>SDC/CIC</b> via webinar	10/21/13–10/25/13	COMPLETE
14	Meet with <b>ESA</b> – provide update (every other month)	11/6/13	COMPLETE
15	Draft and release <b>press release</b> for 3 year data release – last paragraph on Content Review	11/14/13	COMPLETE
16	Meet with <b>ICSP</b> to review criteria	11/21/13	COMPLETE
17	<b>Internal Coordination</b> Coordinate subject matter experts, public input/outreach and partner group experts within ADCOM, ADEP, ADDP, AD20C, ADDC, ADRM, PCO, ORMPE for potential stakeholder POCs and additional outreach (assign responsibility)	12/13/13	COMPLETE
18	Schedule meetings with federal agencies	Dec 2013 –Jan 2014	COMPLETE
19	Draft and release <b>press release</b> for 5 year data release – last paragraph on Content Review	Dec 2013	COMPLETE
20	Draft and finalize Content Review <b>overview document</b>	Dec 2013	COMPLETE
21	Draft <b>FAQs</b> for Website	Dec 2013	COMPLETE
22	Draft <b>timeline slide</b> for Website	Dec 2013	COMPLETE
23	Post Content Review subscription option in <b>GovDelivery</b>	Dec 2013	COMPLETE
24	Draft <b>feedback link</b> questions for ACS Data Users	Dec 2013	COMPLETE
25	Draft <b>feedback link</b> questions for ACS Respondents	Dec 2013	COMPLETE
<b>Communications Phase 2: Gather Input (May 2014–August 2014)</b>			
26	Meet with <b>ESA</b> – provide update (every other month)	1/10/14	COMPLETE
27	Content Review presentation at <b>All-Sponsors</b> meeting	1/28/14	COMPLETE
28	Present to <b>Congress</b> on Content Review	1/28/14	COMPLETE
29	Post <b>feedback links</b> on ACS Content Review website	6/4/14	COMPLETE
30	Update for staff in ACSO Monthly Newsletter	Jan 2014	COMPLETE
31	Draft and finalize <b>101 PPT</b> for website	Sept 2014	COMPLETE
32	Draft and finalize <b>high-level summary slide</b> for use in presentations	Jan 2014	COMPLETE
33	Meet with <b>ESA</b> – provide update (every other month)	Jan 2014	COMPLETE
34	Collect input from federal agencies	May 2014–August 2014	COMPLETE

<b>Activity</b>	<b>Due Date</b>	<b>Notes</b>	
35	Present at ACS (DUG) meeting	Jan 2014	COMPLETE
36	ACS (DUG) website post <b>announcement and link</b> to ACS Content Review website	Jan 2014	COMPLETE
37	Update for staff in ACSO Monthly Newsletter	Mar 2014	COMPLETE
38	Meet with ESA – provide update (every other month)	Mar 2014	COMPLETE
39	Congressional briefing on Content Review	Mar 2014	COMPLETE
<b>Communications Phase 3: Provide Status Updates and Report Out (May 2014–July 2014)</b>			
40	<b>ACS DUG Conference</b> – provide update and answer questions	5/29–5/30/14	COMPLETE
41	Participate in spring meetings and update	May 2014	COMPLETE
42	Meet with ESA – provide update (every other month)	May 2014	COMPLETE
<b>Communications Phase 4: Validate and Analyze Feedback (June 2014–August 2014)</b>			
43	Update for staff in ACSO Monthly Newsletter	Aug 2014	COMPLETE
44	Update <b>website</b> with status	Aug 2014	COMPLETE
45	Updates with Congress	Jul 2014	Decided not to pursue at this time.
46	Meet with ESA – provide update (every other month)	7/11/2014	COMPLETE
47	<b>Review</b> the final weighted scores, discuss possible courses of action based on these scores, and make <b>initial recommendations</b> on the ACS questions	Jul 2014	COMPLETE
<b>Communications Phase 5: Share Initial Outcomes/Results (September 2014–October 2014)</b>			
48	Develop new Content Review PPT for stakeholders	Oct 2014	COMPLETE
49	Develop new Talking Points	Oct 2014	COMPLETE
50	Update website language as necessary	Oct 2014	COMPLETE
51	Write all sponsors article	Sep 2014	COMPLETE
52	Meet with ESA – provide update (every other month)	Sep 2014	COMPLETE
53	Update for staff in ACSO Monthly Newsletter	Sep 2014	COMPLETE
54	Draft and release <b>press release</b> for one year data release – last paragraph on Content Review	Sep 2014	COMPLETE
55	Participate in fall meetings and update on Content Review	Oct 2014	COMPLETE
56	Update federal agencies; allow them opportunity to comment	Oct 2014	COMPLETE
57	Updates with Congress	Oct 2014	COMPLETE
58	Draft and release <b>press release</b> for three year data release – last paragraph on Content Review	Oct 2014	COMPLETE
59	Meet with ESA – provide update (every other	Nov 2014	COMPLETE

Activity	Due Date	Notes	
month)			
60	Draft and release <b>press release</b> for 5 year data release – last paragraph on Content Review	Dec 2014	
61	Updates for staff (ACSO Newsletter and Town Hall meeting)	Fall 2014	COMPLETE
62	Update <b>website</b> with status	Dec 2014	Update website with status
<b>Communications Phase 6: Federal Register Public Comment Period (October 31, 2014-December 30, 2014)</b>			
63	Post <i>Federal Register</i> Notice	Oct 31, 2014	COMPLETE
64	Develop talking points on <i>Federal Register</i> Notice Responses	Dec-Jan 2014	
<b>Communications Phase 7: Share Final Outcomes/Results (January 2015–March 2015)</b>			
65	Meet with ESA – provide update (every other month)	Jan 2015	Meet with ESA – provide update (every other month)
66	News release ( <b>tip sheet</b> ) on final content changes	Jan 2015	
67	Director’s Blog Post	Mar 2015	
68	Meet with ESA- provide update (every other month)	Mar 2015	Meet with ESA- provide update (every other month)
69	Gather <b>media metrics</b> on Content Review coverage	Mar 2015	
70	Send <b>final report and summary</b> to federal agencies	Mar 2015	
71	Update <b>website</b> with status and final report	Mar 2015	
72	OMB Submission	Apr 2015	
73	Develop talking points on OMB Final Clearance	May 2015	
74	Article in <i>Census Counterparts</i> summarizing Content Review and results	Mar 2015	
75	Updates with Congress	Mar 2015	
76	Post final report on SharePoint and Extranet	Mar 2015	
77	ACSO Division/Program Town Hall on CSR	Mar 2015	
78	Update for staff in ACSO Monthly Newsletter	Mar 2015	
79	Send notice to GovDelivery subscribers	Mar 2015	
<b>Communications Phase 8: Federal Register Public Comment Period II (April 2015–June 2015)</b>			
80	Post to <i>Federal Register</i>	Apr 2015	