

American Community Survey Fiscal Year 2014 Content Review

November 24, 2014

**Fiscal Year 2014
Content Review Results**

FINAL REPORT

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Table of Contents

Executive Summary	1
1 Introduction	4
2 Background.....	4
2.1 The Interagency Council on Statistical Policy (ICSP) Subcommittee on the American Community Survey (ACS)	5
2.2 Report Purpose	5
3 Objective and Scope	6
4 Methodology.....	6
4.1 Decision Criteria Data Collection	6
4.2 Weighting Approach	10
4.3 Department of Commerce (DOC) Office of General Counsel (OGC) Validation Approach for Federal Data Uses	11
4.4 Data Analysis Approach and Question Scoring	12
5 Criteria for Excluding Questions from Consideration for Removal	13
6 Project Limitations	14
7 ACS Content Analysis Results.....	14
7.1 High-Level Quadrant Results.....	14
7.2 Quadrant Analysis by Associated Questions	15
7.3 Candidate Questions for Removal.....	16
7.4 Potential Impact of Candidate Question Removal	18
7.5 Notifying the Affected Agencies and Submitting the <i>Federal Register</i> Notice	19
8 Conclusions and Recommendations.....	20
9 Additional Information.....	20
10 Project Participants.....	20
11 List of Supporting Documentation	21

Figures and Tables

Figure 1: Notional Weighting Example.....	11
Figure 2: Design Criteria - Benefits Extract	13
Figure 3: Design Criteria - Costs Extract.....	13
Figure 4: Quadrant Analysis - Initial Scatterplot.....	15
Figure 5: Attributes of Candidates for Removal.....	19
Table 1: Decision Criteria - Benefits	7
Table 2: Decision Criteria - Costs.....	8
Table 3: Quadrant Analysis Summary.....	15
Table 4: Quadrant 3 and Quadrant 4 Question Analysis	17

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.”¹

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,² 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

¹ http://www.census.gov/acs/www/Downloads/operations_admin/ICSP_Charter.pdf

² October 31 to December 30, 2014

Benefit/High Cost; and, Low Benefit/Low Cost.³ 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

³ 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 2007⁴ and March 2008⁵. 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

⁴http://www.census.gov/acs/www/Downloads/operations_admin/Final_2010_Census_and_American_Community_Survey_Subjects_Notebook.pdf

⁵http://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."⁶

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.⁷ 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.

⁶ http://www.census.gov/acs/www/Downloads/operations_admin/ICSP_Charter.pdf

⁷ 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.⁸

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.

⁸ 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: - Respondents find the question confusing - Requires probing, or - Respondents have to retrieve information to answer
Sensitivity Score	The CATI Telephone Operator or the CAPI FR identified that: - Respondent was reluctant to answer, or - Interviewer was uncomfortable asking
Overall Difficulty Score	This score is composed of responses to any or all of the following questions about this variable: - Ranked 4 or 5 on overall difficulty, and - Voted in top three most difficult questions
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 uses⁹; (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.

⁹ 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.¹⁰

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.

¹⁰ 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.¹¹ 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.

¹¹ 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 ¹²
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.

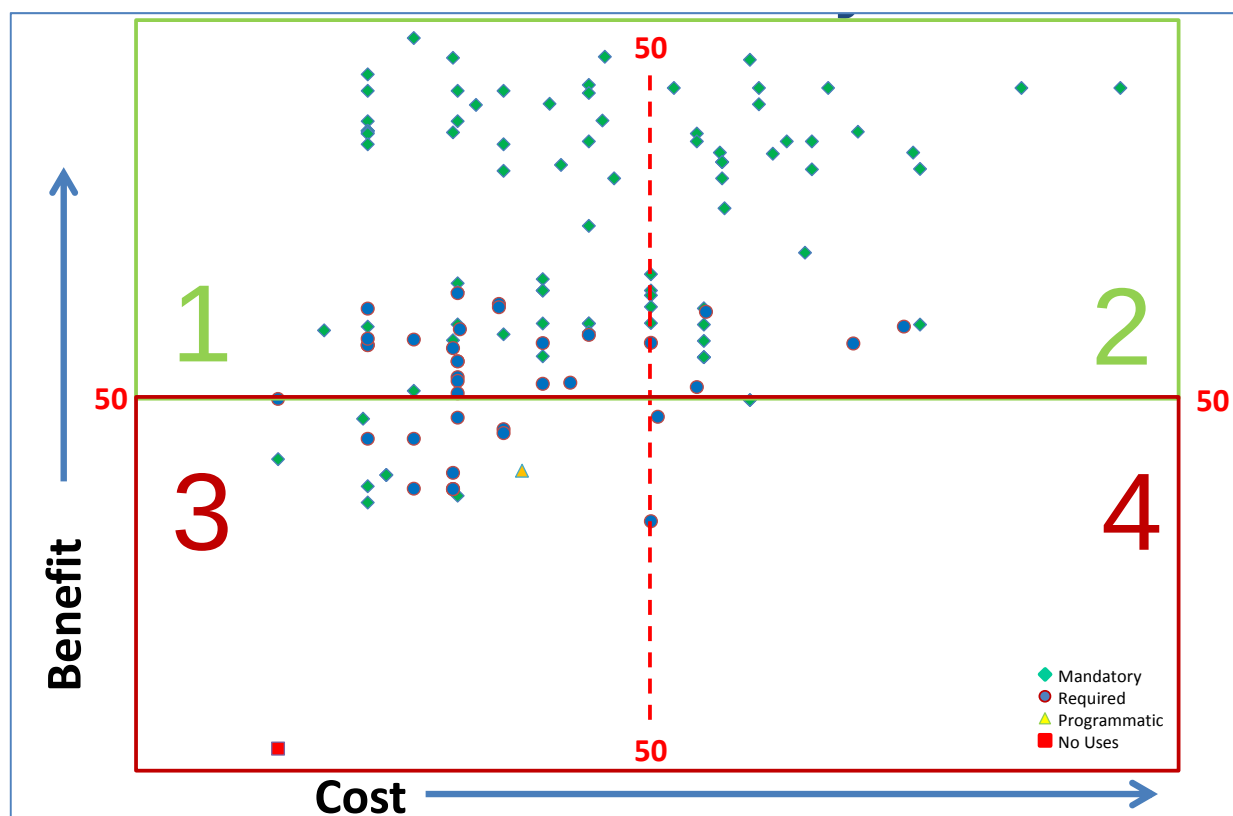


Figure 4: Quadrant Analysis - Initial Scatterplot

¹² 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

Quadrant 3 (Low Benefit/Low Cost)				
Question #*	Question	Mandatory Use	Sub-State Required Use	Retain or Remove
H5	Agriculture Sales	Yes	Yes	Retain
H6	Business/Medical Office	No	No	Remove
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
P12	Undergraduate Field of Degree	No	No	Remove
P15a	Residence 1 year ago - Person live in this house/apartment	No	Yes	Retain
P21a	Get Married?	No	No	Remove
P21b	Get Widowed?	No	No	Remove
P21c	Get Divorced?	No	No	Remove
P22	Times Married	No	No	Remove
P23	Year Last Married	No	No	Remove
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

Quadrant 4 (Low Benefit/High Cost)				
Question #*	Question	Mandatory Use	Sub-State Required Use	Retain or Remove
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
No Uses		
H6 – Business/Medical Office on Property (X)	No current agency uses; supports comparative estimates	N/A
No M and No R Uses		
P12 – Undergraduate Field of Degree (P)	NSF – used to target sampling frame for National Survey of College Graduates (NSCG); also supports STEM migration analyses	EPA, NTIA, HHS, DOL, DOT, EEOC
No M and No R Uses at Block Group/Tract Level or Place/County/MSA Level		
- P21a – Get Married (R) - P21b – Get Widowed (R) - P21c – Get Divorced (R) - P22 – Times Married (R) - P23 – Year Last Married (R)	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/
- View the Handbook of Questions and Current Federal Uses
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