
American Community Survey Program Review Final Report



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Table of Contents

1	Background and Purpose.....	1
2	Objectives and Scope	2
3	Methodology.....	2
4	Findings and Results	3
4.1	Strategic Review.....	4
4.2	Methodological Review	5
4.3	Research and Evaluation Review.....	7
4.4	Communications and Stakeholder Engagement Review	8
4.5	Data Products Review.....	10
4.6	Program and Project Management Process Review	11
4.7	Systems Engineering and Integration Process Review	12
4.8	Business Process Improvement Review	13
5	Conclusions and Recommendations.....	14

Tables

Table 1:	ACS Program Priorities Linked to Program Review Components	4
Table 2:	Recommendations Mapped to ACS Program Priority Strategic Objectives	16

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1 Background and Purpose

The American Community Survey (ACS) is the Census Bureau's premier survey of population and housing, providing detailed information about the nation on a continuing basis to a wide variety of stakeholders. This survey replaced the so-called "long form" of the decennial census, formerly administered once every ten years to a sample of the U.S. population. Specifically, the ACS incorporated the long form questions from Census 2000. The ACS is currently administered every year to a smaller rolling sample as part of an effort to keep this important information current in our rapidly changing society.

The mission of the ACS is to serve as a cost effective vehicle for collecting information required by law, regulation, or executive order on behalf of 35 Federal agencies or at the direction of Congress. The Census Bureau acts as a shared service provider on behalf of the Federal government, leveraging existing infrastructure and data collection expertise gained through centuries of experience in conducting the decennial census and other surveys of our nation's population.

Because the ACS is part of the census and the data is extensively used by various federal agencies; state, local, and tribal governments; businesses; and non-profit service providers, the Census Bureau receives funding for the ACS as part of the decennial census appropriation. This centralized funding has greatly enhanced the efficiency of administering and managing the survey. It has also enabled a high level of information quality over time, because the Census Bureau is able to maintain specific questions from year to year, which is critical for the 3-year and 5-year estimates for smaller communities.

The ACS was first piloted by the Census Bureau in the early 1990s, at the urging of stakeholder groups who needed more current data for program administration than every 10 years. In addition, stakeholders were urging the Census Bureau to separate the long form of the decennial census from the short form, in hopes that a "short form only" census would help boost flagging response rates. In particular, rural areas, due to their low population density, were oversampled for the long form during the decennial census. After the Census Bureau successfully piloted the ACS during Census 2000 (while still continuing the long form), Congress funded the full-scale ACS rollout. Consequently, in 2010, the Census Bureau conducted a "short form only" decennial census.

The ACS is the only household survey that provides detailed statistics for even the smallest communities. The ACS is able to include a large enough sample of the population to produce statistics every year for areas of 65,000 or larger. However, in counties with smaller populations (less than 20,000) there are not enough households in the sample to release reliable data until five years of data can be combined. Now that five years of data are available, new five year small area estimates are released each year by dropping out the oldest year and adding in the data from the latest year of data collection.

In December of 2010, the ACS program reached an important milestone with the release of its first set of five-year period estimates. With the release of these estimates, the ACS accomplished all of its primary objectives. As a result, the Director of the Census Bureau concluded it was an appropriate time to conduct a comprehensive assessment of the ACS program. The assessment addressed issues related to aggressive non-response follow-up survey procedures and 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. In April of 2011, the Director commissioned a team to plan and implement a comprehensive assessment, formally ending in December 2012. The purpose of this document is to report on the results of the ACS program review, detail the actions taken by the ACS program in response to the initial findings of the review, and recommend specific related follow-on activities.

2 Objectives and Scope

The overall objective of the ACS Program Review was to conduct a comprehensive examination of the ACS program to: (1) ensure its products were meeting stakeholder needs; (2) ensure that the survey methodology and program management were technically sound and efficient; (3) examine and address concerns raised by survey respondents about their participation in the survey; and, (4) identify and reduce program risks. The Review established program goals, objectives, and strategies for addressing oversight, customer, and management concerns.

The scope of the Review included a strategic component followed by four externally and three internally focused components. The strategic component (Strategic Review) established the common vision for the program and drove the design of the program review. The four external components, addressing oversight and customer concerns about the program, included: the Methodological Review, the Research and Evaluation Review, the Communications and Stakeholder Engagement Review, and the Data Products Review. The internally focused assessments included work to strengthen program management, business processes, and technical infrastructures to increase efficiency, as well as to reduce program risk, operating cost, and respondent burden. These three internal reviews included: the Program and Project Management Process Review, the Systems Engineering and Integration Process Review, and the Business Process Improvement Review.

3 Methodology

The Review Team consisted of internal Census Bureau evaluators and outside contract personnel from MITRE with evaluation and program review expertise. The team was advised by: Census Bureau and Economics and Statistics Administration executive staff, members of Census Bureau advisory committees, and members of a newly established National Academy of Sciences ACS Technical panel. To design the program review, the team used strategic planning processes. The team reviewed the results of several assessments conducted by MITRE at the ACS Division Chief's request, analyzed the results, and identified the Strengths, Weaknesses, Opportunities,

and Threats (SWOT) relevant to the program. Then the team linked the results of the Strategic Review to the seven remaining components and validated the approach with the ACS Division Chief and other senior managers, making adjustments as needed throughout the review period. Specifically, to design and conduct the review, the team:

- Commissioned a team and developed a charter;
- Expedited the development of the program Strategic Plan, including identification of priorities to design the review;
- Assigned a sub-team lead for each component;
- Identified and engaged external groups, including the Census Scientific Advisory Committee, the National Advisory Committee on Racial, Ethnic, and Other Populations, the Population Reference Bureau, the Association of Public Data Users, the National Academy of Sciences, and the Office of Management and Budget's Interagency Committee on Statistical Policy;
- Established critical reviewers for each deliverable;
- Worked closely with ACS program managers and staff to share information and ensure the program review burden was manageable and their priorities were being addressed;
- Provided regular status reports to Census Bureau leadership, including the Director, the Deputy Director, the Associate Director, and the ACS Division Chief;
- Developed implementation plans to institutionalize the recommended process changes, and;
- Worked with ACS management and staff to implement new processes.

4 Findings and Results

One important challenge facing the ACS program was that program infrastructure had not kept pace with the growth in size and stature of the survey within the Federal Statistical System. The ACS had become the premier monthly survey, surveying about 3.54 million housing units yearly. However, the program, during its growth period, had not developed a shared vision for the future, and lacked concrete goals for strategically and systematically moving the program forward to meet the data collection, data processing, and communication challenges of a mature program. Further, the underlying program management and systems engineering infrastructure had not substantively changed since the inception of the ACS as a research program. Therefore, it was difficult for ACS program managers to free themselves from the press of everyday operations in order to address oversight, respondent, and customer concerns about survey methods and products in a strategic and systematic manner.

4.1 Strategic Review

As stated in Section 3, using strategic planning processes, the team worked with ACS managers to establish a shared understanding of the program's mission, vision, risks, and priorities, resulting in the first **ACS Program Strategic Plan**. Based on the plan, the team operationalized goals, objectives, and strategies into actionable activities and outcomes to guide the rest of the program review. The team also worked with managers to identify the following program priorities, linked to the program review components as described below.

Table 1: ACS Program Priorities Linked to Program Review Components

ACS Program Priorities	Program Review Components
Accurate demographic, social, economic, and housing data products at all geographic levels	Methods Research and Evaluation Data Products
Efficient / adaptable survey data collection processes	Methods Research and Evaluation
Clarification of the ACS role within the Federal Statistical System	Methods Research and Evaluation Communication and Stakeholder Engagement
Wide-spread awareness, visibility, and use of ACS data and products	Data Products Communications and Stakeholder Engagement
Efficient / adaptable program management processes	Program and Project Management
Efficient / adaptable systems engineering and integration processes	Systems Engineering and Integration
Efficient / adaptable business processes	Business Process Improvement
Clarification of the ACS role within the Census Bureau	Business Process Improvement Communication and Stakeholder Engagement

The team used the analyses of these objectives to design the reviews. The specific objectives, findings, follow-up activities, and key accomplishments for each of the seven resulting reviews are described below.

4.2 Methodological Review

Objectives: The objectives of the Methodological Review were to determine if the ACS program was using the best survey methods and to provide recommendations for potential alternatives to improve the quality of ACS data and data products. Specifically, the team wanted to address stakeholder concerns, including respondent burden, aggressive non-response follow-up procedures, and the reliability of small area/small population estimates. Census Bureau leadership and ACS program managers were committed to not increasing respondent burden and directed that assessing and reducing burden be a review priority.

Findings: The ACS program should seek outside advice on technical issues, including those issues related to respondent burden and improving small area estimates.

Follow up activities: To kick off the Methodological Review, ACS program managers and Review Team members briefed and consulted with external experts, such as the Census Scientific Advisory Committee, the National Advisory Committee on Racial, Ethnic and Other Populations, and the National Academy of Sciences. As a result, the ACS program implemented the following activities related to improving small area estimates:

- Began implementing recommendations from the 2010 National Academy of Sciences Technical Panel on Group Quarters (GQ) to increase the reliability of GQ estimates by examining alternative estimation techniques;
- Continued working with the Census Bureau's National Advisory Committee on Racial, Ethnic and Other Populations and the Census Scientific Advisory Committee to improve outreach to and the reliability of GQ and other small populations;
- Commissioned a new National Academy of Sciences Technical Panel to independently evaluate selected ACS methods; the panel will be producing the final report in fiscal year 2014;
- Began working with the National Academy of Sciences Technical Panel, first examining approaches to improving the reliability of estimates for small populations, small areas, and rural areas, including methods and recommendations for:
 - increasing the reliability of small population, small area, and rural estimates without increasing the cost of the survey; and,

- developing explanatory educational and messaging materials describing new methods for increasing the reliability of small area, small population, and/or rural area estimates.

In addition to leveraging assistance from external experts on small area reliability issues, several strategic initiatives were implemented. First, the Census Bureau Director, working with the Chief Statistician at the Office of Management and Budget (OMB), established an interagency subcommittee of the Office of Management and Budget's (OMB) Interagency Council on Statistical Policy (ICSP)¹ focused on the ACS. The subcommittee's role is to advise OMB and the Census Bureau on how best the ACS can fulfill its role in the portfolio of Federal Household Surveys and provide the most useful information with the least amount of respondent burden and aggressive non-response follow-up. The ICSP Subcommittee is also charged with assessing program technical issues, specifically targeting content changes and the use of the ACS as a frame for follow-up surveys, with the objective of reducing cost and respondent burden in the ACS along with other federal household surveys.

Second, under the leadership of OMB, a request was sent to Federal agencies to link ACS Content to Federal Agency Requirements to ensure that federal needs for ACS data are clearly authorized. This effort laid the groundwork for a much more comprehensive follow-on assessment of the specific usages and needs of each survey question, potentially resulting in question removal and lowering respondent burden.

Third, the Census Bureau leadership also established a Respondent Advocate position, which was filled in mid-March 2013. This position serves as an ombudsman for all household surveys focused on representing the respondents' point of view on Census Bureau surveys. The ACS is expected to be a major focus of the Advocate, who will be addressing respondent feedback about survey content, design, and execution, providing substantive responses to respondent inquiries and complaints, and analyzing respondent feedback to help guide future changes the Census Bureau could make to create a more respondent-friendly environment.

In addition, within the ACS program area, several improvement activities to reduce respondent burden and improve service to respondents were also initiated during the course of the review. These included:

- Implementing an Internet data collection mode;
- Developing and implementing an interactive survey form to improve respondent cognition and navigation; and,

¹ A copy of the ICSP charter and criteria is available at:
http://www.census.gov/acs/www/Downloads/operations_admin/ICSP_Charter.pdf

- Modifying existing questions on the survey form to reduce the number of response categories and providing clarifications of questions.

As of the end of March, Internet data collection has been very successful. Since the mode was implemented beginning with the January panel, Internet response has exceeded its target of at least 50 percent of respondents who self-responded on-line for the January, February, and March panels. Internet data collection was estimated to save about \$4 million (consequently removed from the ACS appropriated funding during FY 2013) per year due to reductions in printing, postage, and data capture costs.

Key Accomplishments

- Implemented GQ Alternative Estimation techniques to improve estimates for small areas while maintaining cost and level of burden
- Implemented ICSP criteria by which new questions are considered, old questions could be dropped, and the ACS could be used as a frame for other follow-on surveys
- Completed linkage of ACS Content to Federal Agency Requirements to ensure that federal needs for ACS data are clearly authorized, providing the foundation for a more comprehensive review of each survey question's specific usages and needs, potentially resulting in question removal and lowering respondent burden
- Exceeded 50 percent target for proportion of self-response coming from Internet in the first three data collection months of 2013 (January-March)

4.3 Research and Evaluation Review

Objective: The objective of the Research and Evaluation Review was to examine the current process of setting the research agenda to identify improved methods to identify and manage research projects.

Findings: The process for identifying and managing the research agenda was not aligned to a strategic plan or goals, primarily because at the time the review was initiated, there was no ACS program-specific strategic plan.

Follow-up Activities: The Review Team first documented the “as is” research and evaluation project identification, development, and governance processes. The team then conducted a full inventory of the existing research and evaluation projects, validated the inventory, and worked with managers and staff to assess the alignment of these projects to strategic priorities. This alignment exercise demonstrated gaps and informed the development of research projects that would achieve desired outcomes. That is, the full inventory of current research and evaluation projects was aligned to the ACS Program Strategic Plan priorities denoted in Table 1, especially focusing on researching methods to reduce burden and lessen aggressive non-response follow-up

procedures. ACS program research managers and staff then reworked projects to better align with the priorities so that desired outcomes would be met. Further, a stronger governance process over the research and evaluation agenda development process was established to assure that future projects would also align and current projects would stay on track.

Program managers also began researching the effects of reducing the number of respondent contacts during telephone and personal visit follow-ups in order to reduce aggressive non-response follow-up procedures; and, in collaboration with the advisory committees and NAS, researching improving small populations, small areas, and rural areas estimates.

Key Accomplishments

- Redefined ACS Program Research and Evaluation agenda to support strategic priorities, objectives and outcomes, including focusing on research to address external survey concerns
- Overhauled governance structure with well-defined processes for managing the agenda thus strengthening the research and evaluation program
- Adapted respondent contact strategy to alleviate concerns over perception of respondents being aggressively pursued to obtain responses

4.4 Communications and Stakeholder Engagement Review

Objectives: The objectives of the Communications and Stakeholder Engagement Review were to: (1) gather feedback on engagement and outreach strategies from stakeholders; (2) determine if the ACS program communicates about the survey and its data effectively; and, (3) using the results of the review, develop and implement a manageable and appropriate engagement approach for a wide array of stakeholders.

Findings: Communications responsibility was distributed among many divisions and offices within the Census Bureau and, in some cases, lines of responsibility and accountability were not clearly defined. Some external stakeholders had difficulty with accessing and understanding ACS data products, and outreach to stakeholder groups was not always strategic and systematic.

Follow-up Activities: The ACS program established an inter-divisional Communications and Stakeholder Engagement Team within the Census Bureau to develop communications infrastructure. An ACS Program Integrated Communications Steering Committee and its associated Working Group were also established and focused on developing an ongoing Communications Campaign. The campaign purpose was to help respondents better understand the importance of their participation through a better understanding of the legitimacy of the program and why it is important. In addition, the communications teams were charged with

developing a plan for addressing any respondent concerns about the burden of the survey and feelings of being aggressively contacted about completing the survey.

During the review, these communications teams revised the ACS external communications plan to be more dynamic and targeted. They also developed and began implementing an internal communications plan to help employees better understand the ACS and stay current with ACS program status. Additionally, they began revising ACS messages to ensure they are responsive to today's environment. Finally, the team began developing a repository for storing and retrieving communications-related materials.

In addition, during the review, numerous outside stakeholders were asked to provide ideas for improving the ACS. The lessons learned from this one-time initiative were used to inform planning and develop infrastructure for the ongoing communications approach. Using stakeholder input, the program has developed targeted educational and promotional materials about the ACS, such as fact sheets on specific population groups, on-line videos providing explanations for questions that concern respondents, infographics that focus on high-level themes of ACS data, and other targeted materials. The ACS program also strengthened its educational outreach with information products about new Congressional Districts that were created as a result of the 2010 Census.

Data dissemination and ease of use were also a focus of the follow-up activities. The program implemented a digital strategy that focused on updating the ACS program website to improve usability and developed promotional/educational videos for target audiences to better understand the role of ACS. Working on the Census Bureau's enterprise-wide data dissemination strategy team, ACS program staff are developing recommendations for easier data user access of ACS data via new tools such as Quick Facts, Easy Stats, and the introduction of an application programming interface (API).

Finally, a customer satisfaction/awareness baseline was established that can be used by the program to measure progress when the ongoing Communications Campaign is implemented. Program staff are developing and establishing metrics for the ACS program communication efforts, especially for improving respondent and customer satisfaction/awareness.

Key Accomplishments

- Working collaboratively to improve internal and external communications, with clarified roles and responsibilities
- Transmitting ACS program status and benefits efficiently and effectively to stakeholders, respondents, and data users
- Integrated ACS communications strategies
- Developed a proof-of-concept for a centralized ACS Program Content Repository
- Expanded and enhanced the Stakeholder Inventory and aligned stakeholders to resources to guide communications implementation plans
- Expanded range of program documentation targeted at multiple stakeholders, including an ACS Procedural History, a Technical Summary, and a detailed design document
- Offered an API to improve public access to publish datasets and to encourage innovative use of data products

4.5 Data Products Review

Objective: The objective of the Data Products Review was to gather input on ACS data products to determine whether they are meeting stakeholder needs. The team examined the results of the Program Review Stakeholder Engagement, and in conjunction with ACS program managers, planned and executed several forums to gather information about ACS products from a wide array of data uses. These included a Federal Data Users Workshop in July 2011 and a Non-Federal Data Users Workshop in June 2012 (the latter organized by the National Academy of Sciences). Both workshops were intended to increase ACS program stakeholders' understanding about how ACS data products meet their needs. The June 2012 Workshop: (1) showcased uses of ACS; (2) discussed possible burdens the ACS imposes on the public; (3) identified priority and future uses of ACS data; and, (4) resulted in new insight by managers about the value of ACS data to these data users.

Findings: The results of the Program Review Stakeholder Engagement campaign indicated no specific stakeholder concerns about data products. The current production process and mix of data products are meeting stakeholder needs and are not obstacles to generating new products. The level of understanding of different stakeholders has increased considerably as a result of the workshops, making it much easier to have informed discussions about the current data products and help inform the development of new data products. Further, due to these workshops and the establishment of an ongoing ACS Data Users Group (described in the paragraph below), a wide array of data users can better understand, more effectively use, and communicate ACS program benefits. Additionally, ACS program managers gained considerable insight into non-Federal users and will continue to gain insight and benefit from the ongoing ACS Data Users Group.

Follow-up Activities: To supplement the one time workshops, the ACS Program established an ongoing, representative ACS Data Users Group (run externally by a contractor) to increase stakeholders' understanding of how to use ACS data, provide a means for ACS users to share their experiences in using the data with each other, and create a channel for data users to communicate their needs to ACS program managers. The ACS program also developed a database of ACS uses by Federal agencies, businesses, and non-profits. Program managers also began collaborating with other Census Bureau dissemination managers and staff to develop data user training modules.

In order to support the 2008 Broadband Data Improvement Act, a question about computer usage and Internet access was added to the ACS data collection form. During the period of the program review, collection of this new information resulted in the creation of additional useful data products. Also during this period, the ACS program was able to produce and distribute the 113th Congressional District data products that provide Congressional members and staff insight into the social characteristics of their respective districts.

Key Accomplishments

- Increased breadth and depth of ACS program managers' understanding of product types and uses through multiple forums, focus groups, and workshops
- Established an ongoing ACS Data Users Group, providing an ongoing forum for improvement
- Expanded training and outreach

4.6 Program and Project Management Process Review

Objective: The objective of the Program and Project Management Process Review was to prioritize, evaluate, and implement standard, repeatable management processes to reduce program and project risk.

Findings: Program governance needed to be strengthened, and the program could benefit by setting up a Program Management Office (PMO) to serve as the program integrator. Further, as part of the Census Bureau's Investment Management initiative, the ACS program needed to develop a work inventory and surrounding processes to make investment decisions.

Follow-up Activities: During the review, the team worked with ACS program managers to identify which program and project management processes should be prioritized. To support process development and implementation, the team established a prototype Program Management Office, documented roles and responsibilities, worked with ACS staff and managers to train and coach them, and transitioned the responsibilities to the ACS program. Further, the team worked closely with the Census Bureau's Office of Risk Management and

Program Evaluation to support the ACS program in serving as the program-level prototype for establishing a Portfolio Management Governing Board (PMGB) at the agency. Consequently, the team worked with managers to charter and implement a PMGB for the ACS program, and to define and implement a governance process. The PMGB manages the inventory and guides informed investment decisions. A major activity in support of establishing and implementing the board was to inventory the work currently being conducted by program managers and staff and to align the work to the Strategic Plan priorities.

The ACS program additionally: (1) chartered and implemented a Risk Review Board and established a Program Risk Register and Risk and Issues Management Process; (2) documented and clarified the Schedule Management Process; (3) integrated Organizational Change Management methods into process implementation plans to ensure that management and staff are informed and trained on new processes; and, (4) baselined and implemented a Knowledge Management Process for tracking formal internal and external recommendations.

Key Accomplishments

- Implemented common processes and project reviews based on a Project Oversight Plan
- Established a Project Work Inventory, aligned to the Strategic Plan priorities
- Served as the Census Bureau program level PMGB, accelerating the development of other such program boards
- Established an interim program content repository

4.7 Systems Engineering and Integration Process Review

Objectives: The objectives of the Systems Engineering and Integration Process Review were to prioritize, evaluate, and implement key systems engineering processes and standards and to document and improve production systems and processes.

Findings: The review found that there was little formal system or operational documentation, few documented repeatable processes, and unnecessary rework was occurring as data processing occurred during the production lifecycle.

Follow-up Activities: The Review Team initiated several activities to develop and implement technical processes to reduce risk and to document systems and operations to increase technical infrastructure understanding within the program. Examples of implementing technical processes include: (1) the program began using configuration management to manage changes to systems, software, and procedures; (2) as part of the Internet data collection project, the program management and review staff initiated Joint Application Development sessions to train and identify ACS staff on requirements identification and management; and (3) more rigorous and repeatable testing procedures were implemented for the Strategic Projects (Internet and 2013

Content) and in the data product review process. Examples of documenting the technical infrastructure include: (1) documenting the existing systems and operations, including developing context diagrams illustrating major operational functions and relationships (inputs and outputs) with other operations; and, (2) as part of the Strategic Projects Integration effort, developing blueprints of existing systems and interfaces affected by the Internet mode implementation. These activities have substantially reduced risk and increased technical understanding by staff of specific systems or operations, as well as of the full production program itself.

Key Accomplishments

- Implemented a Configuration Management and Change Control process, a Requirements Engineering process, and standard testing approaches
- Developed a standardized approach to requirements engineering to reduce development risks
- Baselined an Operations Plan providing a comprehensive technical view of the program
- Developed systems engineering blueprints of systems, subsystems, and modules for a large segment of production systems

4.8 Business Process Improvement Review

Objective: The objective of the Business Process Improvement Review was to examine existing operational production processes and identify opportunities to improve the efficiency and flexibility of ACS program business processes and operations.

Findings: The Review found that many of the key business processes were not mature. For example, early on the new business process for implementing an Internet data collection mode was cited as being at risk of not meeting its implementation schedule. Further, the reviewers also conducted an “as is” assessment of the data product production business process, including pain points, to identify improvement opportunities for implementation in calendar year 2013.

Follow-up Activities: The Review Team conducted a risk assessment of the Internet data collection mode project and provided results to the Division Chief; this project was critical for increasing efficiency, reducing cost, and reducing burden by making it easier to respond to the survey. To address the Internet project risk, multiple risk reduction activities were implemented including establishing a team to look across related projects to reduce overall integration risk. This Strategic Projects Integration team and risk reduction processes were established to reduce risks associated with integrating the Internet and new content efforts, and to document major systems and processes fully. The Strategic Projects Integration team also developed a Strategic End-of-Year Transition Plan, which described the process for transitioning the production

operations from 2012 to 2013, including the implementation of new content and the Internet response mode. Risk mitigation and contingency actions resulted in a change from Red status to Green over a 10-month period, with the Internet data collection mode implemented successfully on schedule.

As mentioned in Section 4.4, the Review Team developed a proof of concept for a content repository for the program. Its original purpose was to facilitate the development of ACS program communications materials. An unanticipated outcome, however, was that the repository provided a new content management business process for the ACS program, allowing, for example, staff who respond to day-to-day inquiries about the ACS to use the repository to obtain inquiry answers quickly.

In order to address a long-standing concern about the data product production business process, a business process analysis of the “as is” was conducted to identify areas for improvement. Although major process reengineering has not yet occurred, the program process and system baseline is better documented and understood. Specific process improvements will be implemented later in calendar year 2013.

Key Accomplishments

- Successfully implemented Internet data collection mode
- Fully documented integration between and among different business processes associated with Internet data collection
- Fully documented and analyzed data product production processes

5 Conclusions and Recommendations

The Program Review found several areas and processes that needed improvement. Due to quick action from ACS program leadership, follow up actions were immediately implemented. As a result, program risks have been reduced, and critical program, operations, and systems engineering definitions and infrastructure have been developed, implemented, and/or strengthened.

From an external perspective, stakeholder concerns are being aggressively resolved, and stakeholders have gained a better program understanding. Program managers are researching the effects of reducing the number of respondent contacts during telephone and personal visit follow-ups in order to reduce aggressive non-response follow-up procedures. Moreover, we have implemented a Respondent Advocate function at the Census Bureau to ensure that we fully understand and can readily address respondent concerns. Additionally, we have initiatives underway that could remove questions from the survey, reducing respondent burden. For example, we have just recently initiated a comprehensive examination of each survey question to

determine specific federal agency usages and needs as criteria for removing unnecessary questions. Further, digital data dissemination initiatives have provided new and innovative ways for the general public to access and use ACS data, increasing program efficiency. Finally, data users' understanding has increased through substantive outreach efforts over the last 18 months.

From an internal perspective, management and staff understanding of the entire ACS program has grown substantially. Managers have embraced strategic planning, priority setting, work alignment, and portfolio management. They and their staffs have also grown significantly in understanding and implementing project management and systems engineering principles. The ACSO has been better integrated with its stakeholder divisions, and the ACS program and its improvements are serving as a model for other programs.

The following factors contributed heavily to the success of the Review and follow-up actions:

- The ACSO Chief was highly engaged and supportive;
- The Chief Statistician, Director, Deputy Director, Associate Director for Decennial Census, and Associate Director for Communications were fully supportive;
- ACS stakeholders were engaged to increase their vested interest in improving the program;
- External experts were fully engaged in assisting with the Program Review;
- ACSO managers were concerned about resource commitment but supportive;
- The Program Review was led by strong project managers;
- Program Review resources filled knowledge and skills gaps; and,
- ACSO managers were integrated into the review projects and influenced priorities.

However, in order to ensure that the ACS is conducted as efficiently and unobtrusively as possible, there is more work to be done. Below are recommendations for additional follow-up work during calendar year 2013. However, the recommendations will need to be assessed in light of broader changes underway at the Census Bureau, as well as funding cuts in the program due to the Sequester, and are therefore subject to elimination or change. The table below shows the mapping of the Program Review recommendations to the ACS program priority strategic objectives.

Table 2: Recommendations Mapped to ACS Program Priority Strategic Objectives

Recommendation	Accuracy	Data Collection Processes	Role in Federal Statistical System	Awareness	Program Management	Systems Engineering	Business Processes	Role in Census Bureau
Complete the comprehensive assessment of the specific usage and needs for each question on the survey to identify candidate questions for removal		X	X					
Continue to research and assess methods to reduce respondent burden and address concerns about aggressive non-response follow-up procedures		X						
Research options to improve the reliability of small area and small population estimates	X							
Continue working with the ICSP to leverage the ACS support to other household surveys			X				X	
Fully establish the program communication capability to better communicate program awareness and branding and increase customer satisfaction				X				X
Continue to evolve the program strategic planning and portfolio management capabilities					X			
Continue maturing the program performance management capability					X			
Complete the standup of the ACS Program Management Office function					X			X
Continue improving the ACS Systems Engineering Processes						X		
Develop the ACS Integrated System Architecture						X		
Reengineer ACS-specific systems and support enterprise systems engineering efforts led by the Center for Adaptive Design		X				X	X	X
Improve the Data Product Production Process							X	