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MEMORANDUM FOR ACS Research and Evaluation Workgroup

From: Patrick J. Cantwell *P. Cantwell*  
Chief, Decennial Statistical Studies Division

Prepared by: Broderick Oliver *B.O.*  
Lauren Contard *L.C.*  
American Community Survey Experiments Branch  
Decennial Statistical Studies Division

Dorothy Barth *D.B.*  
Administrative Records Research & Production Branch  
American Community Survey Office

Subject: 2021 ACS Strategic Framework Mail Materials Test Report

Attached is the American Community Survey (ACS) Research and Evaluation report, 2021 ACS Strategic Framework Mail Materials Test. This report evaluates the effect on self-response of strategic messaging and design changes in the ACS mail contact materials.

If you have any questions about this report, please contact Broderick Oliver at 301-763-9350, Lauren Contard at 301-763-3580, or Leann Weyl at 301-763-3436.

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Attachment

cc:

[acso.re.workgroup.list@census.gov](mailto:acso.re.workgroup.list@census.gov)

Tia Bullock	ACSD	Julia Coombs	DSMD
Zachary Gebhardt	ACSO	Sarah Heimel	
Michael Leonard		Rachel Horwitz	
Justin Maietta		Courtney Reiser	
Tavia Simmons		Jennifer Tancreto	
Roxana West		Lindsay Longsine	DSSD
Michelle Hedrick	ADCOM	Peter Massarone Jr.	
Mary Davis	ADFO	Michael Risley	
Jessica Holzberg	CBSM	Samantha Spiers	
Mandi Martinez			
Alfred Tuttle			

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# 2021 ACS Strategic Framework Mail Materials Test



**Broderick Oliver**  
**Lauren Contard**  
Decennial Statistical Studies Division

**Dorothy Barth**  
American Community Survey Office

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## EXECUTIVE SUMMARY

The 2021 American Community Survey (ACS) Strategic Framework Mail Materials Test is the culmination of a long-term, multi-phase project, begun in 2017, to holistically update the ACS mail materials using best practices in communications from a variety of disciplines. Following recommendations from research and cognitive testing, four sets of mail materials were developed and field tested using the September 2021 ACS monthly panel.

This report presents the results of the field test. By design, the results only identify which treatments as a whole were successful at increasing self-response. They do not identify the effectiveness of individual messages or ideas incorporated into the overall design of any given treatment.

The experimental treatments used unique design concepts to draw the readers’ attention to key messages in the mailings. The four experimental treatments (Icon, Column and Header, Sidebar, and Minimalist) and the Control treatment are described in brief in Table E1.

**Table E1. Treatments in the 2021 ACS Strategic Framework Mail Materials Test**

Treatments	Description
Icon Treatment	Icons and symbols draw attention to key information. Some use of color.
Column and Header Treatment	Key information is organized in columns. Headers in green font also emphasize key information.
Sidebar Treatment	Graphic images are embedded in a sidebar to emphasize key information. Some use of color.
Minimalist Treatment	Important messages in bold font stand out because the letters use as little text as possible. No graphics and no color.
Control Treatment	Production materials.

During the self-response phase of ACS data collection, the U.S. Census Bureau sends up to five mailings to a sampled address to motivate a self-response. Three mailing universes are employed during this phase of data collection. Thus, receiving self-responses earlier in the data collection period results in cost savings on subsequent mailings.

The Minimalist treatment had self-response return rates that were 4.3 (SE=0.5), 1.8 (SE=0.5), and 1.4 (SE=0.5) percentage points higher than the Control treatment before the third mailing, before the fifth mailing, and before Computer-Assisted Personal Interviewing (CAPI), respectively. None of the self-response return rates for the other experimental treatments were significantly higher than the Control, except for the Column and Header treatment where the self-response return rate before the third mailing was 2.0 (SE=0.4) percentage points higher than the Control.

To determine if the experimental treatments were successful at converting late responders (those who typically respond in CAPI) to earlier responders, we compared respondent demographics from the Control to those of the experimental treatments before the third mailing, before the fifth mailing, and before CAPI. None of the experimental treatments, except Sidebar, had significant results. For responses received before CAPI, the Sidebar treatment had a significantly higher proportion of White respondents (5.0 (SE=1.7) percentage points higher) and a significantly lower proportion of Black or African American respondents (2.6 (SE=1.3) percentage points lower) and respondents who selected two or more races (1.7 (SE=0.9) percentage points lower). We conjecture that the use of a graphical image in each letter and on the postcard in the Sidebar treatment may have contributed to the differences, since this was the outstanding feature that set the Sidebar treatment apart from the other experimental treatments.

The experimental treatments included strategic messages to increase Spanish-language self-response; however, there was not a significant increase in response to the Spanish-language questionnaire or the Spanish-language internet instrument.

The experimental treatments also included strategic messages to increase self-response in low response areas; however, there were no significant differences in the overall self-response rates in low-response areas.

We redesigned the bottom left-hand column of the front cover of the questionnaire used in the experimental treatments, using Plain Language principles to make the information easier to read and process. Although we had no reason to believe that these changes would affect item response on the front cover, we tested this assumption. As expected, these changes had no significant effect on item nonresponse for these front cover items: *name of respondent*, *telephone number*, and *number of persons in household*.

Surprisingly, we found that the Control treatment had significantly higher form completeness rates than all of the experimental treatments. The form completeness rate for the Control was 91.3 (SE=0.2) percent versus Icon 90.2 (SE=0.2) percent, Column and Header 90.4 (SE=0.2) percent, Sidebar 90.4 (SE=0.2) percent, and Minimalist 90.3 (SE=0.2) percent. We also examined form completeness rates for different sections of the questionnaire and at different times in the data collection cycle. Throughout data collection, the differences in form completeness rates appeared most consistently for the Detailed Person questions, the final and longest section of the questionnaire. However, we cannot say why this occurred.

Since the Minimalist treatment was the only experimental treatment to have higher self-response than the Control treatment before CAPI, this treatment is the only likely candidate to replace the Control treatment in production. If all of the Minimalist mailings were implemented in production, as tested, we estimate a projected \$3 million annual savings in data collection costs.

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We performed additional analysis to learn more about response from the Minimalist treatment versus the Control treatment during the time period of each mailing. The Minimalist treatment gained significantly more self-response than the Control treatment during the first two mailings. However, the Control treatment gained significantly more self-response than the Minimalist treatment between the fourth and fifth mailings. We suspect that the surge in response for the Control treatment was driven by differences in messaging between the postcard of the Control treatment and the experimental treatments in the fourth mailing. As such, replacing the Minimalist postcard with the Control postcard may result in more cost savings.

Since the first three ACS production mailings have been revised since the test was fielded, further testing is needed to determine the best combination of materials, from this test and the new production materials, to maximize self-response and minimize costs.

## **1. INTRODUCTION**

In 2017, the U.S. Census Bureau began the Strategic Framework Project—a long-term, multi-phase project to update the messaging in the American Community Survey (ACS) mail materials. The goals of the project were to improve communication with sampled households, increase self-response to the survey, reduce program costs, and reduce respondent burden. The project included research of best practices in messaging to gain survey cooperation, development of new materials based on the research, and testing (qualitative and quantitative) of the new materials.

After conducting research on best practices in communications in a variety of disciplines, the Census Bureau’s Strategic Framework Project team, comprised of subject matter experts from different directorates throughout the Census Bureau, made recommendations for messaging in ACS mail materials in two reports (Oliver et al., 2017; Schreiner et al., 2020). Following the recommendations, four new sets of ACS mail materials were designed. The Census Bureau’s Center for Behavioral Science Methods (CBSM) cognitively tested the materials in three rounds of cognitive testing (Martinez et al., forthcoming).

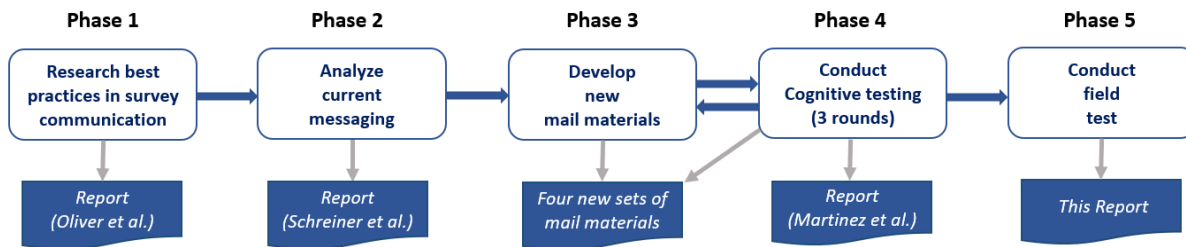
The four new sets of ACS mail materials were field tested in the 2021 ACS Strategic Framework Mail Materials Test. By design, the results only identify which experimental treatments as a whole were successful at increasing self-response. They do not identify the effectiveness of individual messages or ideas incorporated into the overall design of any given treatment.

## **2. BACKGROUND**

### **2.1 Strategic Framework Project**

The Census Bureau began the Strategic Framework Project following a 2016 National Academies of Sciences (NAS) workshop where a panel of experts offered advice on how to improve the ACS mail materials (NAS, 2016). Panelist Nancy Mathiowetz suggested that the Census Bureau develop a strategic plan—grounded in communication theory as well as theories from survey methodology—for messaging in the ACS materials (Mathiowetz, 2016). Mathiowetz thought that having a strategic plan would allow the Census Bureau to judge how expert recommendations fit with the strategic plan. Her suggestion led to the creation of the multi-phase Strategic Framework Project that began in 2017. The five phases of this project are shown in Figure 1.

**Figure 1. Phases of the Strategic Framework Project**



### 2.1.1 Phase 1 — Research Best Practices in Survey Communications

The first phase involved research of best practices for messaging to increase survey cooperation. To guide the research, we focused on answering the following questions: (1) What are the demographics of the target audience of the ACS mail materials?<sup>1</sup> (2) What are the best practices in survey messaging to use in the materials to obtain a survey response? (3) What are the best ways to convey those messages? The research and the resulting recommendations for ACS mail messaging are recorded in *Strategic Framework for Messaging in the American Community Survey Mail Materials*, referred to as the *Strategic Framework Report* in this document (Oliver et al., 2017).

### 2.1.2 Phase 2 — Analyze Current Messaging

The second phase of the project involved reviewing and assessing messaging in the ACS mail materials considering the best practices outlined in the *Strategic Framework Report*. For this phase, we sought to answer the following questions: (1) Do the messages in the current materials meet the recommendations? (2) If so, in what ways? (3) If not, how can the messaging be improved? The findings from the current messaging assessment are recorded in the report, *Assessment of Messaging in the 2018 American Community Survey Mail Contact Materials*, referred to as the *Messaging Assessment Report* in this document (Schreiner et al., 2020).<sup>2</sup>

### 2.1.3 Phase 3 — Develop New Mail Materials

For the third phase, we developed mail materials, incorporating the recommended messaging and design ideas from the first two phases of the project. While the designs of the materials were new, they adhered to the 2021 ACS mail contact strategy (see Section 2.2), meaning the type of mailers (package, pressure seal, or postcard) and the number and timing of mailings sent were not changed. Each set of materials was designed holistically so that the messaging and “look and feel” within and across the five mailings were interconnected. The Census Bureau

<sup>1</sup> The *Strategic Framework Report* (Section 5) recommended using messages designed to resonate with the cynical and distrusting segments of the population, so that was the “target population.” (See Section 3.1 for more details.)

<sup>2</sup> The 2018 production materials were used for the assessment. Consequently, the recommendations in this report were designed to improve the 2018 production materials. However, by the time the test was fielded in 2021, the treatments were tested against new and improved materials that went into production starting in 2020.



designed three sets of updated ACS mail materials and a team of researchers outside of the Census Bureau designed a fourth set.

### 2.1.4 Phase 4 — Conduct Cognitive Testing

The fourth phase involved cognitive testing and an expert review of the newly designed materials. The materials were cognitively tested in three iterative rounds by Census Bureau researchers (Martinez et al., forthcoming). We also received feedback on the new sets of ACS materials from a panel of survey methodology experts at a NAS meeting in 2019. This meeting took place before the third round of cognitive testing. Suggestions for improvements from the NAS meeting experts were incorporated into the materials for the third round of cognitive testing. After the third round, the materials were modified according to suggestions from cognitive testing researchers. The resulting materials were field tested and are the topic of this report.

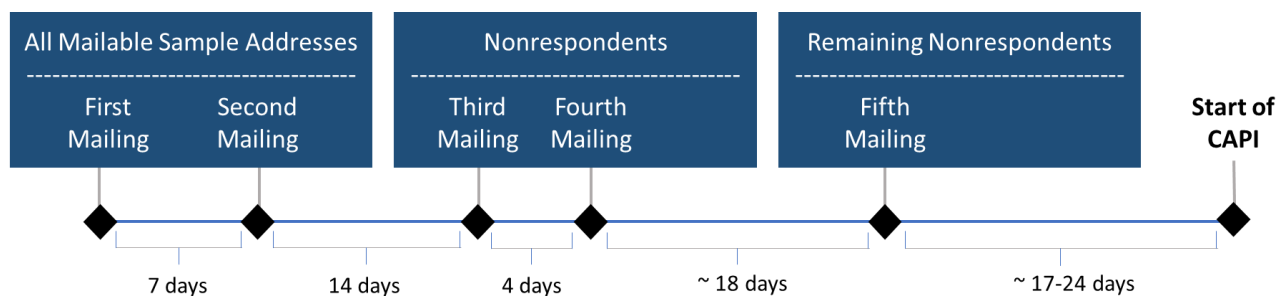
### 2.1.5 Phase 5 — Conduct Field Test

In September 2021, we conducted a field test of the mail materials. This report presents the results of the field test, named the 2021 ACS Strategic Framework Mail Materials Test.

## 2.2 2021 American Community Survey Mail Contact Strategy

The four new sets of ACS mail materials developed were tested against the 2021 ACS production materials. The 2021 ACS mail contact strategy is detailed below to provide context for the field test. The experimental mail materials were designed using the types of mailers and the timing of the mailings. The experimental mail materials are compared to production materials in this report.

**Figure 2. 2021 ACS Mail Contact Strategy**



The first two mailings are sent to all mailable addresses in the monthly sample. The first mailing is a package that includes a letter, a multilingual brochure, and a card with instructions on how to respond via the internet. The letter contains an invitation to participate in the ACS online and more information in a *frequently asked questions* format on the back of the letter. A week later, the same addresses are sent a second mailing (reminder letter in a pressure seal mailer).

Responding addresses are removed from the address file after the second mailing to create a new mailing universe of nonrespondents; these addresses are sent the third and fourth

mailings.<sup>3</sup> The third mailing is a package that includes a letter, a paper questionnaire, and a business reply envelope. Four days later, these addresses are sent a fourth mailing (reminder postcard) which encourages them to respond.

After the fourth mailing, responding addresses are again removed from the address file to create a new mailing universe of nonrespondents. The remaining sample addresses are sent the fifth mailing (a more urgent final reminder letter with a due date in a pressure seal mailer).

Two to three weeks later, responding addresses are removed and the undeliverable and undeliverable addresses (from the initial sample) are added to create the universe of addresses eligible for the Computer-Assisted Personal Interview (CAPI) nonresponse followup operation.<sup>4</sup> Of this universe, a subsample is chosen to be included in the CAPI operation. Census Bureau field representatives (FR) may first attempt to interview those selected for CAPI by phone, if possible.<sup>5</sup> If the FR is unable to complete a phone interview, they visit the address to conduct an in-person interview.

Additional information can be found in the *American Community Survey and Puerto Rico Community Survey Design and Methodology* (U.S. Census Bureau, 2022).

### **3. RESEARCH-BASED DEVELOPMENT OF THE ACS MAIL MATERIALS**

The complete literature review for the concepts used to design the mail materials in this test is contained in the *Strategic Framework Report* and the *Messaging Assessment Report* (Oliver et al., 2017; Schreiner et al., 2020).

High-level recommendations from the two reports were to limit the number of messages in each mailing, reduce repetitious messaging, use new appeals, use messages justified by research, and make a clear connection to the well-known Census Bureau brand in a more prominent way.<sup>6</sup> However, the reports also recognized that, for those recommendations to be successful, we had to write in Plain Language (such as use familiar words, active verbs, and short sentences) and use Plain Language design principles (such as white space, organization of text, and graphics) to make the letters easier to navigate and read. (See Section 6 of the *Messaging Assessment Report* for details.)

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<sup>3</sup> Addresses deemed “undeliverable as addressed” (UAA) by the United States Postal Service are also removed from the address files for subsequent mailings.

<sup>4</sup> CAPI interviews start at the beginning of the month following the fifth mailing.

<sup>5</sup> A pressure seal reminder letter, which includes a user ID needed for an internet response, is also sent to all mailable addresses sampled in CAPI at the start of the interviewing month. This began in October of 2020. This mailing was not in scope for this test.

<sup>6</sup> By design, the Minimalist treatment used as little text as necessary to motivate a self-response. Thus, this treatment excluded the thematic messages used in the other experimental treatments.

The following sections discuss the recommended thematic messaging, plain language techniques, and other strategies used in each experimental mailing.

### **3.1 Themes of Messages in Each Mailing**

Section 5 of the *Strategic Framework Report* recommended using messages designed to resonate with the cynical and distrusting segments of the population, as an increase in their self-response has the most potential to increase overall self-response (Oliver et al., 2017). The report recommended thematic messages for the first four mailings only.<sup>7</sup> The elements for the fifth mailing were developed after we conducted subsequent research to learn about the demographics of ACS nonrespondents receiving the fifth mailing (Berkley, 2018).

#### **3.1.1 First Mailing — Establish Trust and Legitimacy**

The first mailing focuses on building trust with the respondent through messages that legitimize the survey and connect the survey to the Census Bureau, a known and trusted organization. In social exchange theory, building trust is the most important aspect of survey messaging (Groves et al., 2012; Dillman et al., 2014). With increased trust, subsequent statements such as the benefits of survey participation are more likely to be believed.

#### **3.1.2 Second Mailing — Convey Local, Tangible Benefits**

The second mailing focuses on communicating how ACS data has tangible benefits to communities. This mailing communicates local-level survey benefits because research has shown that prospective respondents are more interested in potential benefits for their own neighborhood than for the nation, state, or city (Reingold, 2014b).

This mailing also uses some benefits to show that responding to the survey may directly help other people.<sup>8</sup> Some people feel a sense of accomplishment when they feel they have helped others, especially when the action provides no personal benefit aside from helping someone else (Homans, 1961; Blau, 1964; Dillman et al., 2014).

#### **3.1.3 Third Mailing — Reduce the Sense of Response Burden**

The third mailing focuses on messages that reduce the sense of burden associated with responding to the ACS. The three main burden-reducing messages used are:

- Providing a choice in response mode—This mailing reduces the burden for respondents who are unwilling or unable to respond by internet. Offering a choice of response mode can have a positive effect on response (Gentry and Good, 2008; Smyth et al., 2010; Millar & Dillman, 2011; Olson et al., 2012).

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<sup>7</sup> As part of the strategy to use the least amount of text possible, the Minimalist treatment does not include the recommended themes for each mailing, since doing so would add text to the letters.

<sup>8</sup> For example, one benefit mentioned is “services to help the elderly, veterans, and the disabled.”

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- Explaining that response to the ACS is a normal activity regularly completed by others in the community—Knowing others have responded may help make it more comfortable to respond for those who are hesitant to do so (Cialdini, 1984; Hallsworth et al., 2014).
- Linking ACS response to civic duty or responsibility—Some feel a sense of pride as they fulfill their civic obligations and feel a sense of reward when they fulfill a patriotic duty that helps their country (Groves et al., 2000; Reingold, 2014b).

### **3.1.4 Fourth Mailing — Restate Appeals and Express Gratitude**

The fourth mailing primarily summarizes messages from the first three mailings by restating the appeals to trust, benefits, and burden reduction in a different way. We did not want to introduce new concepts in this mailing and overwhelm the recipients of our mailings. So, we repackaged the previous important messages in one mailing using different wording, to avoid repetition (Dillman et al., 2014).

This mailing also prominently includes a “thank you” statement which is good communication practice when you ask someone to complete a task. It is generally considered polite to thank people for their time and effort.

### **3.1.5 Fifth Mailing — Heighten the Sense of Urgency**

The fifth mailing is the last opportunity to obtain a self-response through mail contact before the start of the CAPI nonresponse followup operation. Thus, we used the following strategies to heighten the sense of urgency and to make it easier to self-respond:

- The tone of the letter is more formal and urgent than the previous mailings. The opening salutation “An important message from the U.S. Census Bureau:” replaces the salutation used in the previous mailings, “Dear Resident.” The opening sentence “Time is running out.” is short and direct. The letter contains only one paragraph then presents the response options—much shorter and to the point than previous mailings.
- A due date conveys a sense of urgency and reduces burden on the respondent by giving clear instructions on when a task is due (which fits into a respondent’s mail prioritization process) (Dillman, 2016). The 2019 ACS Due Date Test showed an increase in self-response when a due date was used on the outside and the inside of the fifth mailing pressure seal mailer (Risley & Oliver, 2021). The ACS fifth mailing began including the due date in January 2020, and it was part of the Control for this test. The experimental treatments in this test displayed the due date in a different, more prominent, way than production, to heighten the sense of urgency to respond.
- A new response option is provided (phone response) to increase the likelihood of a participant being able to respond in their preferred mode. We know that many individuals who have not yet responded have lower reading levels, and they may be more likely to

respond via a telephone interview.<sup>9</sup> We also know that many individuals who receive the fifth mailing do not speak English proficiently. So, we added Spanish text to the bottom of the letter to highlight the option to complete the survey by phone in Spanish.

- A commitment device is used in this mailing to get recipients to commit to responding. This commitment device asks the potential respondent which response option they will use to respond to the survey by the due date. Asking for a potential respondent’s commitment to an action can increase the chance that an action is taken (Milkman et al., 2011; Feygina et al., 2015; Shephard & Bowers, 2016).

### **3.2 Plain Language Principles Used in the Materials**

In addition to the above recommended messaging themes and strategies, the *Messaging Assessment Report* also recommended applying Plain Language principles when developing the new mail materials. Plain Language involves wording choices and visual design techniques to make written materials easier to read and comprehend.

Section 6.5 of the *Messaging Assessment Report* provides the reading level assessment of the ACS production materials used in 2018. Both the choice of text and the amount of text on each mailing piece caused the materials to rank at high reading levels. The new designs reduce text and use words that are easier to read and understand. The visual design elements mentioned in this section were ideas that developed during the design process through cognitive testing observations, further research, and expert recommendations for improving the materials.

#### **3.2.1 Elements that Improve Readability**

According to the Plain Writing Act of 2010 (H.R. 946; Pub. L. 111–274), all government documents issued to the public must be written clearly so that people can find the information they need, understand what they find, and use the information they find to meet their needs. In general, the text and layout in the experimental ACS mail materials adhere to the official writing guidelines proposed on [plainlanguage.gov](https://www.plainlanguage.gov). Images of all mail pieces are presented in Appendices A – E.

Here are a few specific ways Plain Language principles were used in the experimental treatments:

- Instruction Card: We redesigned the front of the instruction card in the first mailing with a simpler design and more precise text about how to respond to the survey online. We also changed the font size and style of the user ID (embedded in the address label) to make it easier to locate on the card (Martinez et al., forthcoming).

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<sup>9</sup> A recent test confirmed that adding an option to respond by phone increased self-response for the ACS (Risley & Spiers, 2023).

- All mail pieces, where applicable: We eliminated the “https://” from the URL for the online response website (such as, <https://respond.census.gov/acs>) to ease the burden of typing too many characters. We also omitted “www.” wherever census.gov/acs appeared in the materials. A simplified URL (such as, [respond.census.gov/acs](https://respond.census.gov/acs)) is more visually pleasing and creates more white space.<sup>10</sup> Many web browsers hide “https://” and “www” in the address bar and display a secure lock icon indicator. Thus, there is no longer a need to type these in as part of a URL to reach a webpage (Krause, 2022).
- Questionnaire: We redesigned the front cover of the questionnaire by reducing text and modernizing the icons for a cleaner appearance and ease of reading. (See Figure 15 and Figure 56, in the Appendices, for images of the experimental and control front covers, respectively.)
- Letters: We moved the Census Bureau address to the upper right-hand corner, instead of beneath the logo, to allow more space for the body of the letter.

### **3.2.2 Elements that Improve Visual Appeal**

Research has shown that, for government surveys, some color and graphic elements can be used in the letters to catch the eye and draw attention to important information, as long as the letters still appear official and “governmental” (Dillman et al., 1996; Leslie, 1997; Whitcomb & Porter, 2004; Hagedorn et al., 2014; Reingold, 2014a).

- Where possible, the three experimental treatments developed by the Census Bureau incorporated the color of the ACS stateside housing unit questionnaire (“ACS green”) into the redesigned mail pieces.
- The treatments used different visual design elements to test which design best resonates with mail recipients. Since we did not know which visual appeal would work the best at increasing overall response, we experimented with different designs.
  - ▶ The Icon treatment used icons, or symbolic pictures, to quickly convey messages through pictures rather than with text. Icons, images that represent the objects that they signify, are known to draw attention and increase readability (Mertz, 2012). Icons could be beneficial for visual learners, readers with low literacy levels, or for those who are not fluent in English.
  - ▶ The Column and Header treatment organized text in a way that made the letters easier to navigate and thus easier to read. Plain Language principles suggest using headers, columns, and short sentences and paragraphs.<sup>11</sup> For people who prefer scanning text to obtain information quickly, this may be the most beneficial letter design.

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<sup>10</sup> Participants in cognitive testing were able to successfully navigate to the ACS response landing page using the abbreviated URL.

<sup>11</sup> See [plainlanguage.gov](https://www.plainlanguage.gov) for more ideas on visual design and text layout to improve readability.

- ▶ The Sidebar treatment used a graphic element to draw attention to details not found in the letter. Research has shown that we remember visual images much easier than words (Kouyoumdjian, 2012). This design style may appeal to readers who desire more details before responding to the survey.
- Within each treatment, the same visual “look and feel” of the design was used throughout the mailings to maintain the cohesive nature of the continuing conversation concept. Research suggests that messages sent across multiple mail contacts, as well as the overall design of graphics, need to look and feel as if they come from the same place and should feel like a continuous conversation (Whitcomb & Porter, 2004; Dillman et al., 2014; Hagedorn et al., 2014; Reingold, 2014a).

### **3.3 Other Research-Based Design Elements**

This section describes some design features that came about through recommendations from the two reports and some design features that came about from ideas that surfaced during the design phase.

- **Multilingual Brochure:** The multilingual brochure was eliminated to reduce the volume of messages, as suggested in the *Messaging Assessment Report*. Because of past test results with brochures, we felt confident that removing the multilingual brochure would not decrease overall survey response (Clark, 2015a; Clark, 2015b; Risley & Berkley, 2020). However, to mitigate the possibility of losing response in the non-English languages found in the multilingual brochure, we included sentences in those languages on the back of the instruction card sent in the first mailing. The sentences included a number to call in Chinese, Vietnamese, Korean, and Russian to receive more information about the survey. A different phone number for each language was given. Spanish speakers can also respond to the survey by internet. Although the production instruction card includes instruction in Spanish for responding online, the experimental instruction card modified the Spanish text and added to the instructions saying that it is possible to respond online via computer, smartphone, or tablet.
- **Letters:** In past ACS production materials, the third mailing included more Spanish text to help people respond in Spanish. The instruction card that had Spanish text on the back, in that mailing, is no longer in production. Also, an older design of the front cover of the paper questionnaire included more Spanish text than is currently found on the cover. One of the recommendations from previous focus group testing of ACS materials was to tailor the materials to acknowledge cultural nuances and make response options readily apparent in Spanish and other languages (Reingold, 2014b). Also, the ACS has Spanish paper and internet response options. For these reasons, we included Spanish language text on the back of the letter in the third mailing and the bottom of the pressure seal letter in the fifth mailing to remove language barriers that may impede response for Spanish speakers.

- **Letters:** A researcher at the 2019 NAS conference reported that his study found that when people start a survey on a smartphone, they are more likely to finish it, whether it be on the same device or on a different one (NAS, 2019). Using this idea, wherever text in the mail materials refers to responding online, we added the words “using your computer, smartphone, or tablet.” In some of the materials, we used an icon with the three computing devices as a visual reminder. Participants in cognitive testing noticed that they could respond on a smartphone, and they acknowledged that this was helpful and good to know (Martinez et al., forthcoming).
- **Envelopes:** A study mentioned in the *Messaging Analysis Report* (Section 6.4.2) showed that people first look at their own address on an envelope. Researchers have also shown that government-sponsored survey requests receive the highest response rates among all types of surveys (Presser et al., 1992). To increase the likelihood that the recipient would recognize that the letters in the first and third mailings came from the government and to increase the likelihood of the envelope being opened, we included the phrase “Official U.S. Government Mail” on the outside of the envelopes, directly above the recipient’s mailing address, so that it could be readily seen.

## **4. METHODOLOGY**

### **4.1 Sample Design**

The 2021 ACS Strategic Framework Mail Materials Test was conducted using the September 2021 ACS production sample. The monthly ACS production sample consists of approximately 295,000 housing unit addresses divided into 24 nationally representative methods panel groups of approximately 12,000 addresses each. Each methods panel group is a representative subsample of the entire monthly sample, and each monthly sample is representative of the entire yearly sample and the country.

The four experimental treatments and the Control treatment were each assigned to two randomly selected methods panel groups. Hence, each treatment was comprised of approximately 24,000 addresses. The sample sizes per treatment were large enough to detect differences of approximately 1.25 percentage points between the self-response return rates of treatments (with 80 percent power and  $\alpha=0.1$ ).

### **4.2 Experimental Design**

The 2021 ACS Strategic Framework Mail Materials Test consisted of four experimental treatments and one Control treatment. The Control treatment used the same mail materials as the production materials but were sorted and mailed separately from production (like the experimental treatments). This was done to eliminate differences in self-response return rates between the experimental treatments and the Control treatment at given points in time due to differences in the size of the postal sort (Heimel, 2016). The mail materials and the mailout dates for the Control and experimental treatment materials are shown in Table 1.



**Table 1. Mail Materials & Mailout Schedule: September 2021 Panel**

<b>Mailing</b>	<b>Control Mail Materials</b>	<b>Experimental Mail Materials</b>	<b>Mailout Date</b>
Initial Mailing Package	Letter Multilingual Brochure Instruction Card Package Envelope	Letter Instruction Card† Package Envelope	08/26/2021
Reminder Letter	Pressure Seal Mailer	Pressure Seal Mailer	09/2/2021
Paper Questionnaire Package	Letter Paper Questionnaire Return Envelope Package Envelope	Letter Paper Questionnaire† Return Envelope† Package Envelope†	09/16/2021
Reminder Postcard	Postcard	Postcard	09/20/2021
Additional Reminder	Pressure Seal Mailer	Pressure Seal Mailer	10/13/2021

† These materials were the same in terms of design and content for all experimental treatments.

Images of the mail pieces used in the mailings for each experimental treatment and the Control treatment are provided in Appendices A - E.

#### **4.2.1 Icon Treatment**

The Icon treatment used icons as its distinctive design feature. Icons are symbols used to replace words or to draw attention to key text. The icons break the monotony of text, segment the letter content into different parts, and make the content more interesting to read. Effective use of icons improves content readability. The letters in this treatment were written in a traditional letter format but incorporated icons in the body of the letter. The “ACS green” color, found on the paper questionnaire, was used throughout the five mailings to create visual appeal and to build cohesiveness among the mail pieces and mailings.

#### **4.2.2 Column and Header Treatment**

The Column and Header treatment used columns and headers in green font as distinctive design features. Using columns and headers to segment the content makes it easier to read and navigate to the most important information on the page. The letters in this treatment minimized text and got to the point in a more direct way than a traditional letter format. Like the Icon treatment, the “ACS green” color was used throughout this treatment.

#### **4.2.3 Sidebar Treatment**

The Sidebar treatment used images as its distinctive design feature. The images were imbedded in a sidebar that was either green or grey in color, depending on the mailing.<sup>12</sup> Response option icons were used in some of the letters. The sidebar look is common among flyers and infographics, so it is a recognized look. The sidebar also provided a unique space to add more

<sup>12</sup> For cost purposes, the pressure seal mailers are only printed with black and grey ink.

information about the survey that was not found in the body of the letter. The “ACS green” color was also used throughout this treatment.

#### **4.2.4 Minimalist Treatment**

The Minimalist treatment was designed using as few words as possible to convey the most important information needed to respond to the survey. This treatment maintained more of a “governmental look and feel” than the other treatments; no color or graphics were used in the letters. While this treatment did not include the recommended thematic messaging from the *Strategic Framework Report*, it did employ Plain Language principles to make the letters easier to read.

#### **4.2.5 Control Treatment**

The Control treatment had materials identical to production, but the mailings were sorted separately from production to ensure mail delivery timing consistency with the experimental treatments (Heimel, 2016).

### **4.3 Research Questions**

- RQ 1.** How do the treatments affect self-response to the survey before CAPI?
- RQ 2.** If a treatment affects self-response before CAPI, how does it affect overall response to the survey?
- RQ 3.** How do the treatments affect Spanish language self-responses?
- RQ 4.** How do the treatments affect hard-to-count areas?
- RQ 5.** How does adding visual design elements and messaging affect self-response to the survey before CAPI, compared to the minimalist approach?
- RQ 6.** How does the redesigned front cover of the questionnaire affect item nonresponse for the questions on the front cover?
- RQ 7.** How do the treatments affect overall form completeness?
- RQ 8.** How do the treatments affect the demographics of early respondents? Late respondents? Overall respondents before CAPI?
- RQ 9.** How would the treatments affect the costs of data collection if implemented in production ACS?

### **4.4 Analysis Metrics**

We analyzed a variety of metrics to assess the effect of the mail materials in the experimental treatments on response, data quality, and data collection costs. These metrics are outlined in Sections 4.4.1 through 4.4.2.

#### 4.4.1 Unit-Level Response Analysis

To determine the effect of the experimental treatments on self-response, we calculated the self-response return rates at select points in the data collection cycle. We calculated these rates overall and by mode (internet, mail, and TQA).

To determine the effect of the experimental treatments on final response, made up of self-responses and CAPI responses, we calculated final overall response rates as well as how each mode (internet, mail, TQA, and CAPI) contributed to the overall final response rate.

##### 4.4.1.1 Self-Response Return Rates

We calculated the self-response return rates using the following formula:

$$\text{Self-Response Return Rate} = \frac{\text{Number of mailable and deliverable sample addresses that provided a response by internet, mail, or TQA}}{\text{Total number of mailable and deliverable sample addresses}} * 100$$

##### 4.4.1.2 Final Response Rates

We calculated the final response rates using the following formula:

$$\text{Final Response Rate} = \frac{\text{Number of eligible sample addresses that responded to the survey by mail, TQA, internet, or CAPI}}{\text{Total number of sample addresses eligible to reply to the survey and not sampled out of CAPI}} * 100$$

#### 4.4.2 Item-Level Response Analysis

##### 4.4.2.1 Item Nonresponse: Front Cover of Paper Questionnaire

We made slight modifications on the front of the paper questionnaire used in the experimental treatments to increase self-response. The front cover contains three fields that respondents are required to complete: name of respondent, telephone number, and number of people in household. Although we had no reason to believe that these changes would affect response to these items, we tested this assumption.

We defined each item for analysis as follows:

- *Name of respondent*: first and last name required to be a response.
- *Telephone number*: area code and number required to be a response.
- *Number of people in household*: whole number entry required to be a response.

Since the experimental treatments used the same paper questionnaire, we combined the responses from these treatments into a single sample and compared the rates to those of the Control treatment.

We calculated the item nonresponse rates for the three fields separately and overall using the following formula:

$$\text{Item Nonresponse Rate} = \frac{\text{Number of items where a required response is not provided}}{\text{Number of items that require a response}} * 100$$

#### **4.4.2.2 Form Completeness for Mail and Internet Responses**

Form completeness measures the number of questions on the data collection form that were answered among those that should have been answered, based on questionnaire skip patterns and respondent answers. Although we had no reason to believe that any part of this test would affect overall form completeness, we tested this assumption by comparing the form completeness of the experimental treatments to the form completeness of the Control treatment. We calculated form completeness rates for mail and internet responses only because there are no interaction effects with interviewers for those response modes.<sup>13</sup>

We calculated form completeness using the following formula:

$$\text{Overall Form Completeness Rate} = \frac{\text{Number of questions answered}}{\text{Number of questions that should have been answered}} * 100$$

#### **4.4.2.3 Respondent Demographics**

The materials being tested were designed to have broad appeal. They employed a variety of messages to motivate self-response throughout the data collection cycle. In addition to broad appeal, they also employed features to reach individuals who tend to respond late, with CAPI interviews. These late responders include individuals who have lower levels of education and individuals who are not proficient in English (Berkley, 2018). To convert these late responders to early self-responders, we used Plain Language to simplify communication and offered explicit help in Spanish, Chinese, Vietnamese, Russian, and Korean.

To determine if we were successful in motivating these late responders to respond earlier in the data collection cycle, we compared respondent demographics from the Control to that of the experimental treatments before the third and fifth mailings and before CAPI.

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<sup>13</sup> Interviewers are trained to press for complete responses.

We calculated and compared the distributions of all non-blank self-responses for the following demographic and housing categories: *age, educational attainment, Hispanic origin, race, sex, building type, and tenure.*

We calculated category proportions using the following formula:

$$\text{Category proportion} = \frac{\text{Weighted count of valid responses in category}}{\text{Weighted count of all valid responses}} * 100$$

#### **4.4.2.4 Data Collection Cost Analysis**

The materials being tested were designed to increase self-response and reduce the number of mail pieces sent to sampled households. An increase in self-response in the experimental treatments coupled with the absence of a multilingual brochure in the first mailing could potentially result in significant decrease in data collection costs. However, some of these potential savings may be offset by the additional charge for printing the letters and postcard in three of the experimental treatments in color. The cost analysis in this report accounts for changes in workloads for each mailing, which affects the costs of producing the mail materials (e.g., printing, assembly, and postage costs).

#### **4.5 Standard Error of the Estimates**

We estimated all variances using the Successive Differences Replication method with replicate weights, the standard method used for the ACS.<sup>14</sup> The variance for each rate and difference was calculated using the following formula.

The standard error of an estimate is the square root of the variance:

$$\text{Var}(RR_0) = \frac{4}{80} \sum_{r=1}^{80} (RR_r - RR_0)^2$$

where:

$RR_0$  = rate or difference in rates estimate calculated using the full sample base weights,

$RR_r$  = rate or difference in rates estimate calculated for replicate  $r$ .

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<sup>14</sup> See Chapter 12 of *American Community Survey and Puerto Rico Community Survey Design and Methodology* for details (U.S. Census Bureau, 2022).

#### **4.6 Weighting**

All self-response analyses, except for the cost analysis, were weighted using the ACS base sampling weight (the inverse of the probability of selection). Cases in the CAPI subsample had their weight multiplied by a CAPI subsampling factor unless they were self-responses. All nonresponding addresses in the initial sample were eligible for the CAPI subsample, including unmailable and undeliverable addresses. Addresses eligible for CAPI were sampled at a rate of about one in three.

#### **4.7 Multiple Comparison Adjustment**

Some analyses in this report involved testing a set of hypotheses simultaneously. For these cases, we adjusted for the Type I familywise error rate at the 0.1 level of significance using the Hochberg method (Hochberg, 1988).

### **5. ASSUMPTIONS AND LIMITATIONS**

#### **5.1 Assumptions**

- A single ACS monthly sample is representative of an entire year (12 panels) and the entire frame sample, with respect to both response rates and cost, as designed.
- A single methods panel group (1/24 of the full monthly sample) is representative of the full monthly sample, as designed.
- There is no difference between treatments in mail delivery timing or subsequent response time. The treatments had the same sample size and used the same postal sort and mailout procedures.

#### **5.2 Limitations**

- Group quarters and sample housing unit addresses from remote Alaska and Puerto Rico were not included in the sample for the test, so the results of this test can only be generalized to the standard ACS housing unit sample.
- Each treatment was designed holistically and, as such, for any significant differences detected we were not able to identify the specific elements in each treatment that caused those differences to occur, although, in some instances, we offered conjectures.

## 6. RESULTS

### 6.1 Unit-Level Response

#### 6.1.1 Research Question 1

*RQ1. How do the treatments affect self-response to the survey before CAPI?*

To determine how the experimental treatments affected self-response before CAPI, we compared the self-response of each experimental treatment to the Control treatment at three strategic points in the self-response phase of data collection: (1) before the third mailing to assess the effect of the first two mailings, (2) before the fifth mailing to assess the cumulative effect of mailings one through four, and (3) before CAPI to assess the cumulative effect of the five mailings sent before the start of CAPI.

Before the third mailing, only the Column and Header and Minimalist treatments had significantly *higher* self-response return rates than the Control treatment (by 2.0 (SE=0.4) and 4.3 (SE=0.5) percentage points, respectively). Before the fifth mailing and CAPI, the Control treatment had significantly higher cumulative self-response return rates than all experimental treatments, except the Minimalist treatment, which had higher self-response than Control by 1.8 (SE=0.5) percentage points before the fifth mailing and 1.4 (SE=0.5) percentage points before CAPI.

Table 2 shows the return rates for each treatment.

**Table 2. Total Self-Response Return Rates: Experimental Treatments vs. Control**

Point in Data Collection Cycle	Control	Icon	Column and Header	Sidebar	Minimalist
Before the Third Mailing	23.8 (0.3)	24.4 (0.3)	25.8 (0.3)*	24.5 (0.3)	28.1 (0.3)*
Before the Fifth Mailing	41.9 (0.4)	39.0 (0.4)^	40.0 (0.4)^	40.5 (0.4)^	43.6 (0.4)*
Before CAPI	48.9 (0.4)	46.6 (0.4)^	47.6 (0.4)^	47.7 (0.4)^	50.3 (0.4)*

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CBDRB-FY23-ACSO003-B0057

**Note:** Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a result that is statistically significantly higher than Control. A caret (^) indicates a result that is statistically significantly lower than Control. Significance was tested based on a two tailed t-test at the  $\alpha=0.1$  level.

An examination of self-response return rates by mode (Tables 3, 4, and 5) provides insight into the effect of mode on the differences in total self-response shown in Table 2. In Table 3, before the third mailing, we see that the Column and Header and Minimalist treatments had significantly higher internet return rates than the Control treatment. We also see that before the fifth mailing and before CAPI, the Minimalist treatment had significantly higher internet returns than the Control treatment. In Table 4, before the fifth mailing, we see that the Control treatment had significantly higher mail return rates than all experimental treatments. In Table

5, we see that before the fifth mailing, the only treatment with the TQA return rate significantly different from Control was the Column and Header treatment.

**Table 3. Internet Return Rates: Treatments vs. Control**

Point in Data Collection Cycle	Control	Icon	Column and Header	Sidebar	Minimalist
Before the Third Mailing	23.5 (0.3)	24.1 (0.4)	25.5 (0.3)*	24.2 (0.3)	27.7 (0.3)*
Before the Fifth Mailing	31.5 (0.3)	30.9 (0.4)	31.8 (0.3)	31.3 (0.4)	34.8 (0.3)*
Before CAPI	36.1 (0.4)	35.8 (0.4)	36.5 (0.4)	35.8 (0.4)	39.1 (0.4)*

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CBDRB-FY23-ACSO003-B0057

Note: Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a result that is statistically significantly higher than Control. A caret (^) indicates a result that is statistically significantly lower than Control. Significance was tested based on a two tailed t-test at the  $\alpha=0.1$  level.

**Table 4. Mail Return Rates: Treatments vs. Control**

Point in Data Collection Cycle	Control	Icon	Column and Header	Sidebar	Minimalist
Before the Fifth Mailing	9.7 (0.2)	7.7 (0.3)^	7.8 (0.2)^	8.8 (0.2)^	8.3 (0.2)^
Before CAPI	11.8 (0.2)	9.7 (0.3)^	10.1 (0.2)^	10.9 (0.2)^	10.2 (0.2)^

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CBDRB-FY23-ACSO003-B0057

Note: Because the paper questionnaire is sent out in the third mailing, mail return rates before the third mailing are not reported. Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a result that is statistically significantly higher than Control. A caret (^) indicates a result that is statistically significantly lower than Control. Significance was tested based on a two tailed t-test at the  $\alpha=0.1$  level.

**Table 5. TQA Return Rates: Treatments vs. Control**

Point in Data Collection Cycle	Control	Icon	Column and Header	Sidebar	Minimalist
Before the Third Mailing	0.3 (<0.1)	0.3 (<0.1)	0.3 (<0.1)	0.3 (<0.1)	0.4 (<0.1)
Before the Fifth Mailing	0.6 (0.1)	0.5 (0.1)	0.4 (0.1)^	0.5 (0.1)	0.6 (0.1)
Before CAPI	0.9 (0.1)	1.1 (0.1)	1.0 (0.1)	0.9 (0.1)	1.0 (0.1)

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CBDRB-FY23-ACSO003-B0057

Note: Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a result that is statistically significantly higher than Control. A caret (^) indicates a result that is statistically significantly lower than Control. Significance was tested based on a two tailed t-test at the  $\alpha=0.1$  level.

Because the Minimalist treatment was the only experimental treatment with significantly higher self-response return rates than Control before CAPI (Table 2), we performed additional analysis to learn how the Minimalist treatment performed, compared to the Control treatment, during the mailout period for each mailing (Table 6). For the last mailing, we used the time before CAPI started so the calculation could exclude any influence from a possible contact with the interviewer.



In Table 6, we see that the Minimalist treatment gained significantly more self-response during the first two mailings than the Control treatment [2.1 (SE=0.4) and 2.1 (SE=0.3) percentage points higher, respectively]. However, the Control treatment gained significantly more self-response than the Minimalist treatment in the days between the fourth and fifth mailings.

**Table 6. Self-Response Return Rates During Mailout Period for Each Mailing: Minimalist Treatment vs. Control**

<b>Mailing</b>	<b>Mailout Period</b>	<b>Minimalist</b>	<b>Control</b>	<b>Difference</b>	<b>P-Value</b>
1	08/26 – 09/02	11.6 (0.3)	9.5 (0.2)	2.1 (0.4)	<0.01*
2	09/03 – 09/16	16.5 (0.3)	14.3 (0.2)	2.1 (0.3)	<0.01*
3	09/17 – 09/20	2.1 (0.1)	2.2 (0.1)	-0.2 (0.1)	0.23
4	09/21 – 10/13	13.4 (0.2)	15.8 (0.3)	-2.4 (0.4)	<0.01^
5	10/14 – 10/31	6.7 (0.2)	7.0 (0.2)	-0.3 (0.3)	0.22

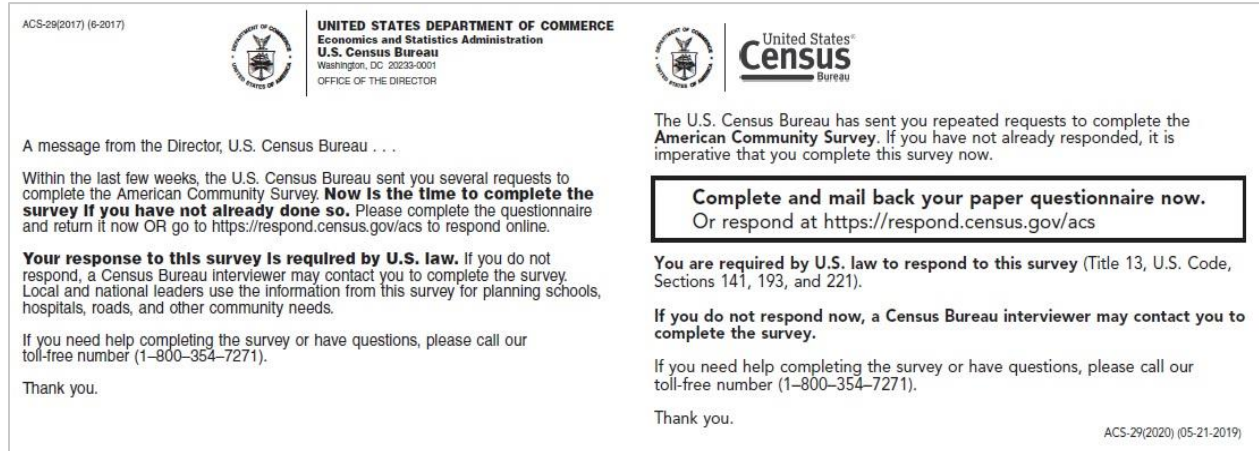
Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CBDRB-FY23-ACSO003-B0057

Note: Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a result that is statistically significantly higher than Control. A caret (^) indicates a result that is statistically significantly lower than Control. Significance was tested based on a two tailed t-test at the  $\alpha=0.1$  level.

We suspect that the surge in response for the Control treatment was driven by differences in messaging between the postcard of the Control treatment and the experimental treatments in the fourth mailing. When the experimental materials were being developed, the messaging in the production postcard did not convey the same sense of urgency to respond to the survey as the current production postcard (Figure 3). The experimental treatments followed that sentiment and made a strategic decision to place strong messaging in the fifth mailing, but not the fourth.

By the time the experimental designs were complete, the production postcard was modified and included messaging that (1) changed the phrase “Now is the time to complete the survey” to “It is imperative that you complete the survey now,” (2) emphasized (in bold font) mailing the paper questionnaire back more than responding online, and (3) had a strong conditional message about not responding, written in bold font: “If you do not respond now, a Census Bureau interviewer may contact you to complete the survey.” (See Figure 3.) The modified postcard was placed into production beginning in January of 2020 and was included because it was part of the experimental materials in the 2018 ACS Mail Materials Test (Risley & Berkley, 2019) that resulted in a significant increase in self-response.

Figure 3. Front of the 2017 Production Postcard (Left) and the Control Postcard (Right)



The results of this analysis suggest that, instead of implementing all the Minimalist mailings in production, keeping some of the current production materials, specifically the letter in the third mailing and the postcard, may result in more cost savings.

### 6.1.2 Research Question 2

*RQ2. If a treatment affects self-response before CAPI, how does it affect overall response to the survey?*

For data quality purposes, for any treatment with significantly different self-response return rates from the Control treatment before CAPI, we wanted to know if the differences still existed at the end of the data collection period.

Since all four experimental treatments had self-response return rates before CAPI that were significantly different (higher or lower) from Control (Table 2), they were all included in this analysis. We calculated final response rates (overall response) and the percentage of final response from each mode (self-response, internet, mail, TQA, and CAPI), and compared the rates to those of the Control treatment. The results are in Table 7 below.

While there were no significant differences in overall final response rates or the self-response portion of the final response rates at the end of the data collection period, when comparing each experimental treatment to the Control treatment, there were some differences between treatments by response mode:

- Control had higher mail response than the Icon and Column and Header treatments.
- Control had lower internet response and higher mail response than the Minimalist treatment.

**Table 7. Final Response Rates and Percentage from each Mode: Treatments vs. Control**

Mode	Control	Column and			
		Icon	Header	Sidebar	Minimalist
Overall Response	85.3 (0.4)	84.6 (0.5)	85.2 (0.4)	85.0 (0.5)	85.7 (0.4)
Self-Response	57.6 (0.5)	56.5 (0.5)	56.7 (0.6)	56.8 (0.6)	58.4 (0.5)
Internet	44.3 (0.5)	44.9 (0.4)	44.9 (0.5)	44.3 (0.5)	46.8 (0.5)*
Mail	12.3 (0.3)	10.4 (0.3)^	10.7 (0.2)^	11.6 (0.3)	10.6 (0.2)^
TQA	1.0 (0.1)	1.2 (0.1)	1.1 (0.1)	0.9 (0.1)	1.0 (0.1)
CAPI	27.7 (0.6)	28.1 (0.5)	28.5 (0.5)	28.1 (0.6)	27.3 (0.4)

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CBDRB-FY23-ACSO003-B0057

Note: Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a result that is statistically significantly higher than Control. A caret (^) indicates a result that is statistically significantly lower than Control. Significance was tested based on a two tailed t-test at the  $\alpha=0.1$  level.

### 6.1.3 Research Question 3

*RQ3. How do the treatments affect Spanish language self-responses?*

The experimental treatments included strategic messaging in the designs to increase Spanish-language self-response. This section summarizes the analysis done to see the effects of this messaging on Spanish-language response.

In the first mailing, the Spanish wording on the back of the instruction card was modified to increase response to the survey in Spanish.

- Control (translated in English): “Go to <https://respond.gov/acs> to complete the American Community Online Survey in Spanish. ATTENTION: You will need information that appears on the label on the other side of this card to login. If you need help filling out the survey or have questions about the American Community Survey, call toll-free 1-877-833-5625.”
- Experiment (translated in English): “HOW TO RESPOND: Go to [respond.census.gov/acs](https://respond.census.gov/acs) to complete the survey in Spanish by computer, smartphone, or tablet. Do you need help or have questions? Call 1-877-833-5625.”

In the third mailing, Spanish-language instructions, translated below in English, were added to the back of the letter for the experimental treatments. (See Figure 14 in Appendix A for text and formatting in Spanish.)

- To complete the survey in Spanish: There are two ways to complete the American Community Survey. Choose only ONE way to answer.
- Option 1 – Online: Go to [respond.census.gov/acs](https://respond.census.gov/acs) to complete the survey in Spanish by computer, smartphone, or tablet. Click on "To complete in Spanish, click here."
- Option 2 – By phone: Call 1-877-833-5625 to speak with a Spanish-speaking Census Bureau employee. You can complete the survey over the phone or ask us to send you a questionnaire in Spanish.

To evaluate whether the experimental Spanish-language messaging in the first and third mailings was effective at increasing Spanish-language responses, we compared the self-response return rates before the third mailing and before CAPI.<sup>15</sup> (See Table 8.) The experimental changes to Spanish-language content in the mail materials did not have a significant effect on Spanish self-response.

**Table 8. Spanish-Language Self-Response Percentage of Return Rates**

Point in Data Collection Cycle	Column and				
	Control	Icon	Header	Sidebar	Minimalist
Before the Third Mailing	0.1 (<0.1)	<0.1 (<0.1)	<0.1 (<0.1)	<0.1 (<0.1)	0.1 (<0.1)
Before CAPI	0.1 (<0.1)	0.1 (<0.1)	0.1 (<0.1)	0.1 (<0.1)	0.1 (<0.1)

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CBDRB-FY23-ACSO003-B0057

*Note:* Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a statistically significant result. Significance was tested based on a two tailed t-test at the  $\alpha=0.1$  level.

#### **6.1.4 Research Question 4**

*RQ4. How do the treatments affect hard-to-count areas?*

The experimental materials employed features, such as a lower reading level, to increase self-response in hard-to-count populations. To examine how the redesigned mail materials affected response in areas with hard-to-count populations, we calculated the self-response return rates before CAPI, both overall and by mode, in designated low response areas.<sup>16</sup>

Table 9 displays the self-response return rates for the low response areas. There were no significant differences in the overall self-response rates. For mail returns, the Column and

<sup>15</sup> Due to an operational issue with processing, we were unable to include Spanish TQA responses in the analysis.

<sup>16</sup> Low response areas were defined at the tract level using the low response score (LRS) variable on the Census Bureau’s 2021 planning database found at <https://www.census.gov/topics/research/guidance/planning-databases.html>.

Header and Minimalist treatments both had significantly lower rates than the Control treatment. For internet returns, the Minimalist treatment had a significantly higher rate than the Control treatment. Because the Minimalist treatment had a higher proportion of internet returns, a lower proportion of mail returns, and an overall self-response rate that was not significantly different from Control, it appears that the Minimalist treatment may have been more effective at encouraging low-propensity respondents to respond online rather than by mail.

**Table 9. Self-Response Return Rates Before CAPI for Low Response Areas: Experimental Treatments vs. Control**

Mode	Control	Column and			
		Icon	Header	Sidebar	Minimalist
Self-Response	32.3 (0.8)	31.0 (0.7)	30.8 (0.9)	31.7 (0.7)	33.5 (0.6)
Internet	23.7 (0.7)	23.0 (0.6)	23.5 (0.7)	23.4 (0.7)	25.8 (0.6)*
Mail	7.7 (0.4)	6.9 (0.4)	6.5 (0.4)^	7.3 (0.4)	6.8 (0.3)^
TQA	0.9 (0.2)	1.2 (0.2)	0.9 (0.1)	1.0 (0.2)	0.9 (0.1)

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CBDRB-FY23-ACSO003-B0057

Note: Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a result that is statistically significantly higher than Control. A caret (^) indicates a result that is statistically significantly lower than Control. Significance was tested based on a two tailed t-test at the  $\alpha=0.1$  level.

### 6.1.5 Research Question 5

*RQ5. How does adding visual design elements and messaging affect self-response to the survey before CAPI, compared to the minimalist approach?*

The Minimalist treatment did not use color, graphics (visual design elements), or the suggested thematic messaging from the *Strategic Framework Report* (Oliver et al., 2017), while the other three experimental treatments did. Hence, we were able to assess how these features affected self-response before CAPI by comparing the other experimental treatments to the Minimalist treatment. (See Table 10.)

The Minimalist treatment had significantly higher overall self-response return rates than the other experimental treatments before CAPI. This same result held in the internet mode. Due to the experimental design, we cannot know for certain which features of the Minimalist treatment affected response the most. It may be that the lack of color and graphics presented a more “governmental feel” and increased trust in the survey, leading to higher response.

Also, because the Minimalist letters did not include thematic messages in the same way the other treatments did, the letters were able to be less text dense than the other experimental treatments. Because of this, the mandatory messaging was much more prominent than in the other experimental treatments, which could have caused the significant increase in response.

There was one treatment that was the exception—the Sidebar treatment in the mail mode. Its self-response return rate before CAPI was higher than that of the Minimalist treatment.

**Table 10. Self-Response Return Rates before CAPI: Icon, Column and Header, and Sidebar Treatments vs. Minimalist Treatment**

Response Mode	Minimalist	Icon	Column and Header	Sidebar
Overall Self-Response	50.3 (0.4)	46.6 (0.4)^	47.6 (0.4)^	47.7 (0.4)^
Internet	39.1 (0.4)	35.8 (0.4)^	36.5 (0.4)^	35.8 (0.4)^
Mail	10.2 (0.2)	9.7 (0.3)^	10.1 (0.2)	11.1 (0.2)*
TQA	1.0 (0.1)	1.1 (0.1)	1.0 (0.1)	0.9 (0.1)

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CBDRB-FY23-ACSO003-B0057

Note: Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a result that is statistically significantly higher than the Minimalist treatment. A caret (^) indicates a result that is statistically significantly lower than the Minimalist treatment. Significance was tested based on a two tailed t-test at the  $\alpha=0.1$  level.

## 6.2 Item-Level Response

### 6.2.1 Research Question 6

*RQ6. How does the redesigned front cover of the questionnaire affect item nonresponse for the questions on the front cover?*

We redesigned the bottom left-hand column of the front cover of the questionnaire used in all four experimental treatments using Plain Language principles to make the information easier to read and process. (See Section 3.2.) Some features of the modified design included: updated icons, reduced text, shortened URLs, and reformatted information. See Figure 4 for a detailed look at the differences.

Although we had no reason to believe that these changes would affect item response on the front cover, we tested this assumption. Since all four experimental treatments used the same paper questionnaire, we combined the responses from these treatments into a single sample and compared the combined item nonresponse rates to those of the Control treatment. The items compared were name of respondent, telephone number, and number of persons in household. As seen in Table 11, there were no significant differences.

Figure 4. Front of Control Questionnaire (Left) and Experimental Treatment Questionnaires (Right)

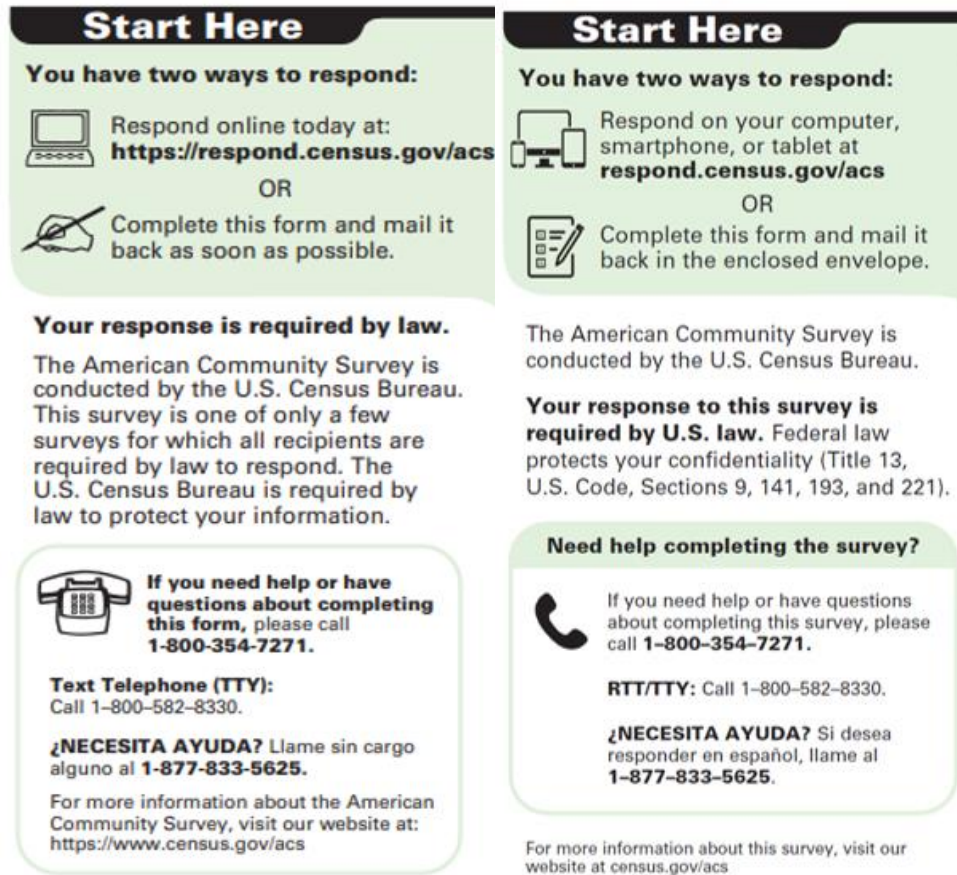


Table 11. Item Nonresponse Rates for Front Cover of Paper Questionnaire: Combined Experimental Treatments vs. Control

Item	Experimental		Difference	P-Value
	Treatments	Control		
Front Cover Nonresponse	1.2 (0.1)	1.3 (0.3)	-0.1 (0.3)	0.79
Name of Respondent	2.3 (0.2)	2.1 (0.3)	0.2 (0.4)	0.65
Telephone Number	6.2 (0.3)	6.6 (0.6)	-0.4 (0.6)	0.52
Number of Persons in Household	3.4 (0.2)	3.9 (0.4)	-0.5 (0.5)	0.31

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test, DRB Approval Number: CBDRB-FY23-ACSO003-B0057

Note: Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a statistically significant result. Significance was tested based on a two tailed t-test at the  $\alpha=0.1$  level.

### 6.2.2 Research Question 7

RQ7. How do the treatments affect overall form completeness?

Although we had no reason to believe that any part of this test would affect overall form completeness, we tested this assumption by comparing the form completeness of each experimental treatment to the form completeness of the Control treatment overall (internet and mail combined) and by mode: internet and mail.<sup>17</sup> These results are displayed in Table 12. Surprisingly, the Control treatment had significantly higher form completeness rates than all of the experimental treatments in all of the modes examined. The lone exception was the result of no significant difference in the mail mode for the Column and Header treatment.

**Table 12. Form Completeness Rates Overall and by Mode: Treatments vs. Control**

Response Mode	Control	Column and Header			
		Icon	Header	Sidebar	Minimalist
Internet and Mail Combined	91.3 (0.2)	90.2 (0.2)^	90.4 (0.2)^	90.4 (0.2)^	90.3 (0.2)^
Internet	91.8 (0.2)	90.8 (0.3)^	90.8 (0.2)^	90.9 (0.2)^	90.9 (0.2)^
Mail	89.2 (0.3)	87.8 (0.4)^	88.6 (0.3)	88.4 (0.4)^	87.9 (0.3)^

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CDBRB-FY23-ACSO003-B0057

Note: Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a result that is statistically significantly higher than Control. A caret (^) indicates a result that is statistically significantly lower than Control. Significance was tested based on a two tailed t-test at the  $\alpha=0.1$  level.

To better understand these unexpected results, we investigated form completeness overall and by form section. The distinct form sections examined were:

- Basic Person section: First section, includes six questions for each household member.
- Housing section: Middle section, twenty-four household questions
- Detailed Person section: Last section, thirty-eight questions for each household member.<sup>18</sup>

We calculated these rates for four points in data collection: before the third mailing (Table 13), before the fifth mailing (Table 14), before the beginning of CAPI (Table 15), and at the end of data collection (Table 16). These results displayed several patterns.

Except for the Sidebar treatment in Table 13, overall form completeness for every experimental treatment was significantly lower than Control for all points in time examined.

<sup>17</sup> We did not calculate form completeness rates for the TQA mode because of the potential interaction effects with the interviewers.

<sup>18</sup> The questions in each section may be seen in the sample ACS questionnaire, available at: <https://www.census.gov/programs-surveys/acs/about/forms-and-instructions.html>



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For the Basic Person section, form completeness rates for the experimental treatments were not significantly different from Control except for the Column and Header and Sidebar treatments before CAPI (Table 15). Since the Basic Person section contains only six questions which are relatively easy to answer, the general result of no significant differences is not surprising.

For the Housing section, the form completeness rates for the experimental treatments were lower than Control before the third mailing (Table 13). However, the results at the other points in time were mixed.

For the Detailed Person section, the form completeness rates were lower than Control for every treatment at every point in time except for the Sidebar treatment in Table 13.

Our investigation of form completeness by section yielded mixed results. However, one pattern that was consistent across the points in time examined was that the form completeness rates for the Detailed Person section for the experimental treatments were all lower than the Control (except for the Sidebar treatment before the third mailing).

We conducted further research by examining the Detailed Person section by topic (e.g., place of birth, educational attainment, income). In all, we examined 13 person topics. The rates for the experimental treatment were significantly lower than that of the Control for all topics except for work status (questions 36-41) and type of work (question 42). This suggests that the lower form completeness rates were not due to any particular question.

We conducted additional research and compared the demographic characteristics of households with form completeness below 75 percent for the Control treatment versus the experimental treatments. The results were inconclusive and are not presented in this report. Hence, we were unable to determine the reasons for the lower form completeness rates in the experimental treatments.

**Table 13. Form Completeness Rates by Section: Before the Third Mailing**

<b>Section</b>	<b>Control</b>	<b>Icon</b>	<b>Column and Header</b>	<b>Sidebar</b>	<b>Minimalist</b>
Overall Form	93.4 (0.3)	92.4 (0.2)^	92.1 (0.3)^	92.9 (0.3)	92.3 (0.2)^
Basic Person	99.8 (<0.1)	99.7 (0.1)	99.8 (0.1)	99.8 (<0.1)	99.8 (<0.1)
Housing	98.9 (0.1)	98.5 (0.1)^	98.5 (0.1)^	98.6 (0.1)^	98.5 (0.1)^
Detailed Person	90.6 (0.4)	89.3 (0.4)^	88.8 (0.4)^	90.0 (0.4)	89.1 (0.4)^

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CBDRB-FY23-ACSO003-B0057

**Note:** Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a result that is statistically significantly higher than Control. A caret (^) indicates a result that is statistically significantly lower than Control. Significance was tested based on a two tailed t-test at the  $\alpha=0.1$  level.

**Table 14. Form Completeness Rates by Section: Before the Fifth Mailing**

Section	Control	Icon	Column and Header	Sidebar	Minimalist
Overall Form	92.7 (0.2)	91.7 (0.2)^	91.7 (0.2)^	92.1 (0.2)^	91.8 (0.2)^
Basic Person	99.3 (0.1)	99.3 (0.1)	99.2 (0.1)	99.2 (0.1)	99.3 (0.1)
Housing	97.3 (0.1)	97.0 (0.1)^	97.3 (0.1)	97.1 (0.1)	97.0 (0.1)
Detailed Person	90.2 (0.3)	88.7 (0.3)^	88.6 (0.3)^	89.3 (0.3)^	88.9 (0.3)^

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CBDRB-FY23-ACSO003-B0057

**Note:** Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a result that is statistically significantly higher than Control. A caret (^) indicates a result that is statistically significantly lower than Control. Significance was tested based on a two tailed t-test at the  $\alpha=0.1$  level.

**Table 15. Form Completeness Rates by Section: Before CAPI**

Section	Control	Icon	Column and Header	Sidebar	Minimalist
Overall Form	92.4 (0.2)	91.4 (0.2)^	91.6 (0.2)^	91.7 (0.2)^	91.7 (0.2)^
Basic Person	99.3 (0.1)	99.2 (0.1)	99.1 (0.1)^	99.1 (0.1)^	99.3 (0.1)
Housing	97.1 (0.1)	96.9 (0.1)	97.1 (0.1)	96.8 (0.1)	96.9 (0.1)
Detailed Person	89.8 (0.3)	88.3 (0.3)^	88.5 (0.3)^	88.8 (0.3)^	88.8 (0.2)^

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CBDRB-FY23-ACSO003-B0057

**Note:** Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a result that is statistically significantly higher than Control. A caret (^) indicates a result that is statistically significantly lower than Control. Significance was tested based on a two tailed t-test at the  $\alpha=0.1$  level.

**Table 16. Form Completeness Rates by Section: End of Data Collection Period**

Section	Control	Icon	Column and Header	Sidebar	Minimalist
Overall Form	91.3 (0.2)^	90.2 (0.2)^	90.4 (0.2)^	90.4 (0.2)^	90.3 (0.2)^
Basic Person	98.9 (0.1)	98.7 (0.1)	98.8 (0.1)	98.7 (0.1)	98.8 (0.1)
Housing	96.2 (0.1)	95.8 (0.1)^	96.3 (0.1)	95.9 (0.1)^	95.9 (0.1)
Detailed Person	88.4 (0.3)	87.1 (0.3)^	87.1 (0.3)^	87.3 (0.3)^	87.1 (0.3)^

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CBDRB-FY23-ACSO003-B0057

**Note:** Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a result that is statistically significantly higher than Control. A caret (^) indicates a result that is statistically significantly lower than Control. Significance was tested based on a two tailed t-test at the  $\alpha=0.1$  level.

### 6.3 Demographics of Respondent Households

*RQ 8. How do the treatments affect the demographics of early respondents? Late respondents? Overall respondents before CAPI?*

To determine if the experimental treatments were successful at converting those who typically respond in CAPI to self-respond earlier, we compared respondent demographics from the Control to that of the experimental treatments at three points in time during the self-response

phase of data collection: before the third mailing, before the fifth mailing, and before CAPI. We calculated and compared the distributions of all non-blank self-responses for the following five demographic and two housing categories, respectively: *age, educational attainment, Hispanic origin, race, sex, building type, and tenure*.<sup>19</sup>

We used the Rao-Scott chi-square test of independence to test if the response distributions of interest were different at  $\alpha=0.1$ . When the response distributions were different, we performed t-tests on the differences for each subcategory. We used the Hochberg method to adjust for multiple comparisons. The results of the Rao-Scott chi-square tests for all demographic items are in Appendix F. Table 17 provides the results for the distribution of the race of respondents for the Sidebar treatment only, as this was the only significant result observed among all treatments.

For responses received before CAPI, the distribution of *race* in the Sidebar treatment was significantly different from Control (adjusted *p*-value = 0.07). The Sidebar treatment had a significantly higher proportion of White respondents and significantly fewer respondents who selected Black or African American or two or more races. This difference did not show up at the earlier time points (i.e., before the third mailing, before the fifth mailing) examined.

**Table 17. Distribution of Race of Respondent, Self-Responses before CAPI: Sidebar Treatment vs. Control**

<b>Response Category</b>	<b>Sidebar</b>	<b>Control</b>	<b>Difference</b>	<b>P-Value</b>
White alone	77.1 (1.2)	72.1 (1.4)	5.0 (1.7)	<0.01*
Black or African American alone	8.6 (0.8)	11.2 (1.0)	-2.6 (1.3)	0.04^
Other race alone	10.8 (0.9)	11.4 (0.9)	-0.6 (1.2)	0.61
Two or more races	3.5 (0.5)	5.2 (0.7)	-1.7 (0.9)	0.06^

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CDBDRB-FY23-ACSO003-B0057

Note: Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a result that is statistically significantly higher than Control. A caret (^) indicates a result that is statistically significantly lower than Control. Significance was tested based on a two tailed t-test at the  $\alpha=0.1$  level.

The experimental design for the 2021 ACS Strategic Framework Test does not allow us to isolate what features of the materials in the Sidebar treatment may have affected the distribution of race of the respondents. However, if we were to conjecture, a notable difference between the Sidebar treatment and the other experimental treatments was the use of a graphical image in each letter and on the postcard.<sup>20</sup>

<sup>19</sup> We used uncoded data for the *race* and *Hispanic origin* analysis and, where possible, imputed missing values for *age*.

<sup>20</sup> The fifth mailing did not have a graphic image. Also, while the Column and Header treatment used the same graphic on the postcard as the Sidebar treatment, the graphic was displayed in a less prominent manner.

## 6.4 Cost Analysis

*RQ 9. How would the treatments affect the costs of data collection if implemented in production ACS?*

The Minimalist treatment was the only experimental treatment that had self-response return rates higher than Control before the third and fifth mailings and before CAPI. Therefore, we only performed cost analysis for the Minimalist treatment versus the Control treatment.

Table 18 presents the estimated costs of implementing the Minimalist treatment versus the Control treatment for a full production year. We project that if we replaced all Control mailings with Minimalist treatment mailings, as they were tested, we would reduce ACS production costs by about \$3 million annually.

**Table 18. Estimated Annual Data Collection Cost Savings: Minimalist Treatment vs. Control**

<b>Treatment</b>	<b>Printing, Postage, and Assembly Savings</b>	<b>Potential CAPI Savings</b>	<b>Potential Total Cost Savings</b>
Minimalist	\$770,000	\$2,163,000	\$2,933,000

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CDBRB-FY23-ACSO003-B0057

Printing, Postage, and Assembly cost savings would come from (1) not printing the multilingual brochure and (2) sending fewer mailings due to the significant increase in self-response before the third mailing. A caveat to this analysis is that in 2022 the first, second, and third mailings in ACS production were revised. Most notably, in production, the first mailing was converted from a package to a pressure seal mailer, which costs less than the first mailing package that served as the control for this test.<sup>21</sup> The second and third production mailings have been modified slightly, and we do not yet know the effect these modifications will have on response. So, the cost comparisons made in this report do not reflect a one-to-one cost comparison to the ACS mail materials currently in production.

The CAPI savings were calculated under the assumption that we would be able to decrease the CAPI sample as a result of a significant increase in self-response, before the CAPI subsample is selected. However, current CAPI sampling methodology, implemented due to budget constraints, limits the sample to approximately 60,000 interviews a month. Under this methodology, we already realize CAPI savings by limiting the CAPI sample size, which is greater than the savings we would realize if we subsampled from the pool of all nonrespondents before CAPI.

<sup>21</sup> This change was made in reaction to positive test results from the 2021 ACS Initial Mailing Pressure Seal Test (Longsine & Spiers, 2023.)

However, increasing self-response before CAPI is still important. It increases overall response to the survey, which leads to lower variances and higher quality data.

## **7. CONCLUSIONS**

The 2021 ACS Strategic Framework Test evaluated the effect of four holistic redesigns of the ACS mail materials on self-response. The cornerstone of these redesigns was strategic messaging and clearer communication, using Plain Language principles. The four treatments were the Icon, Column and Header, Sidebar, and Minimalist treatments.

The Minimalist treatment had self-response return rates 4.3 (SE=0.5), 1.8 (SE=0.5), and 1.4 (SE=0.5) percentage points higher than the Control treatment before the third mailing, before the fifth mailing, and before CAPI, respectively. None of the self-response return rates for the other experimental treatments were significantly higher than Control, except for the Column and Header treatment where the self-response return rate before the third mailing was 2.0 (SE=0.4) percentage points higher than Control.

To determine if the experimental treatments were successful at converting late responders (those who typically respond in CAPI) to earlier responders, we compared respondent demographics from the Control to those of the experimental treatments before the third mailing, before the fifth mailing, and before CAPI. None of the experimental treatments, except Sidebar, had significant results. For responses received before CAPI, the Sidebar treatment had a significantly higher proportion of White respondents (5.0 (SE=1.7) percentage points higher) and a significantly lower proportion of Black or African American respondents (2.6 (SE=1.3) percentage points lower) and respondents who selected two or more races (1.7 (SE=0.9) percentage points lower). We conjecture that the use of a graphical image in each letter and on the postcard in the Sidebar treatment may have contributed to the differences, since this was the outstanding feature that set the Sidebar treatment apart from the other experimental treatments.

The experimental treatments included strategic messages to increase Spanish-language self-response; however, there was not a significant increase in response to the Spanish-language questionnaire or the Spanish-language internet instrument.

The experimental treatments also included strategic messages to increase self-response in low response areas; however, there were no significant differences in the overall self-response rates in low-response areas.

We redesigned the bottom left-hand column of the front cover of the questionnaire used in the experimental treatments, using Plain Language principles to make the information easier to read and process. Although we had no reason to believe that these changes would affect item response on the front cover, we tested this assumption. As expected, these changes had no

significant effect on item nonresponse for these front cover items: *name of respondent*, *telephone number*, and *number of persons in household*.

Surprisingly, we found that the Control treatment had significantly higher form completeness rates than all of the experimental treatments. The form completeness rate for the Control was 91.3 (SE=0.2) percent versus Icon 90.2 (SE=0.2), Column and Header 90.4 (SE=0.2), Sidebar 90.4 (SE=0.2), and Minimalist 90.3 (SE=0.2) percent. We also examined form completeness rates for different sections of the questionnaire and at different times in the data collection cycle. Throughout data collection, the differences in form completeness rates appeared most consistently for the Detailed Person questions, the final and longest section of the questionnaire. However, we cannot say why this occurred.

Since the Minimalist treatment was the only experimental treatment to have higher self-response than the Control treatment before CAPI, this treatment is the only likely candidate to replace the Control treatment in production. If all of the Minimalist mailings were implemented in production, as tested, we estimate a projected \$3 million possible annual savings in data collection costs.

We performed additional analysis to learn more about response from the Minimalist treatment versus the Control treatment during the time period of each mailing. The Minimalist treatment gained significantly more self-response than the Control treatment during the first two mailings. However, the Control treatment gained significantly more self-response than the Minimalist treatment between the fourth and fifth mailings. We suspect that the surge in response for the Control treatment was driven by differences in messaging between the postcard of the Control treatment and the experimental treatments in the fourth mailing. As such, replacing the Minimalist postcard with the Control postcard may result in more cost savings. The same may also be true for the letter in the third mailing.

Adding to that, the first three ACS production mailings have been revised since the test was fielded. For all the reasons mentioned, further testing is needed to determine the best combination of materials, from this test and the new production materials, to maximize self-response and minimize costs.

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## Appendix A. Icon Treatment Mail Materials

Figure 5. Icon Treatment: ACS-13(L) (Introduction Letter) Front

United States<sup>®</sup>  
**Census**  
Bureau

**U.S. Census Bureau**  
American Community Survey Office  
Washington, DC 20000

Dear Resident:

Your household has been selected to participate in the **American Community Survey**. Since 2005, the U.S. Census Bureau has been conducting this survey to provide our nation with an up-to-date picture of how we live. This survey helps determine the needs of communities like yours, covering topics like education, employment, and housing.

Follow the steps below to complete the survey:

1) Go to **respond.census.gov/acs**

2) Log in with your 10-digit user ID found on the enclosed card.

Use your computer, smartphone, or tablet to log in to our secure website and respond today.

The information that you provide is so important that **your response is required by law** (Title 13, U.S. Code, Sections 141, 193, and 221).

Questions? Please call 1-800-354-7271 if you have questions or if you need help completing the survey.

We appreciate your prompt online response. If you are unable to respond online, we will send you a paper questionnaire in a few weeks. Thank you for your participation.

Sincerely,

Donna Daily  
Chief, American Community Survey Office

The Census Bureau serves as the leading source of quality data about the nation's people and economy.

ACS-13(L)Q5F-IC (04-21-2021) census.gov/acs

Figure 6. Icon Treatment: ACS-13(L) (Introduction Letter) Back

## Frequently Asked Questions

### **What is the American Community Survey?**

The American Community Survey is an official survey from the U.S. Census Bureau. This survey was created to provide up-to-date, accurate information about the country every year, not just census years. Governments, businesses, and nonprofit organizations use the information to make decisions about how to meet the changing needs of communities.

### **Is this a legitimate survey?**

Yes. The Census Bureau has been conducting this survey since 2005. Only government agencies can use an internet address with the “.gov” extension. You can verify that this is an official government survey by going to [census.gov/acs](https://census.gov/acs) or by calling 1-800-354-7271. Call Monday–Friday: 9 a.m. to 9 p.m., Saturday: 9 a.m. to 7 p.m., or Sunday: 11 a.m. to 9 p.m.

### **Why was I selected?**

Your address was selected through scientific sampling and represents thousands of other households like yours. The Census Bureau randomly selects about 3.5 million addresses throughout the country each year to respond to this survey.

### **Am I required to fill out the survey?**

Yes. Your response to this survey is required by law (Title 13, U.S. Code, Sections 141, 193, and 221). Title 13, as changed by Title 18, imposes a penalty for not responding. To create an accurate picture of your community, it is critical that you respond.

### **Will my response be confidential?**

Yes. The Census Bureau is required by law to protect this information. The Census Bureau is not permitted to publicly release your responses in a way that could identify you. We are conducting this survey under the authority of Title 13, U.S. Code, Sections 141 and 193. Federal law protects your privacy and keeps your answers confidential (Title 13, U.S. Code, Section 9). Per the Federal Cybersecurity Enhancement Act of 2015, your data are protected from cybersecurity risks through screening of the systems that transmit your data.

### **How will the Census Bureau use the information I provide?**

By law, the Census Bureau can only use your responses to produce statistics. Your information will be used in combination with information from other households to produce data for your community. Similar data will be produced for communities across the United States and Puerto Rico. We may combine your answers with information that you gave to other agencies to enhance the statistical uses of these data. This information will be given the same protections as your survey information. Based on the information that you provide, you may be asked to participate in other Census Bureau surveys that are voluntary.

Figure 7. Icon and Other Experimental Treatments: ACS-34IM (Instruction Card) Front

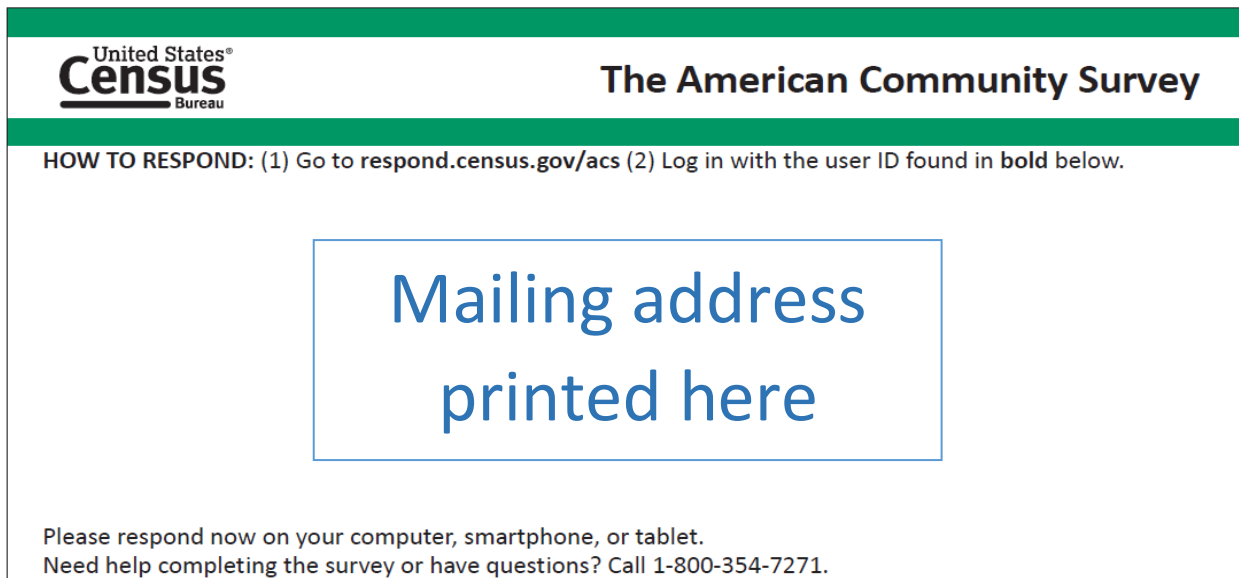
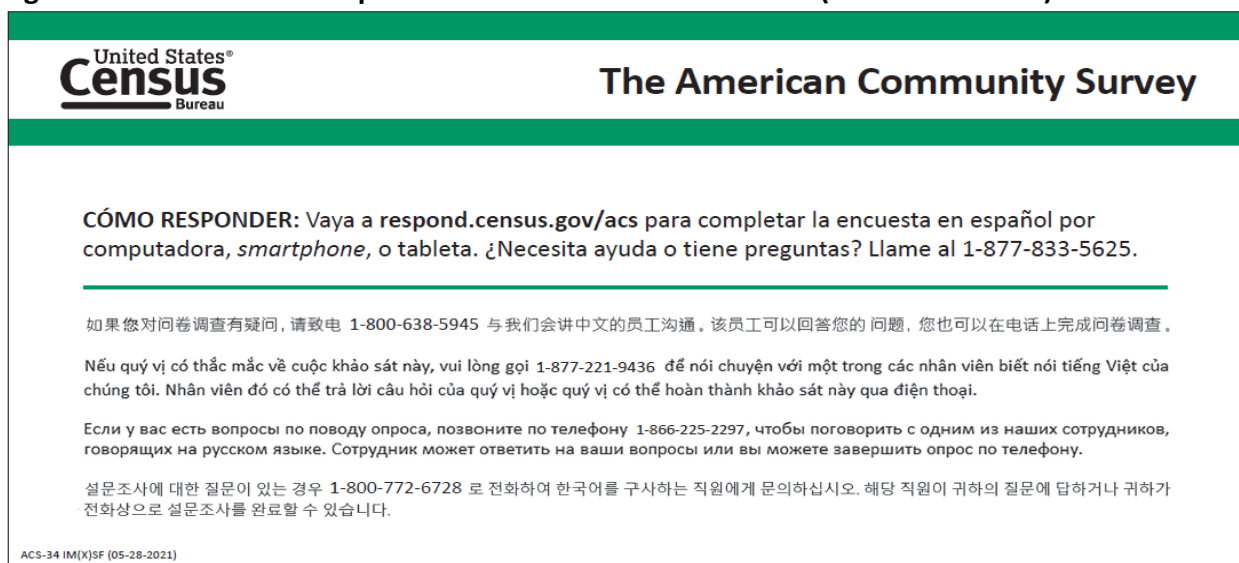


Figure 8. Icon and Other Experimental Treatments: ACS-34IM (Instruction Card) Back



Translation of languages:

Spanish: HOW TO RESPOND: Go to [respond.census.gov/acs](https://respond.census.gov/acs) to complete the survey in Spanish by computer, smartphone, or laptop. Need help or have questions? Call 1-877-833-5625.

Chinese (simplified), Vietnamese, Russian, and Korean: If you have questions about the survey call [number] to speak to one of our employees who speaks [language]. The employee can answer your questions, or you can complete the survey over the phone.

Figure 9. Icon and Other Experimental Treatments: ACS-46IM (Initial Mailing Package Envelope) Front

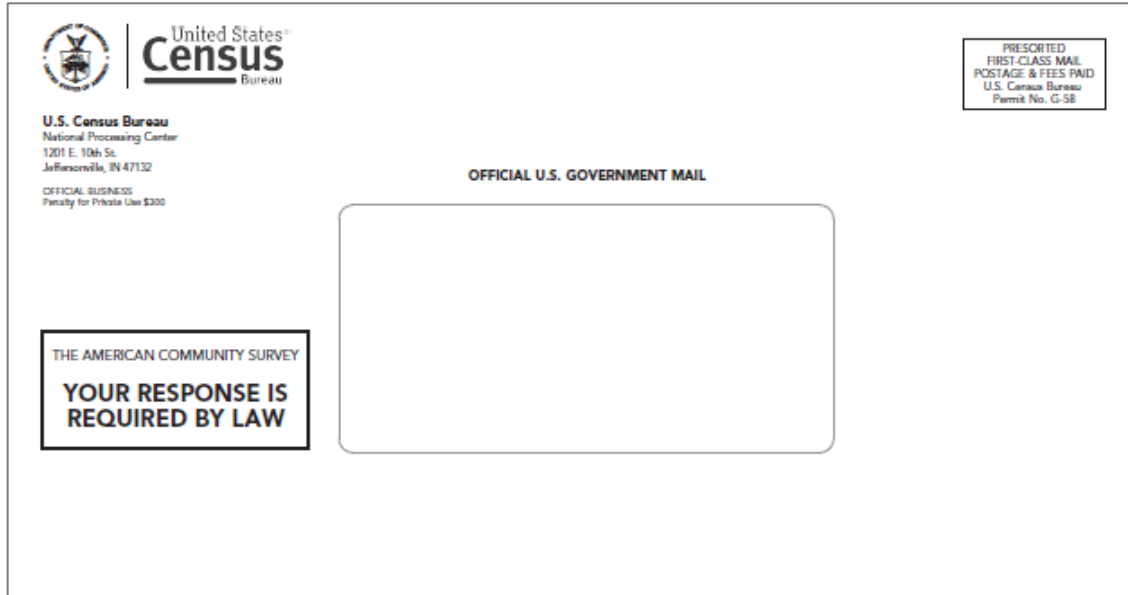


Figure 10. Icon and Other Experimental Treatments: ACS-46IM (Initial Mailing Package Envelope) Back

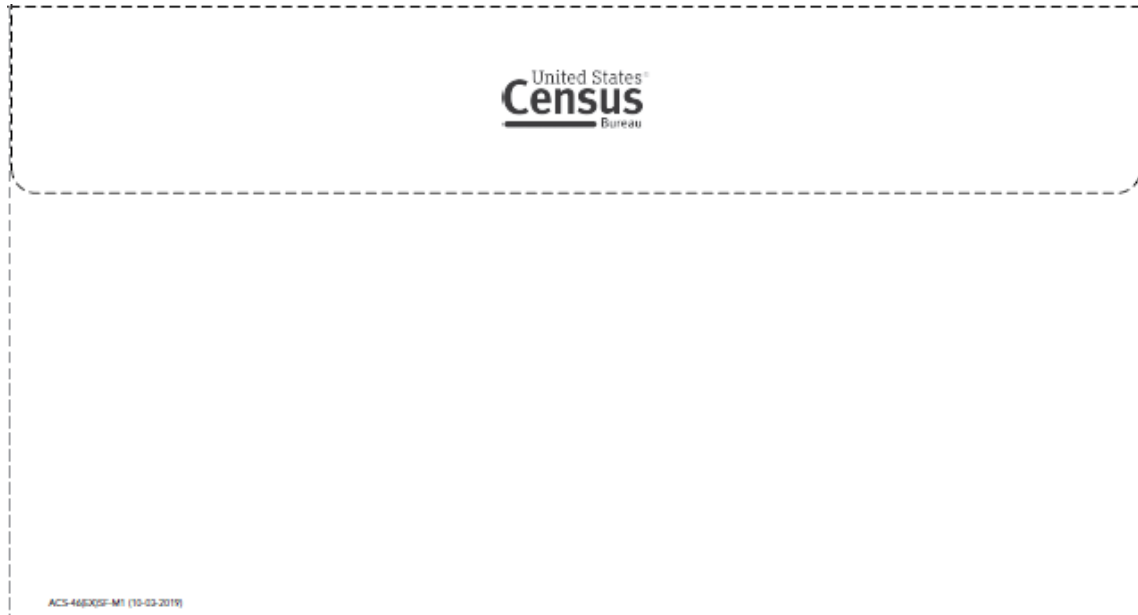


Figure 11. Icon Treatment: ACS-20 (2<sup>nd</sup> Mailing Pressure Seal Mailer: Letter Side)

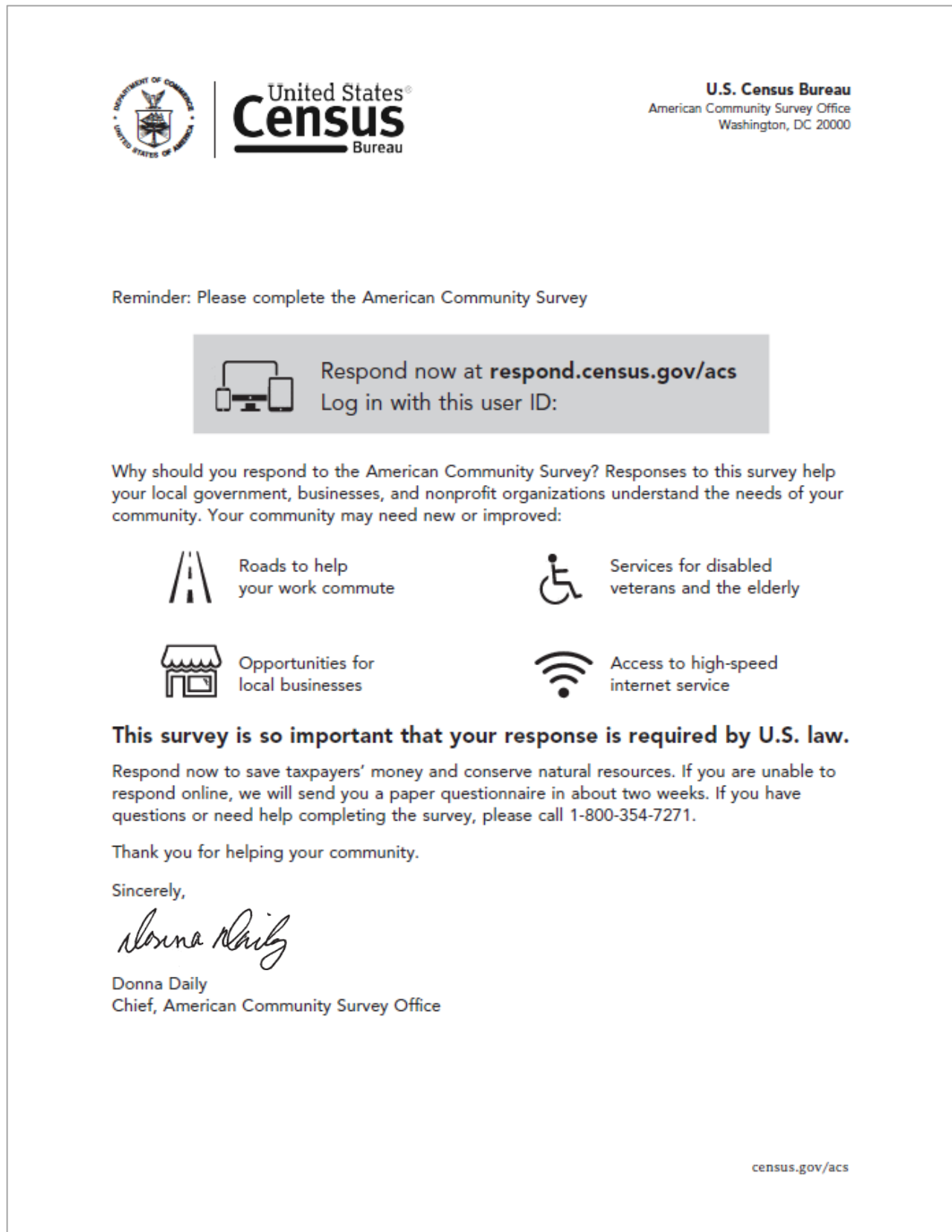




Figure 12. Icon and Other Experimental Treatments: ACS-20 (2<sup>nd</sup> Mailing Pressure Seal Mailer: Envelope Side)

(Note: The form number in the lower right-hand corner differs by treatment.)

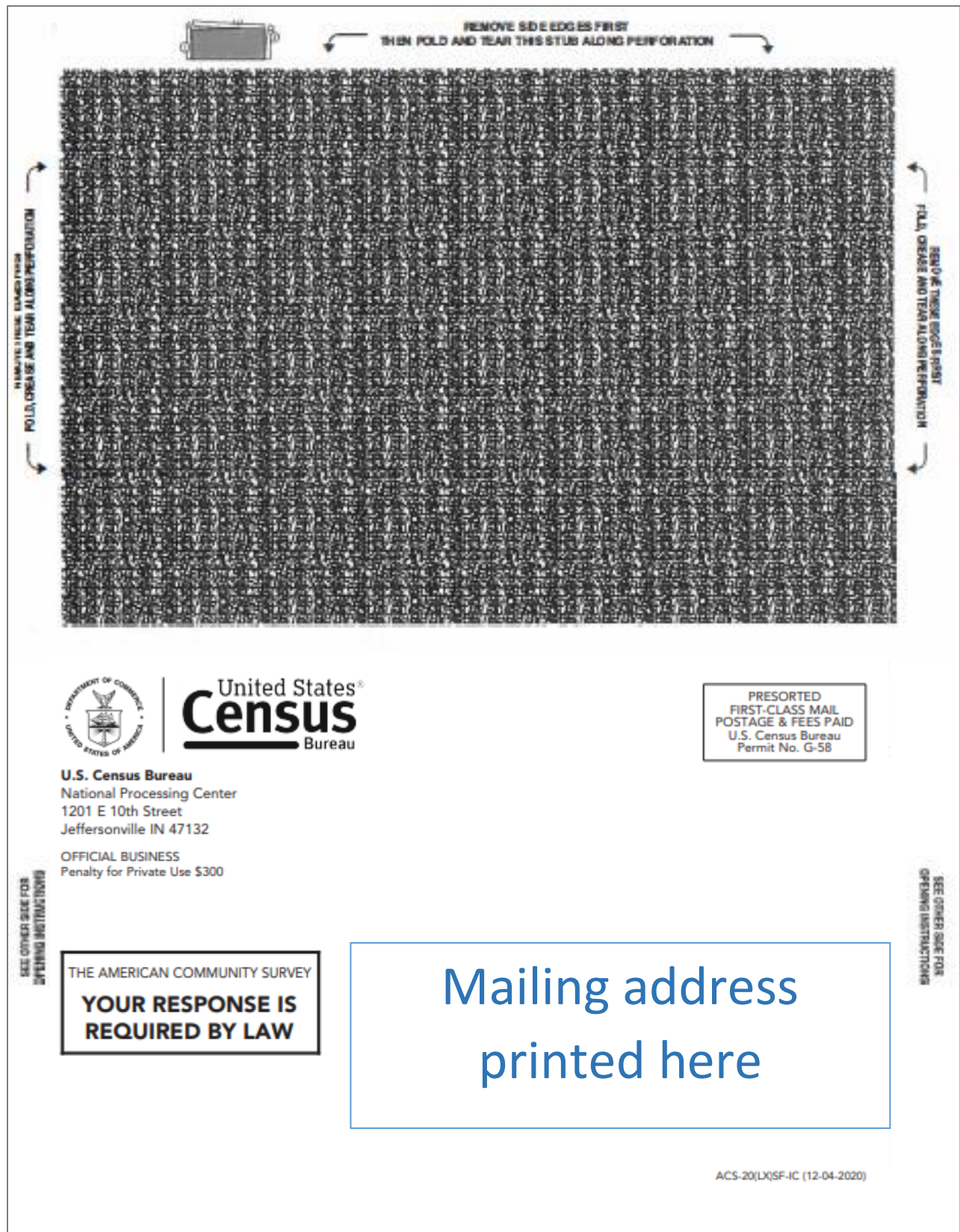


Figure 13. Icon Treatment: ACS-14(L) (3<sup>rd</sup> Mailing Letter) Front

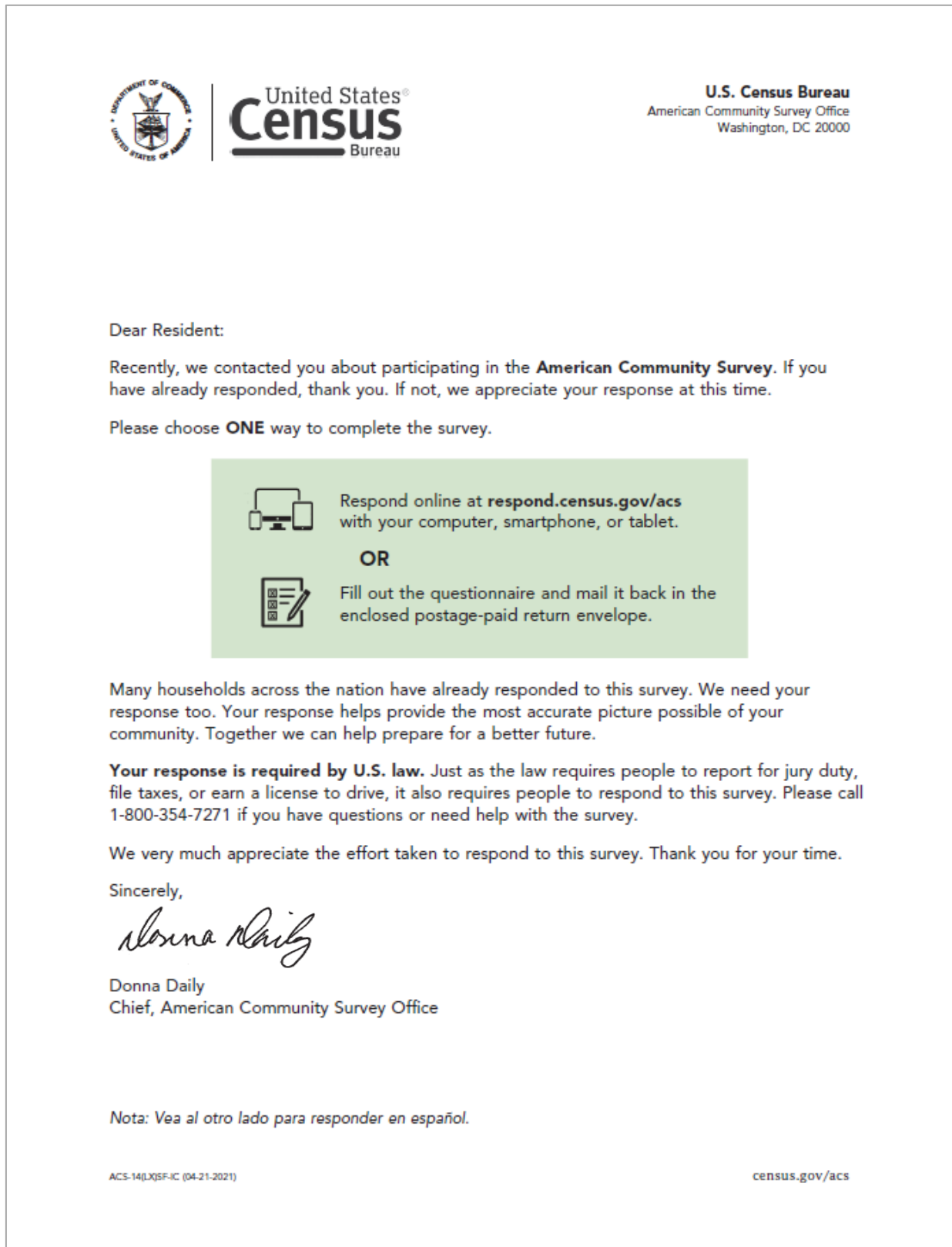


Figure 14. Icon and Other Experimental Treatments: ACS-14(L) (3<sup>rd</sup> Mailing Letter) Back

**Para completar la encuesta en español:**

Hay dos maneras para completar la Encuesta sobre la Comunidad Estadounidense. Escoja solamente UNA manera de responder.

**Opción 1** – Por internet: Vaya a [respond.census.gov/acs](https://respond.census.gov/acs) para completar la encuesta en español por computadora, *smartphone*, o tableta. Haga clic en "Para completar en español, oprima aquí."

**Opción 2** – Por teléfono: Llame al 1-877-833-5625 para hablar con un empleado de la Oficina del Censo que hable español. Usted puede completar la encuesta por teléfono o pedirnos que le enviemos un cuestionario en español.

English Translation:


**To complete the survey in Spanish:**

There are two ways to complete the American Community Survey. Choose only ONE way to answer.

**Option 1** – Online: Go to [respond.census.gov/acs](https://respond.census.gov/acs) to complete the survey in Spanish by computer, smartphone, or tablet. Click on "To complete in Spanish, click here."

**Option 2** – By phone: Call 1-877-833-5625 to speak with a Spanish-speaking Census Bureau employee. You can complete the survey over the phone or ask us to send you a questionnaire in Spanish.

Figure 15. Icon and Other Experimental Treatments: ACS-1 (3<sup>rd</sup> Mailing Paper Questionnaire) Front




**United States**  
Census  
Bureau

# The American Community Survey

## Mailing address printed here


### Start Here

**You have two ways to respond:**



Respond on your computer, smartphone, or tablet at [respond.census.gov/acs](https://respond.census.gov/acs)

OR




Complete this form and mail it back in the enclosed envelope.

The American Community Survey is conducted by the U.S. Census Bureau.

**Your response to this survey is required by U.S. law.** Federal law protects your confidentiality (Title 13, U.S. Code, Sections 9, 141, 193, and 221).

**Need help completing the survey?**

 If you need help or have questions about completing this survey, please call **1-800-354-7271**.

**RTT/TTY:** Call 1-800-582-8330.

**¿NECESITA AYUDA?** Si desea responder en español, llame al **1-877-833-5625**.

For more information about this survey, visit our website at [census.gov/acs](https://census.gov/acs)

**➔ Please print the name and telephone number of the person who is filling out this form.** We will only contact you if needed for official Census Bureau business.

Last Name

First Name  MI

Area Code + Number   -

**➔ How many people are living or staying at this address?**

- **INCLUDE** everyone who is living or staying here for more than 2 months.
- **INCLUDE** yourself if you are living here for more than 2 months.
- **INCLUDE** anyone else staying here who does not have another place to stay, even if they are here for 2 months or less.
- **DO NOT INCLUDE** anyone who is living somewhere else for more than 2 months, such as a college student living away or someone in the Armed Forces on deployment.

**Number of people**

**➔ Fill out pages 2-7 for everyone, including yourself, who is living or staying at this address for more than 2 months. Then complete the rest of the form.**

FORM **ACS-1(X)SF**  
(05-27-2021)

OMB No. 0607-0810  
OMB No. 0607-0936

Figure 16. Icon and Other Experimental Treatments: ACS-1 (3<sup>rd</sup> Mailing Paper Questionnaire) Back

**Mailing Instructions**

- ➔ **Please make sure you have:**
  - Listed all names and answered the questions on pages 2–7.
  - Answered all Housing questions.
  - Answered all Person questions for each person.
- ➔ **Then:**
  - Put the completed questionnaire into the enclosed postage-paid return envelope.
  - Make sure the barcode above your address shows in the window of the return envelope.
  - Mail the envelope.

If you misplace the return envelope, then please mail the questionnaire to:  
 National Processing Center  
 U.S. Census Bureau  
 P.O. Box 5240  
 Jeffersonville, IN 47199-5240

**Thank you for participating in the American Community Survey.**


**For Census Bureau Use**

POP <input type="checkbox"/>	EDIT <input type="checkbox"/>	PHONE <input type="checkbox"/>	JIC1 <input type="checkbox"/>	JIC2 <input type="checkbox"/>
EDIT CLERK <input type="checkbox"/>	TELEPHONE CLERK <input type="checkbox"/>	JIC3 <input type="checkbox"/>	JIC4 <input type="checkbox"/>	

The Census Bureau estimates that, for the average household, this form will take 40 minutes to complete, including the time for reviewing the instructions and answers. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: Paperwork Project, U.S. Census Bureau, 4600 Silver Hill Road, ADDC – 4H277, Washington, D.C. 20233. You may e-mail comments to [acso.pra@census.gov](mailto:acso.pra@census.gov); use "Paperwork Project" as the subject. Please **DO NOT RETURN** your questionnaire to this address. Use the enclosed preaddressed envelope to return your completed questionnaire.

Respondents are not required to respond to any information collection unless it displays a valid approval number from the Office of Management and Budget. This 8-digit number appears in the bottom right on the front cover of this form.

Form ACS-1(X)SF (12-01-2020)



48

Figure 17. Icon and Other Experimental Treatments: 6385-47 (3<sup>rd</sup> Mailing Questionnaire Return Envelope)

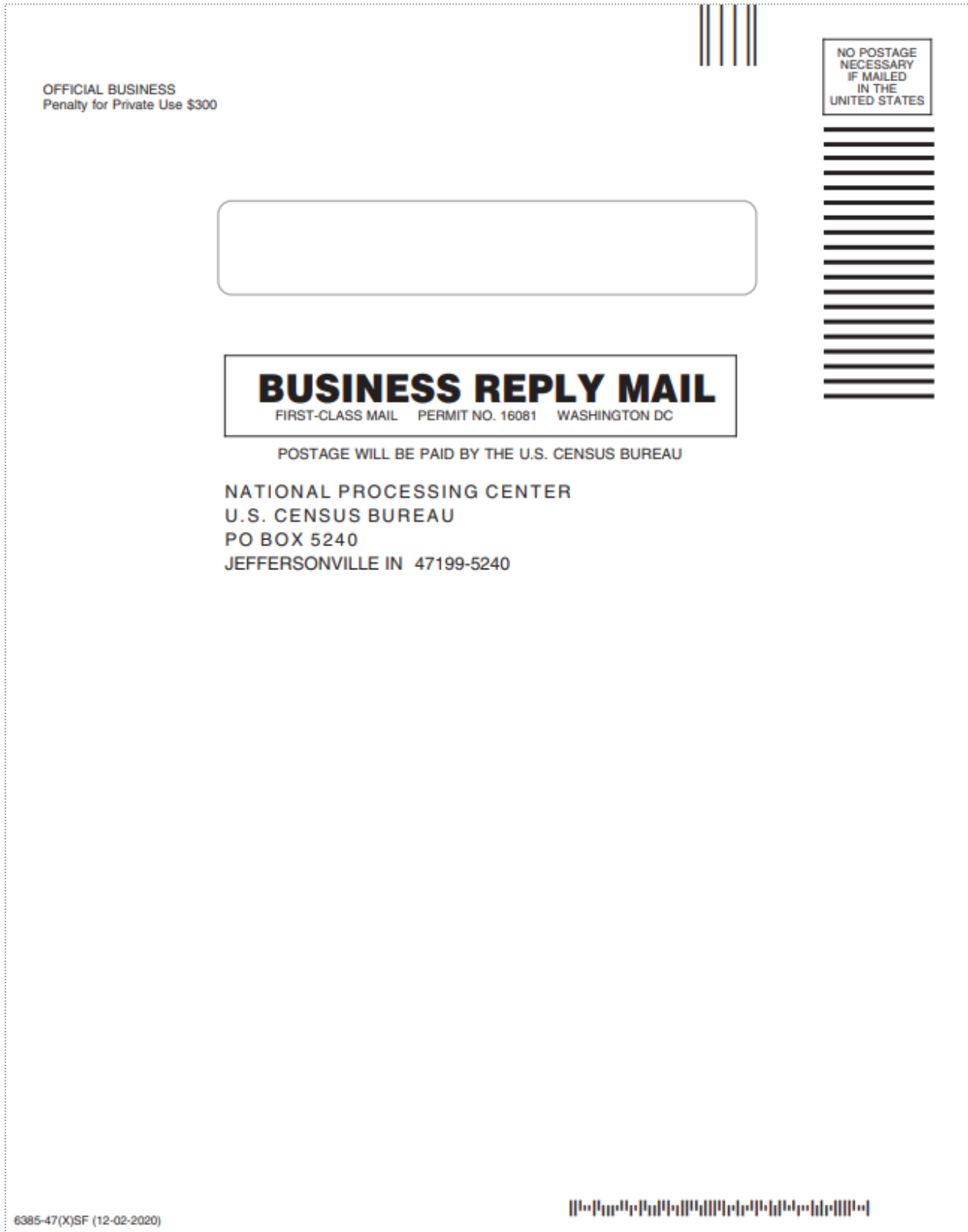


Figure 18. Icon and Other Experimental Treatments: ACS-46(EX) (3<sup>rd</sup> Mailing Questionnaire Package Envelope) Front

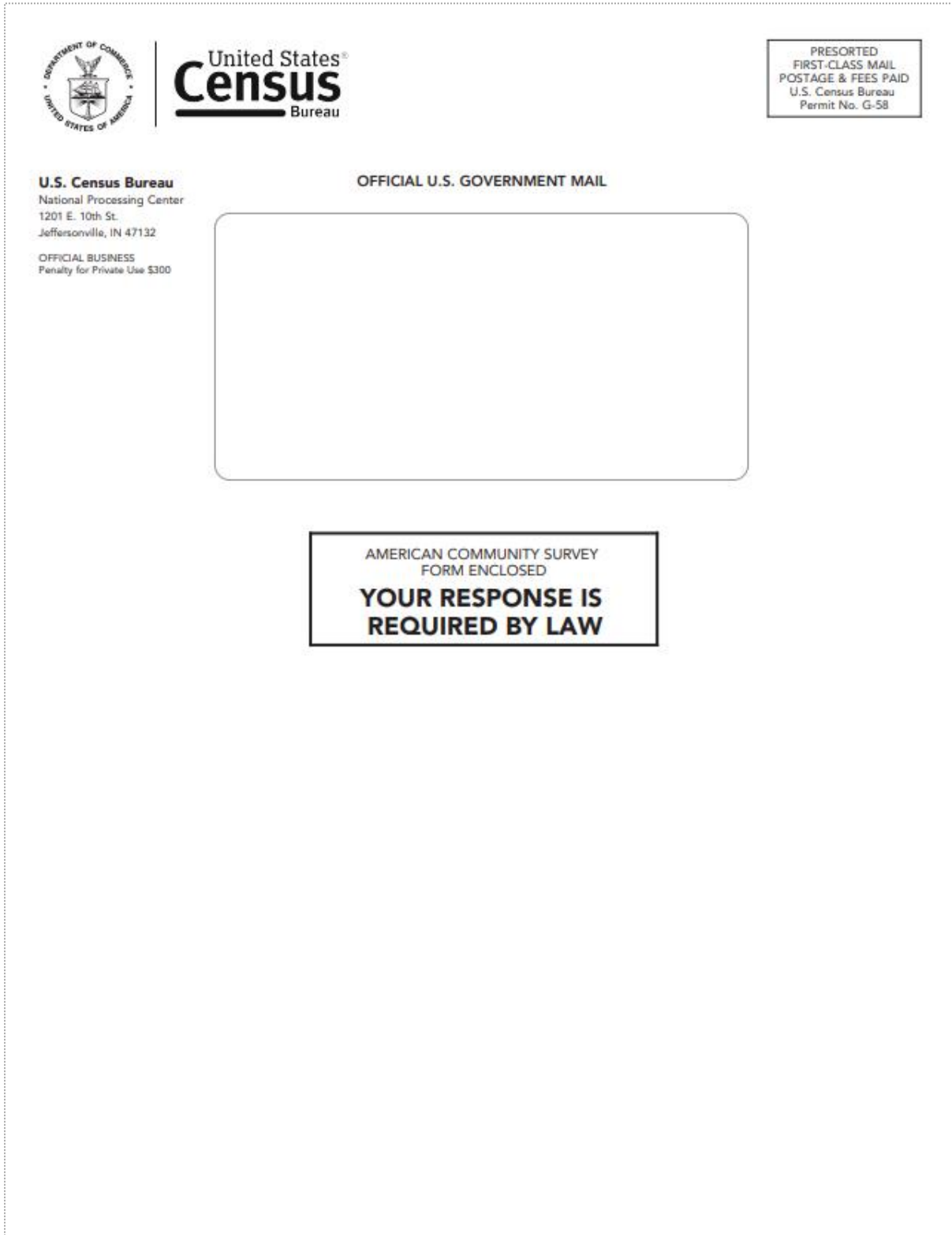


Figure 19. Icon and Other Experimental Treatments: ACS-46(EX) (3<sup>rd</sup> Mailing Questionnaire Package Envelope) Back

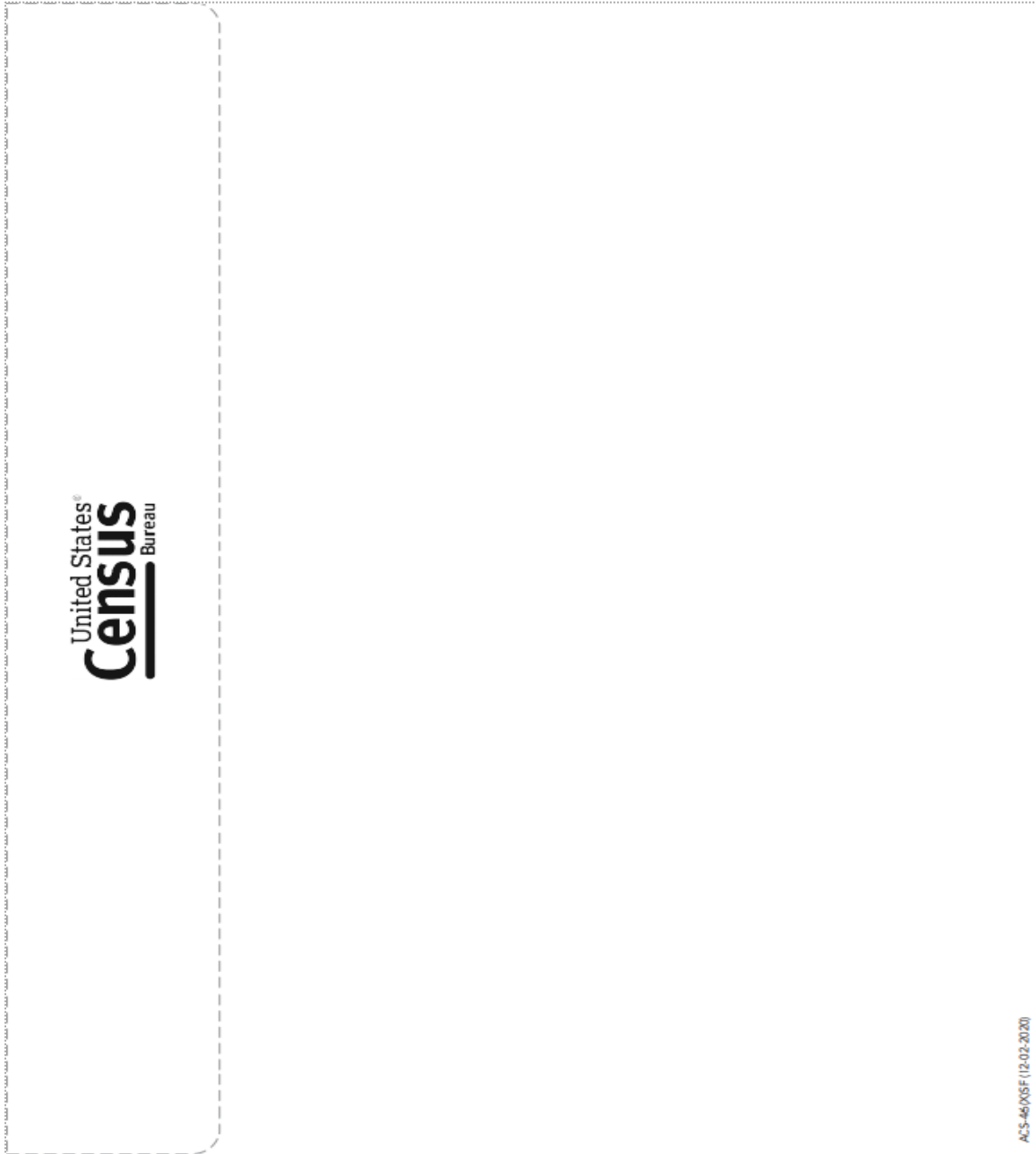




Figure 20. Icon Treatment: ACS-29 (4<sup>th</sup> Mailing Postcard) Front

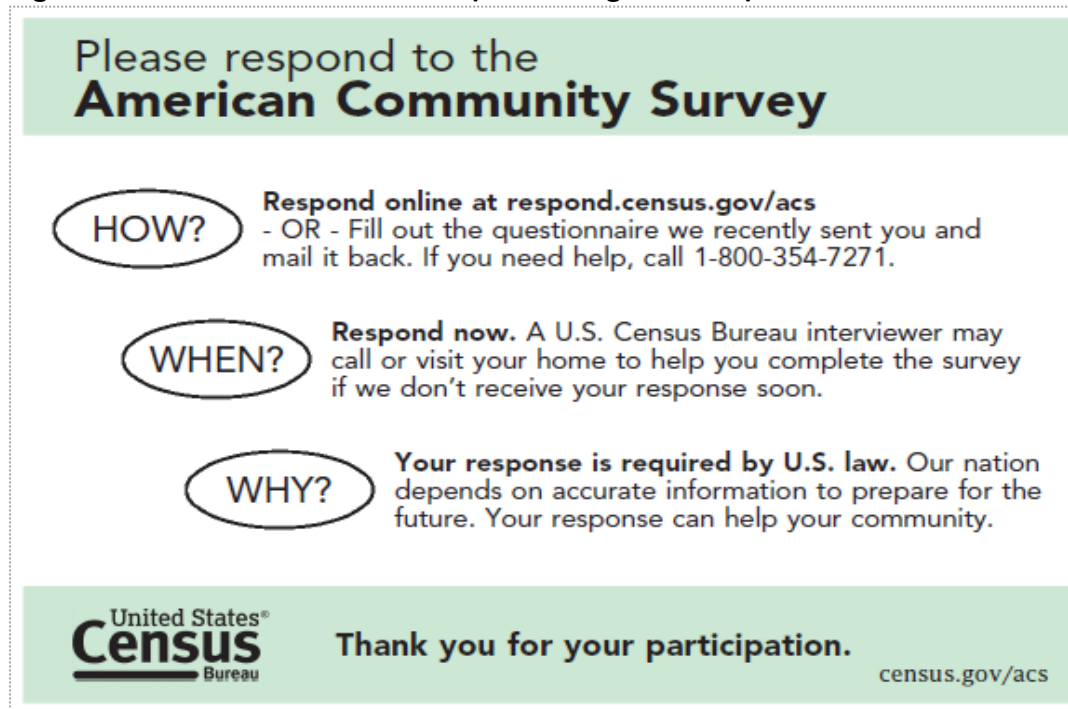



Figure 21. Icon Treatment: ACS-29 (Postcard) Back



Figure 22. Icon Treatment: ACS-23 (5<sup>th</sup> Mailing Pressure Seal Mailer: Letter Side)

(Note: The due date varies for each ACS monthly panel. This is a sample date. The actual date during the test was October 22, 2021.)



United States<sup>®</sup>  
**Census**  
Bureau

**U.S. Census Bureau**  
American Community Survey Office  
Washington, DC 20000


**Due Date:**  
**September 30, 2020**

An important message from the U.S. Census Bureau:


Time is running out. We have sent you several requests to complete the American Community Survey, and we have not received your response. **You are required by U.S. law to respond to this survey.** If you do not respond by the due date, a U.S. Census Bureau interviewer may visit your home to help you complete the survey.

How will you complete the survey by **Wednesday, September 30, 2020?**


Choose ONE way to respond:



**ONLINE:** Go to **respond.census.gov/acs**  
Log in with this user ID: **12345 - 12345**



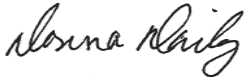
**BY MAIL:** Fill out and return the survey form in the postage-paid envelope you received in the mail a few weeks ago.



**BY PHONE:** Call 1-800-354-7271 to complete a phone interview.  
Monday–Friday: 9 a.m. to 9 p.m.  
Saturday: 9 a.m. to 7 p.m., Sunday: 11 a.m. to 9 p.m.

Thank you for your time. Your response is greatly appreciated.

Sincerely,

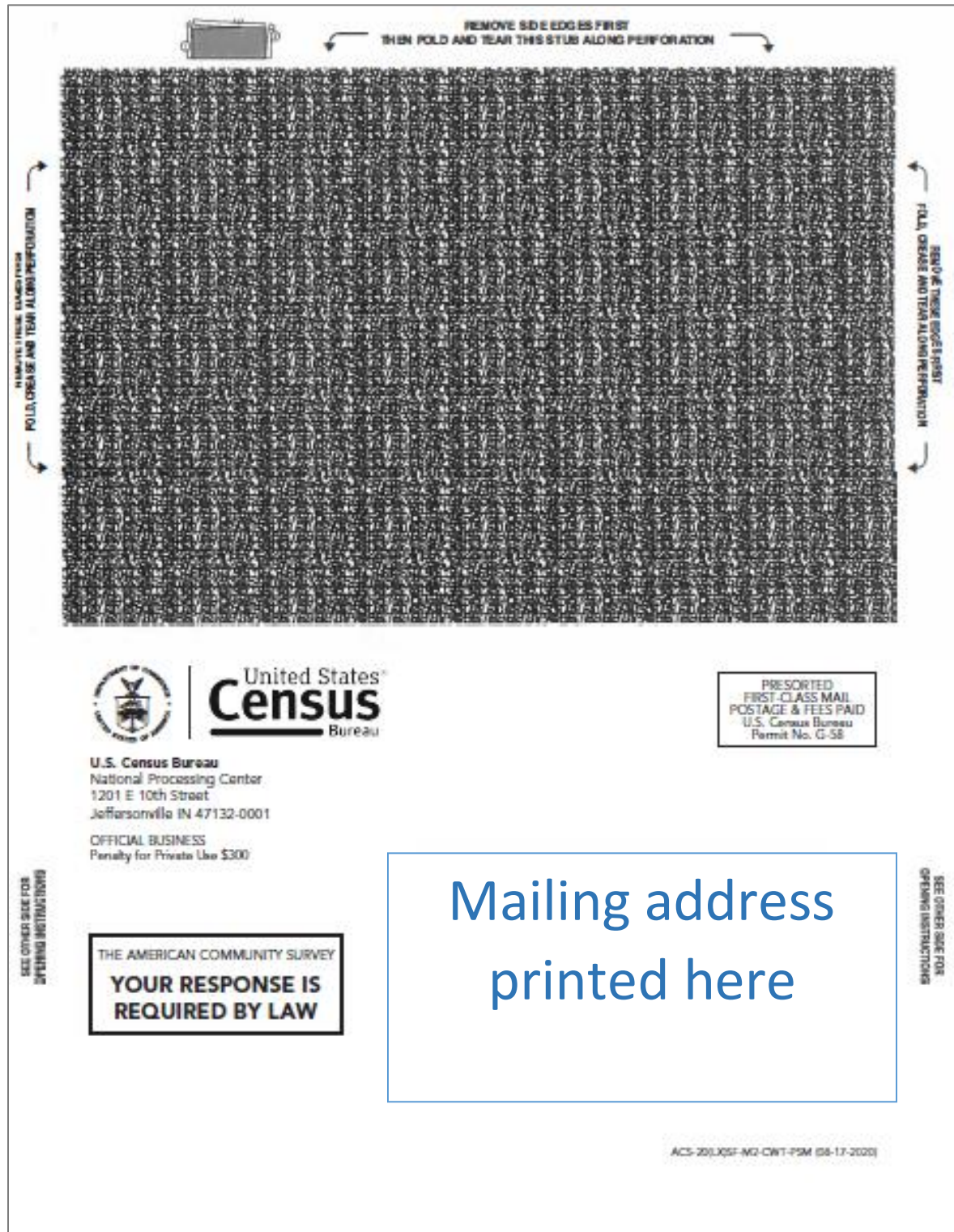


Donna Daily  
Chief, American Community Survey Office

*Mensaje importante:* Si tiene preguntas o necesita ayuda para completar la encuesta, llámenos al 1-877-833-5625 para hablar con un empleado de la Oficina del Censo que hable español.

[census.gov/acs](https://census.gov/acs)

Figure 23. Icon and All Treatments: ACS-23 (5<sup>th</sup> Mailing Pressure Seal Mailer: Envelope Side)



## Appendix B. Column and Header Treatment Mail Materials

Figure 24. Column and Header Treatment: ACS-13(L) (Introduction Letter) Front


	<p>United States<sup>®</sup> <b>Census</b> Bureau</p>	<p><b>U.S. Census Bureau</b> American Community Survey Office Washington, DC 20000</p>
<p>Dear Resident:</p>		
<p>Your household has been selected to participate in the <b>American Community Survey</b>. Every year, the U.S. Census Bureau contacts households across the country to participate in this important, mandatory survey. Follow the two steps below to respond online with your computer, smartphone, or tablet.</p>		
<p>1) Go to <b>respond.census.gov/acs</b> 2) Log in with your 10-digit user ID found on the enclosed card.</p>		
<p><b>ABOUT THE SURVEY</b></p>	<p>Your response to the American Community Survey helps your community plan for projects such as new schools, health clinics, and playgrounds as well as services for the elderly and veterans.</p>	
<p><b>DO I HAVE TO RESPOND?</b></p>	<p>Yes. This survey is so important to your community and the nation that <b>your response is required by law</b> (Title 13, U.S. Code, Sections 141, 193, and 221).</p>	
<p><b>NEED A PAPER FORM?</b></p>	<p>If you are unable to respond online, we will send you a paper questionnaire in about three weeks.</p>	
<p>If you need help filling out the survey or have any questions, please call us at 1-800-354-7271. We are available to answer any questions or concerns you have.</p>		
<p>Thank you for helping your community.</p>		
<p>Sincerely,</p>		
		
<p>Donna Daily Chief, American Community Survey Office</p>		
<p>ACS-13(L)ISF-CH (04-21-2021)</p>	<p>census.gov/acs</p>	

Figure 25. Column and Header Treatment: ACS-13(L) (Introduction Letter) Back

<b>Additional information about the American Community Survey</b>	
<b>Is this a legitimate survey?</b>	Yes. The U.S. Census Bureau has been conducting this survey since 2005. Only government agencies can use an internet address with the ".gov" extension. You can verify that this is an official government survey by calling 1-800-354-7271 (Mon-Fri: 9 a.m. to 9 p.m., Sat: 9 a.m. to 7 p.m., Sun: 11 a.m. to 9 p.m.) or by visiting us at <a href="https://www.census.gov/acs">census.gov/acs</a> .
<b>Why was I selected?</b>	Your address was selected through scientific sampling and represents thousands of other households like yours. The Census Bureau randomly selects about 3.5 million addresses throughout the country each year to respond to this survey.
<b>Am I required to fill out the survey?</b>	Yes. Your response to this survey is required by law (Title 13, U.S. Code, Sections 141, 193, and 221). Title 13, as changed by Title 18, imposes a penalty for not responding. To create an accurate picture of your community, it is critical that you respond.
<b>Will my response be kept confidential?</b>	Yes. The Census Bureau is required by law to protect this information. The Census Bureau is not permitted to publicly release your responses in a way that could identify you. We are conducting this survey under the authority of Title 13, U.S. Code, Sections 141 and 193. Federal law protects your privacy and keeps your answers confidential (Title 13, U.S. Code, Section 9). Per the Federal Cybersecurity Enhancement Act of 2015, your data are protected from cybersecurity risks through screening of the systems that transmit your data.
<b>How will the Census Bureau use the information I provide?</b>	By law, the Census Bureau can only use your responses to produce statistics. Your information will be used in combination with information from other households to produce data for your community. Similar data will be produced for communities across the United States and Puerto Rico. We may combine your answers with information that you gave to other agencies to enhance the statistical uses of these data. This information will be given the same protections as your survey information. Based on the information that you provide, you may be asked to participate in other Census Bureau surveys that are voluntary.

Figure 26. Column and Header Treatment: ACS-20 (2<sup>nd</sup> Mailing Pressure Seal Mailer: Letter Side)

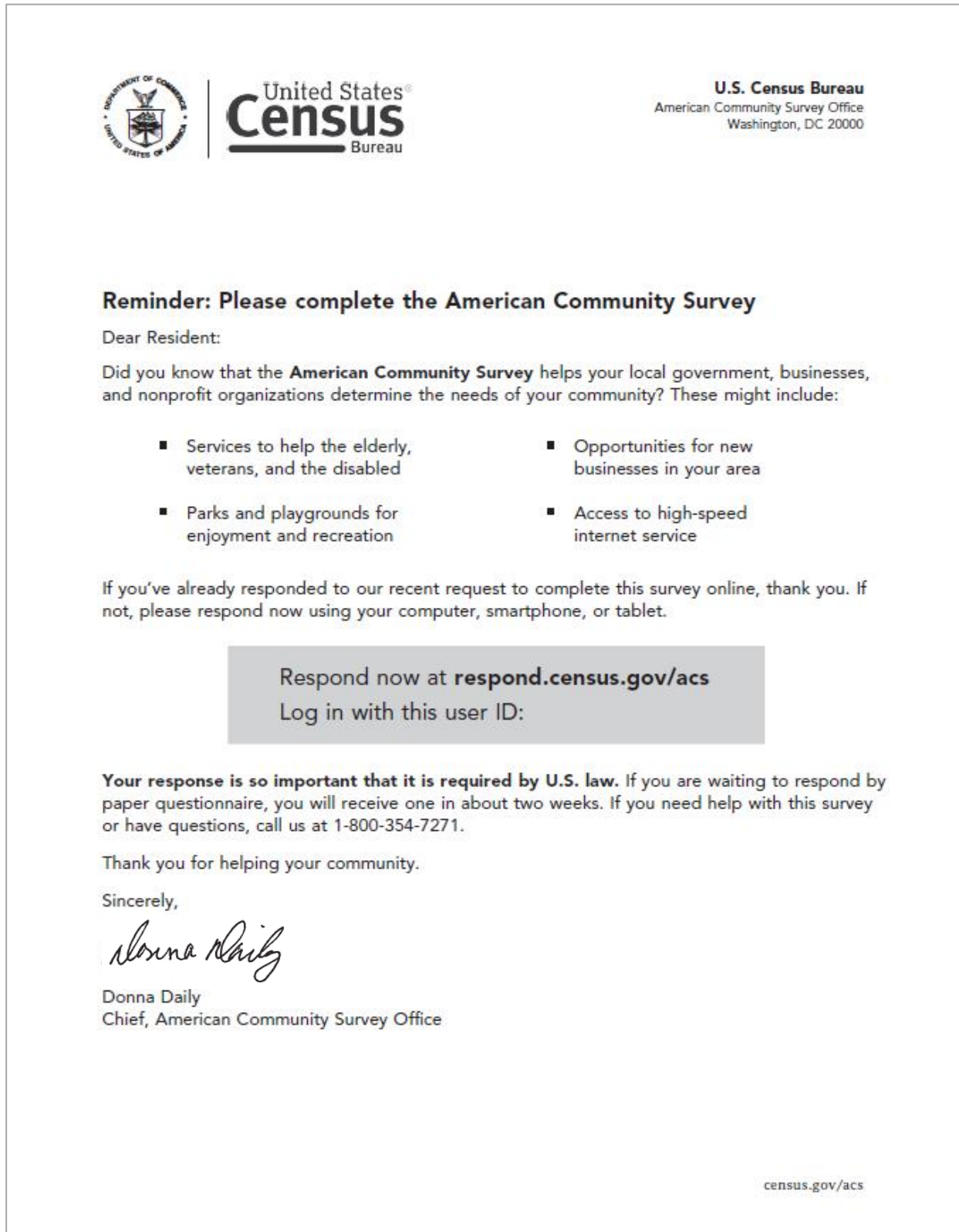


Figure 27. Column and Header Treatment: ACS-14(L) (3<sup>rd</sup> Mailing Letter) Front

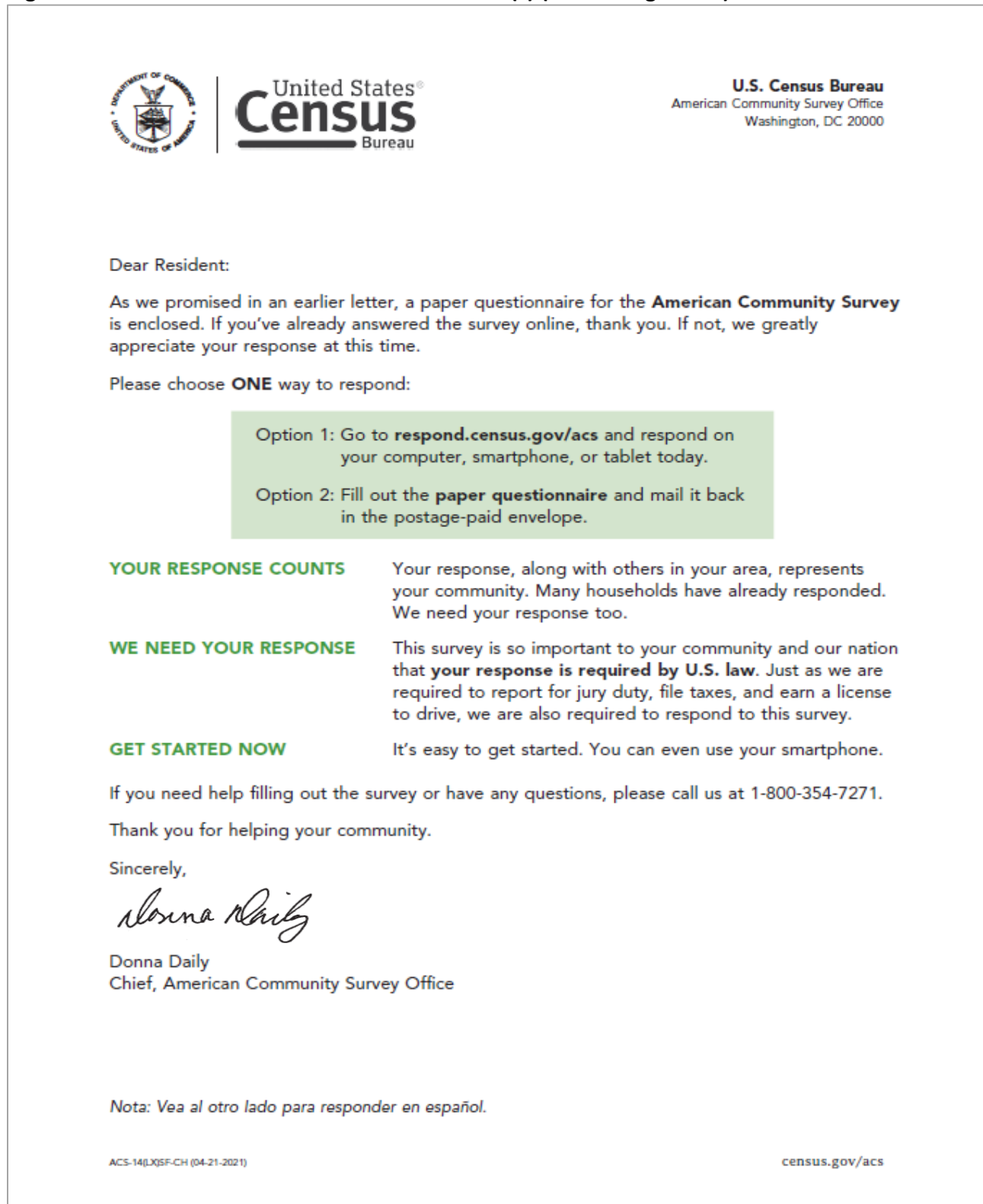


Figure 28. Column and Header Treatment: ACS-29 (4<sup>th</sup> Mailing Postcard) Front

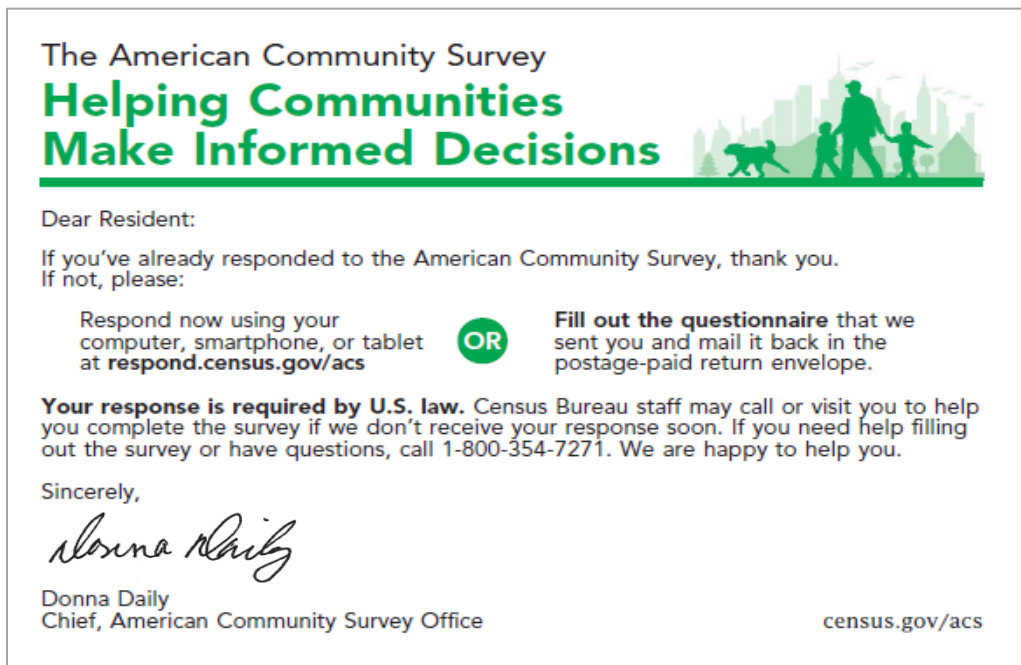
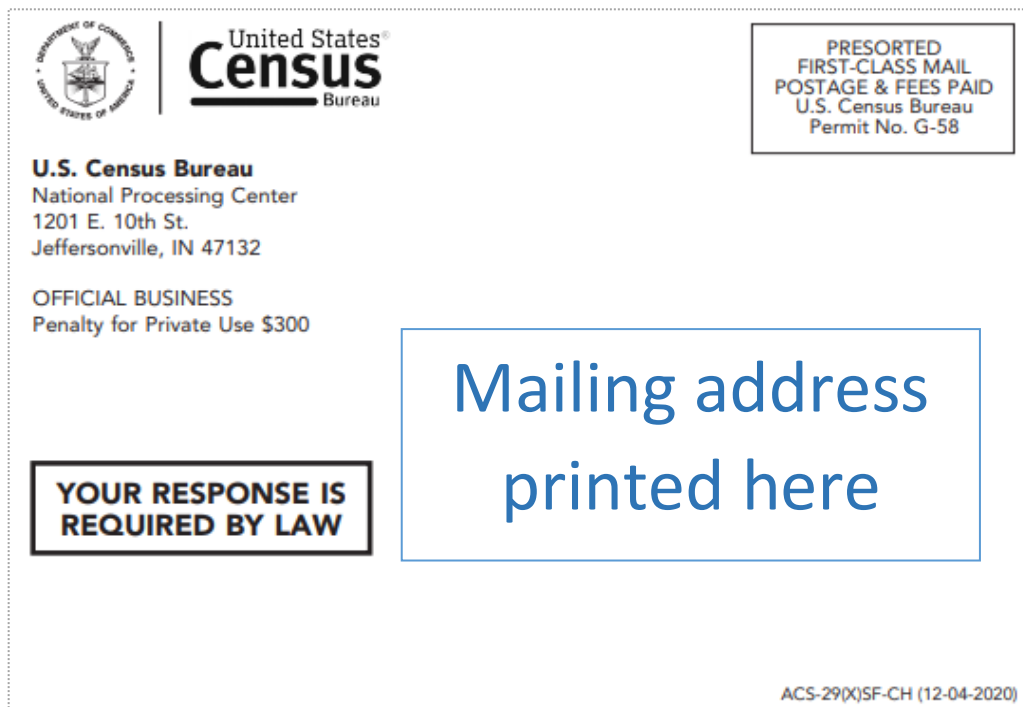




Figure 29. Column and Header Treatment: ACS-29 (Postcard) Back





**Figure 30. Column and Header Treatment: ACS-23 (5<sup>th</sup> Mailing Pressure Seal Mailer: Letter Side)**

(Note: The due date varies for each ACS monthly panel. This is a sample date. The actual date during the test was October 22, 2021.)



**U.S. Census Bureau**  
American Community Survey Office  
Washington, DC 20000

**Due Date:**  
**September 30, 2020**

An important message from the U.S. Census Bureau:

Time is running out. We have sent you several requests to complete the American Community Survey, and we have not received your response. **You are required by U.S. law to respond to this survey.** If you do not respond by the due date, a U.S. Census Bureau interviewer may visit your home to help you complete the survey.

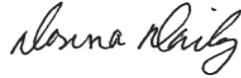
How will you complete the survey by **Wednesday, September 30, 2020?**

Choose ONE way and respond:

- ONLINE:** Go to **respond.census.gov/acs**  
Log in with this user ID: **12345 - 12345**
- BY MAIL:** Fill out and return the survey form in the postage-paid envelope you received in the mail a few weeks ago.
- BY PHONE:** Call 1-800-354-7271 to complete a phone interview.  
Monday–Friday: 9 a.m. to 9 p.m.  
Saturday: 9 a.m. to 7 p.m., Sunday: 11 a.m. to 9 p.m.

Thank you. Your response is greatly appreciated.

Sincerely,



Donna Daily  
Chief, American Community Survey Office

*Mensaje importante:* Si tiene preguntas o necesita ayuda para completar la encuesta, llámenos al 1-877-833-5625 para hablar con un empleado de la Oficina del Censo que hable español.

census.gov/acs

## Appendix C. Sidebar Treatment Mail Materials

Figure 31. Sidebar Treatment: ACS-13(L) (Introduction Letter) Front



Figure 32. Sidebar Treatment: ACS-13(L) (Letter) Back

## Frequently Asked Questions

### **What is the American Community Survey?**

The American Community Survey is an official survey from the U.S. Census Bureau. This survey was created to provide up-to-date, accurate information about the country every year, not just census years. Governments, businesses, and nonprofit organizations use the information to make decisions about how to meet the changing needs of communities.

### **Is this a legitimate survey?**

Yes. The Census Bureau has been conducting this survey since 2005. Only government agencies can use an internet address with the “.gov” extension. You can verify that this is an official government survey by going to [census.gov/acs](https://census.gov/acs) or by calling 1-800-354-7271. Call Monday–Friday: 9 a.m. to 9 p.m., Saturday: 9 a.m. to 7 p.m., or Sunday: 11 a.m. to 9 p.m.

### **Why was I selected?**

Your address was selected through scientific sampling and represents thousands of other households like yours. The Census Bureau randomly selects about 3.5 million addresses throughout the country each year to respond to this survey.

### **Am I required to fill out the survey?**

Yes. Your response to this survey is required by law (Title 13, U.S. Code, Sections 141, 193, and 221). Title 13, as changed by Title 18, imposes a penalty for not responding. To create an accurate picture of your community, it is critical that you respond.

### **Will my response be confidential?**

Yes. The Census Bureau is required by law to protect this information. The Census Bureau is not permitted to publicly release your responses in a way that could identify you. We are conducting this survey under the authority of Title 13, U.S. Code, Sections 141 and 193. Federal law protects your privacy and keeps your answers confidential (Title 13, U.S. Code, Section 9). Per the Federal Cybersecurity Enhancement Act of 2015, your data are protected from cybersecurity risks through screening of the systems that transmit your data.

### **How will the Census Bureau use the information I provide?**

By law, the Census Bureau can only use your responses to produce statistics. Your information will be used in combination with information from other households to produce data for your community. Similar data will be produced for communities across the United States and Puerto Rico. We may combine your answers with information that you gave to other agencies to enhance the statistical uses of these data. This information will be given the same protections as your survey information. Based on the information that you provide, you may be asked to participate in other Census Bureau surveys that are voluntary.

Figure 33. Sidebar Treatment: ACS-20 (2<sup>nd</sup> Mailing Pressure Seal Mailer: Letter Side)

United States<sup>®</sup>  
**Census**  
Bureau

**U.S. Census Bureau**  
American Community Survey Office  
Washington, DC 20000

**THE AMERICAN  
COMMUNITY  
SURVEY**

**Did you know?**


*Non-profit groups use the American Community Survey to plan and build parks and playgrounds in communities across the country.*

*The American Community Survey helps direct more than \$675 billion in federal funding every year to communities nationwide.*

*You can help your community by responding today!*

Dear Resident:

A few days ago, you should have received a notice to complete the American Community Survey online. **If you have already responded, thank you. If not, please do so now.**

 Respond now at [respond.census.gov/acs](https://respond.census.gov/acs)  
Log in with this user ID:

Your answers help identify local needs such as job training, highway construction, and health care services.

**Your response is so important that it is required by U.S. law.**

If you are unable to answer online, you will receive a paper questionnaire in about two weeks. If you need help completing the survey or have questions, please call 1-800-354-7271.


Thank you for helping your community.

Sincerely,

Donna Daily  
Chief, American Community Survey Office

[census.gov/acs](https://census.gov/acs)

Figure 34. Sidebar Treatment: ACS-14(L) (3<sup>rd</sup> Mailing Letter) Front



United States<sup>®</sup>  
**Census**  
Bureau


**U.S. Census Bureau**  
American Community Survey Office  
Washington, DC 20000

**American Community Survey Form Enclosed**


About two weeks ago, you should have received a letter asking you to respond to the American Community Survey. As promised, we are sending you a survey form.

If you have already responded, thank you. If not, you now have two ways to respond—please choose the one that works best for you:



Respond today at [respond.census.gov/acs](https://respond.census.gov/acs) on your computer, smartphone, or tablet.

**OR**




Fill out the survey form and mail it back in the postage-paid envelope.

**Your response to the American Community Survey is required by U.S. law.** Just as the law requires us to report for jury duty, pay taxes, and earn a license to drive, it also requires us to respond to this survey.

If you need help completing the survey or have questions, please call 1-800-354-7271.

We look forward to receiving your response.

Sincerely,




Donna Daily  
Chief, American Community Survey Office

*Nota: Vea al otro lado para responder en español.*

ACS-14(L)SF-SB (04-21-2021)

[census.gov/acs](https://census.gov/acs)



**Did you know?**

*Millions of households participate in the **American Community Survey** every year.*

*When you respond to this survey, you are helping your community make decisions using the best data available.*

**Thank you for being the voice of your community.**

Figure 35. Sidebar Treatment: ACS-29 (4<sup>th</sup> Mailing Postcard) Front

**We need your response.**

The American Community Survey

If you are one of the thousands of people who have already responded to the American Community Survey, we thank you.

**If you have not completed the survey, please do so right away:**

- ▶ You can complete the survey online at [respond.census.gov/acs](https://respond.census.gov/acs)
- OR -
- ▶ Fill out and return the form we sent you a few days ago.

**Your response is so important that it is required by U.S. law.**

U.S. Census Bureau staff may call or visit you to help you complete the survey if we don't receive your response. If you have questions or need help completing the survey, call 1-800-354-7271.

**United States<sup>®</sup> Census Bureau**

Your participation helps ensure that community leaders have the information they need to make decisions that affect our lives.

[census.gov/acs](https://census.gov/acs)

Figure 36. Sidebar Treatment: ACS-29 (4<sup>th</sup> Mailing Postcard) Back

 **United States<sup>®</sup> Census Bureau**

**U.S. Census Bureau**  
National Processing Center  
1201 E. 10th St.  
Jeffersonville, IN 47132

OFFICIAL BUSINESS  
Penalty for Private Use \$300

**YOUR RESPONSE IS REQUIRED BY LAW**



**Mailing address printed here**

PRESORTED  
FIRST-CLASS MAIL  
POSTAGE & FEES PAID  
U.S. Census Bureau  
Permit No. G-58

ACS-29(X)SF-5B (12-04-2020)

**Figure 37. Sidebar Treatment: ACS-23 (5<sup>th</sup> Mailing Pressure Seal Mailer: Letter Side)**

(Note: The due date varies for each ACS monthly panel. This is a sample date. The actual date during the test was October 22, 2021.)



**U.S. Census Bureau**  
American Community Survey Office  
Washington, DC 20000

**Due Date:**  
**September 30, 2020**

An important message from the U.S. Census Bureau:

Time is running out. We have sent you several requests to complete the American Community Survey, and we have not received your response. **You are required by U.S. law to respond to this survey.** If you do not respond by the due date, a U.S. Census Bureau interviewer may visit your home to help you complete the survey.


How will you complete the survey by **Wednesday, September 30, 2020?**

Choose ONE way to respond:

- ONLINE:** Go to **respond.census.gov/acs**  
Log in with this user ID: **12345 - 12345**
- BY MAIL:** Fill out and return the survey form in the postage-paid envelope you received in the mail a few weeks ago.
- BY PHONE:** Call 1-800-354-7271 to complete a phone interview.  
Monday–Friday: 9 a.m. to 9 p.m.  
Saturday: 9 a.m. to 7 p.m., Sunday: 11 a.m. to 9 p.m.

Thank you. Your response is greatly appreciated.

Sincerely,



Donna Daily  
Chief, American Community Survey Office


*Mensaje importante:* Si tiene preguntas o necesita ayuda para completar la encuesta, llámenos al 1-877-833-5625 para hablar con un empleado de la Oficina del Censo que hable español.

census.gov/acs

## Appendix D. Minimalist Treatment Mail Materials

Figure 38. Minimalist Treatment: ACS-13(L) (Introduction Letter) Front

The image shows the front of a minimalist treatment mail material, which is an introduction letter from the U.S. Census Bureau. The letter is enclosed in a thin black border. At the top left is the seal of the U.S. Department of Commerce. To its right is the 'United States Census Bureau' logo. At the top right is the address: 'U.S. Census Bureau, American Community Survey Office, Washington, DC 20000'. The main body of the letter is centered and contains the following text: 'Dear Resident:', 'Your household has been selected to participate in the American Community Survey, which is a survey conducted by the U.S. Census Bureau.', 'Your response matters. The survey helps your local government, businesses, and nonprofit organizations meet the needs of your community. As a representative of your community, you are the voice that informs us about these needs.', 'You are required by law to complete this survey (Title 13, U.S. Code, Sections 141, 193, and 221). Follow the two steps below to provide your response to this survey:'. Below this text is a rectangular box with a thin black border containing two numbered steps: '1) Go to [respond.census.gov/acs](https://respond.census.gov/acs) to respond.' and '2) Log in with your 10-digit user ID found on the enclosed card.'. Below the box, the text continues: 'You can complete the survey online using a computer, smartphone, or tablet. If you are unable to respond online, we will send you a paper questionnaire in a few weeks.', 'If you have questions or need help completing the survey, please call 1-800-354-7271.', 'Thank you. Your response is greatly appreciated.', 'Sincerely,', followed by a handwritten signature of Donna M. Daily. Below the signature is the typed name 'Donna Daily' and her title 'Chief, American Community Survey Office'. At the bottom center, there is a tagline: 'The Census Bureau serves as the leading source of quality data about the nation's people and economy.'. At the bottom left, there is a small reference code: 'ACS-13(L)QSF-MIN (04-21-2021)'. At the bottom right, there is the website address: 'census.gov/acs'.

 | **United States<sup>®</sup>  
Census  
Bureau**

**U.S. Census Bureau**  
American Community Survey Office  
Washington, DC 20000

Dear Resident:

Your household has been selected to participate in the **American Community Survey**, which is a survey conducted by the **U.S. Census Bureau**.

**Your response matters.** The survey helps your local government, businesses, and nonprofit organizations meet the needs of your community. As a representative of your community, you are the voice that informs us about these needs.

**You are required by law to complete this survey** (Title 13, U.S. Code, Sections 141, 193, and 221). Follow the two steps below to provide your response to this survey:


- 1) Go to [respond.census.gov/acs](https://respond.census.gov/acs) to respond.
- 2) Log in with your 10-digit user ID found on the enclosed card.

You can complete the survey online using a computer, smartphone, or tablet. If you are unable to respond online, we will send you a paper questionnaire in a few weeks.

If you have questions or need help completing the survey, please call 1-800-354-7271.

Thank you. Your response is greatly appreciated.

Sincerely,



Donna Daily  
Chief, American Community Survey Office

The Census Bureau serves as the leading source of  
quality data about the nation's people and economy.

ACS-13(L)QSF-MIN (04-21-2021) census.gov/acs



Figure 39. Minimalist Treatment: ACS-13(L) (Introduction Letter) Back

## Frequently Asked Questions

### **What is the American Community Survey?**

The American Community Survey is an official survey from the U.S. Census Bureau. As a randomly selected representative of your community, you are the voice of your neighbors and peers. To create an accurate understanding of your community and its needs, your response will be used in combination with responses from other households to produce data for your community. Similar data will be produced for communities across the United States.

### **Am I required to fill out the survey?**

Yes. Your response to this survey is required by law (Title 13, U.S. Code, Sections 141, 193, and 221). Title 13, as changed by Title 18, imposes a penalty for not responding.

### **Will my response be confidential?**

Yes. The Census Bureau is required by law to protect this information. The Census Bureau is not permitted to publicly release your responses in a way that could identify you. We are conducting this survey under the authority of Title 13, U.S. Code, Sections 141 and 193. Federal law protects your privacy and keeps your answers confidential (Title 13, U.S. Code, Section 9). Per the Federal Cybersecurity Enhancement Act of 2015, your data are protected from cybersecurity risks through screening of the systems that transmit your data.

### **How will the Census Bureau use the information I provide?**

By law, the Census Bureau can only use your responses to produce statistics. Your information will be used in combination with information from other households to produce data for your community. Similar data will be produced for communities across the United States and Puerto Rico. We may combine your answers with information that you gave to other agencies to enhance the statistical uses of these data. This information will be given the same protections as your survey information. Based on the information that you provide, you may be asked to participate in other Census Bureau surveys that are voluntary.

### **Why was I selected?**

Your address was selected through scientific sampling and represents thousands of other households like yours. The Census Bureau randomly selects about 3.5 million addresses each year to respond to the survey.

Figure 40. Minimalist Treatment: ACS-20 (2<sup>nd</sup> Mailing Pressure Seal Mailer: Letter Side)

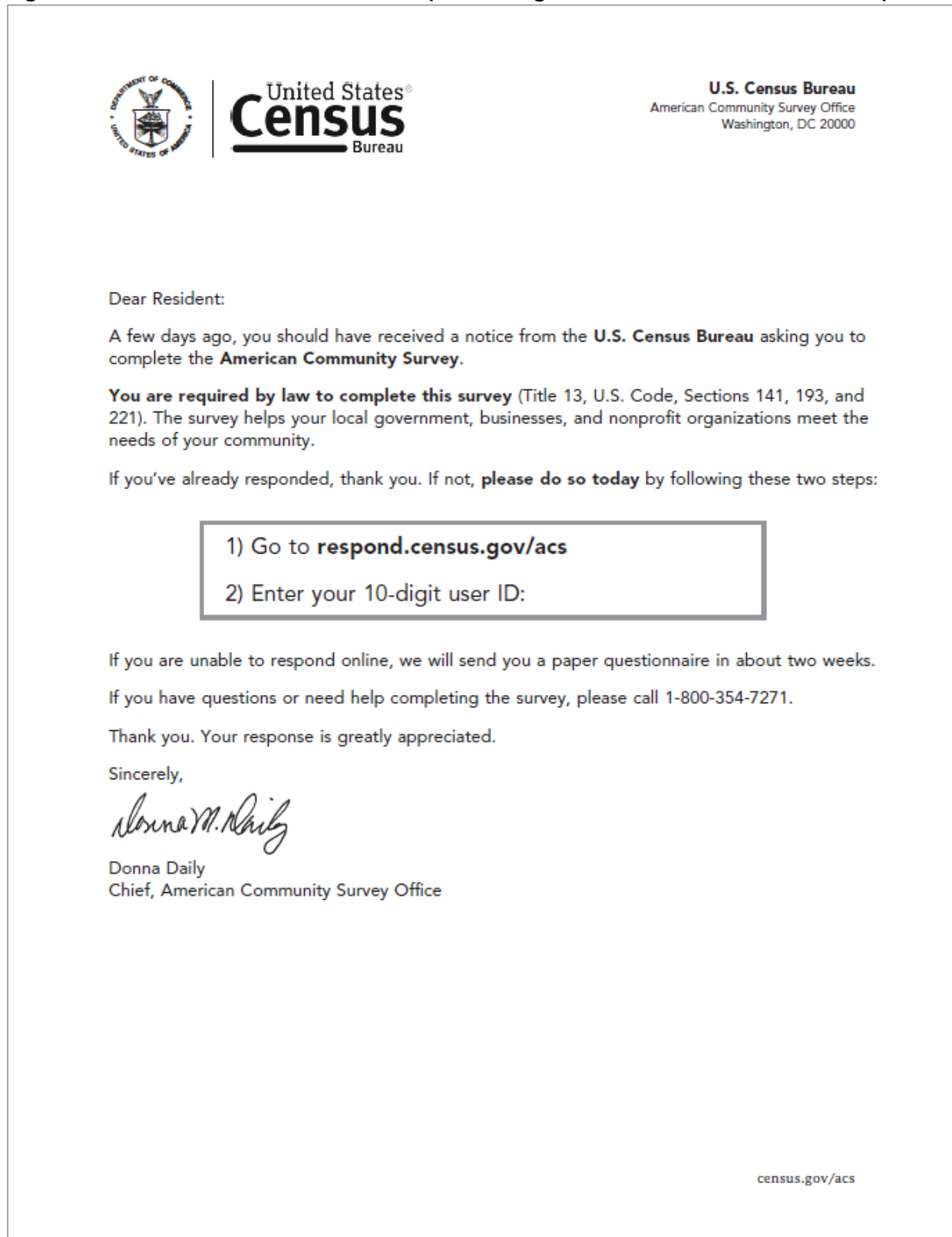



Figure 41. Minimalist Treatment: ACS-14(L) (3<sup>rd</sup> Mailing Letter) Front



United States<sup>®</sup>  
**Census**  
Bureau

**U.S. Census Bureau**  
American Community Survey Office  
Washington, DC 20000

Dear Resident:

We are following up with you because we have not received a response to the **American Community Survey** from your household.

**You are required by law to complete this survey** (Title 13, U.S. Code, Sections 141, 193, and 221).

**Please respond now.** Either:

Fill out the paper survey in this mailing and send it back in the postage-paid envelope

OR

Fill out the online survey by following these two steps:


1) Go to **respond.census.gov/acs**

2) Log in with the 10-digit user ID printed on the front of your questionnaire.

If you have questions or need help completing the survey, please call 1-800-354-7271.

Thank you. Your response is greatly appreciated.

Sincerely,



Donna Daily  
Chief, American Community Survey Office

*Nota: Vea al otro lado para responder en español.*

ACS-14(L)XSF-MIN (04-21-2021)

census.gov/acs

Figure 42. Minimalist Treatment: ACS-29 (4<sup>th</sup> Mailing Postcard) Front

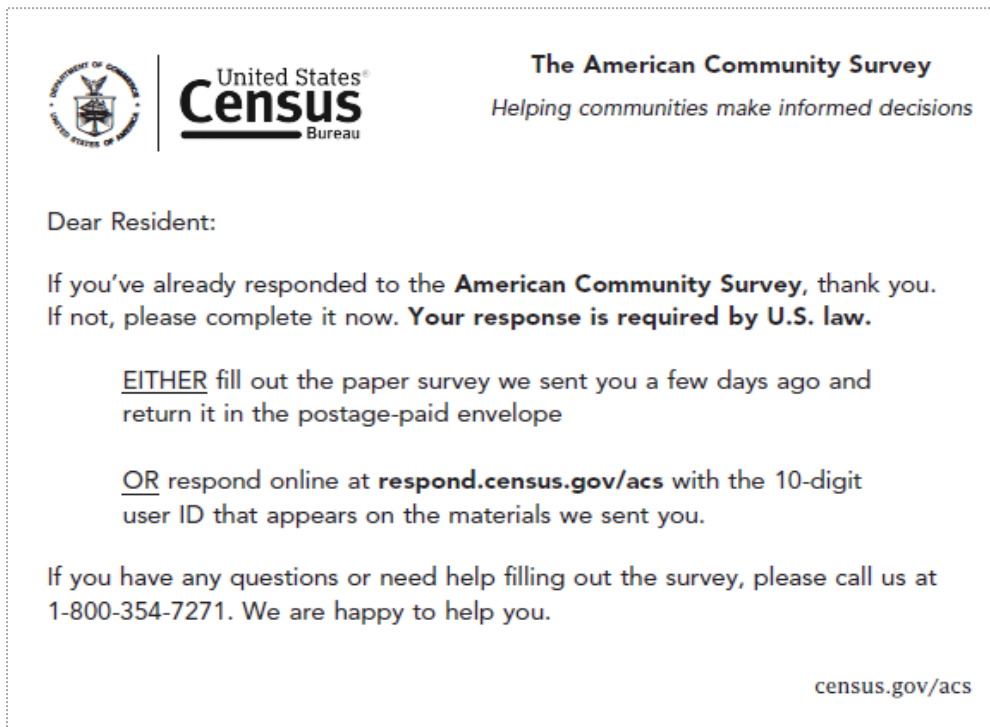




Figure 43. Minimalist Treatment: ACS-29 (Postcard) Back



**Figure 44. Minimalist Treatment: ACS-23 (5<sup>th</sup> Mailing Pressure Seal Mailer: Letter Side)**

(Note: The due date varies for each ACS monthly panel. This is a sample date. The actual date during the test was October 22, 2021.)

		<b>U.S. Census Bureau</b> American Community Survey Office Washington, DC 20000
---	---	---

**Due Date:**  
**September 30, 2020**

Dear Resident:

Your household has been selected to participate in the **American Community Survey**, which is a survey conducted by the **U.S. Census Bureau**.

**You are required by law to complete this survey** (Title 13, U.S. Code, Sections 141, 193, and 221).

**Please respond now.** If you do not respond by the due date, a Census Bureau interviewer may come to your home to complete the survey in person.

How will you complete the survey by **Wednesday, September 30, 2020**?

Select ONE way to respond:


ONLINE: Go to **respond.census.gov/acs** and enter your 10-digit user ID: **12345 - 12345**

BY MAIL: Fill out the paper survey you received in the mail a few weeks ago and send it back.

BY PHONE: Call 1-800-354-7271 to complete a phone interview.  
Mon to Fri: 9 a.m.–9 p.m., Sat: 9 a.m.–7 p.m., Sun: 11 a.m.–9 p.m.

Thank you. Your response is greatly appreciated.

Sincerely,





Donna Daily  
Chief, American Community Survey Office

Mensaje importante: Si tiene preguntas o necesita ayuda para completar la encuesta, llámenos al 1-877-833-5625 para hablar con un empleado de la Oficina del Censo que hable español.

census.gov/acs

## Appendix E. Control Treatment Mail Materials

Figure 45. Control Treatment: ACS-13(L) (Introduction Letter) Front



**U.S. Census Bureau**  
Washington, DC 20233  
Office of the Director

A message from the Director of the U.S. Census Bureau:

Your address has been randomly selected by the U.S. Census Bureau to participate in the **American Community Survey**. The Census Bureau conducts this survey each year to give our country an up-to-date picture of how we live – including our education, housing, and jobs.

Communities across the country rely on information from this survey to decide where important services are needed, including:

- Improving roads and reducing traffic
- Building schools
- Planning for the health care needs of the elderly

Respond now at <https://respond.census.gov/acs>

**Your response is required by U.S. law.**  
Because your household has been asked to participate on behalf of your community, it is vital that you complete this survey to help meet critical needs in your area.

**If you are unable to complete the survey online, we will send you a paper questionnaire in a few weeks.** The Census Bureau is using the internet to collect this information to conserve natural resources, save taxpayers' money, and process data more efficiently.

If you need help completing the survey or have questions, please call our toll-free number (1-800-354-7271).

Thank you in advance for your prompt response.

Enclosures

American Community Survey data help determine the annual distribution of more than **\$675 billion** in federal funds to communities nationwide.

ACS-13(L)(2021) (02-12-2021) census.gov

Figure 46. Control Treatment: ACS-13(L) (Introduction Letter) Back

**Will my response be confidential?**

Yes. The U.S. Census Bureau is required by law to protect this information. The Census Bureau is not permitted to publicly release your responses in a way that could identify you. We are conducting this survey under the authority of Title 13, United States Code, Sections 141 and 193. Federal law protects your privacy and keeps your answers confidential (Title 13, United States Code, Section 9). Per the Federal Cybersecurity Enhancement Act of 2015, your data are protected from cybersecurity risks through screening of the systems that transmit your data.

**Am I required to fill out the survey?**

Yes. Your response to this survey is required by law (Title 13, U.S. Code, Sections 141, 193, and 221). Title 13, as changed by Title 18, imposes a penalty for not responding. As a randomly selected representative of your community, you are the voice of your neighbors and peers. To create an accurate picture of your community, it is critical that you respond.

**How will the Census Bureau use the information I provide?**

By law, the Census Bureau can only use your responses to produce statistics. Your information will be used in combination with information from other households to produce data for your community. Similar data will be produced for communities across Puerto Rico and the United States.

We may combine your answers with information that you gave to other agencies to enhance the statistical uses of these data. This information will be given the same protections as your survey information. Based on the information that you provide, you may be asked to participate in other Census Bureau surveys that are voluntary.

Figure 47. Control Treatment: ACS-341IM (Instruction Card) Front

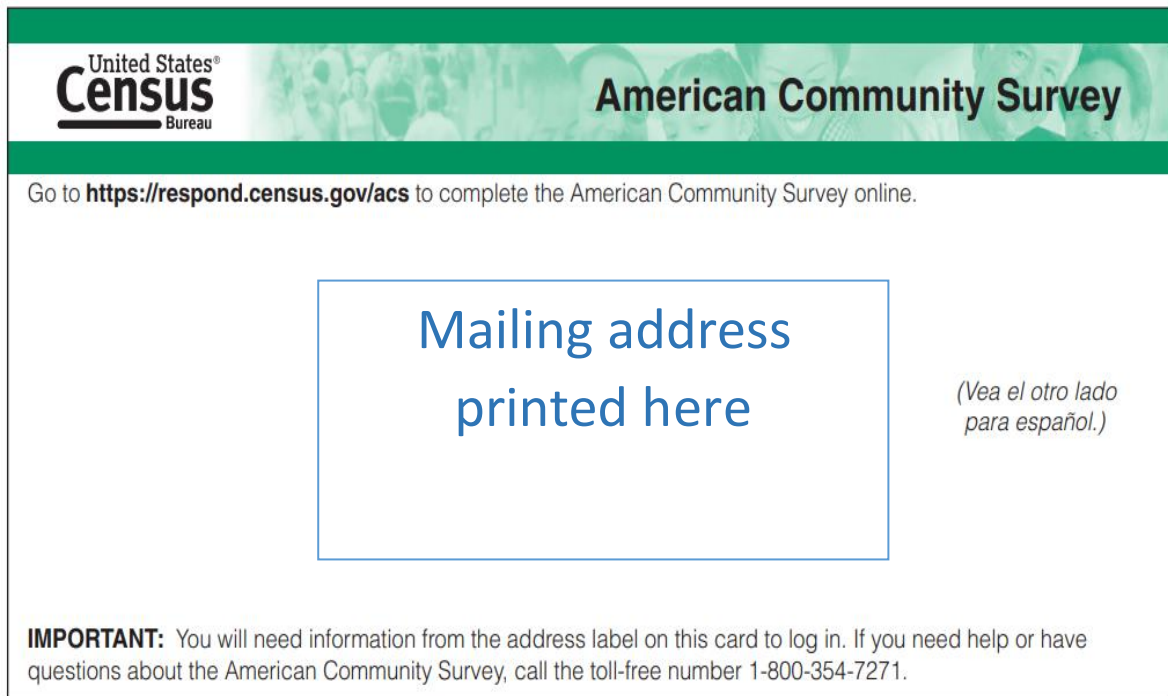
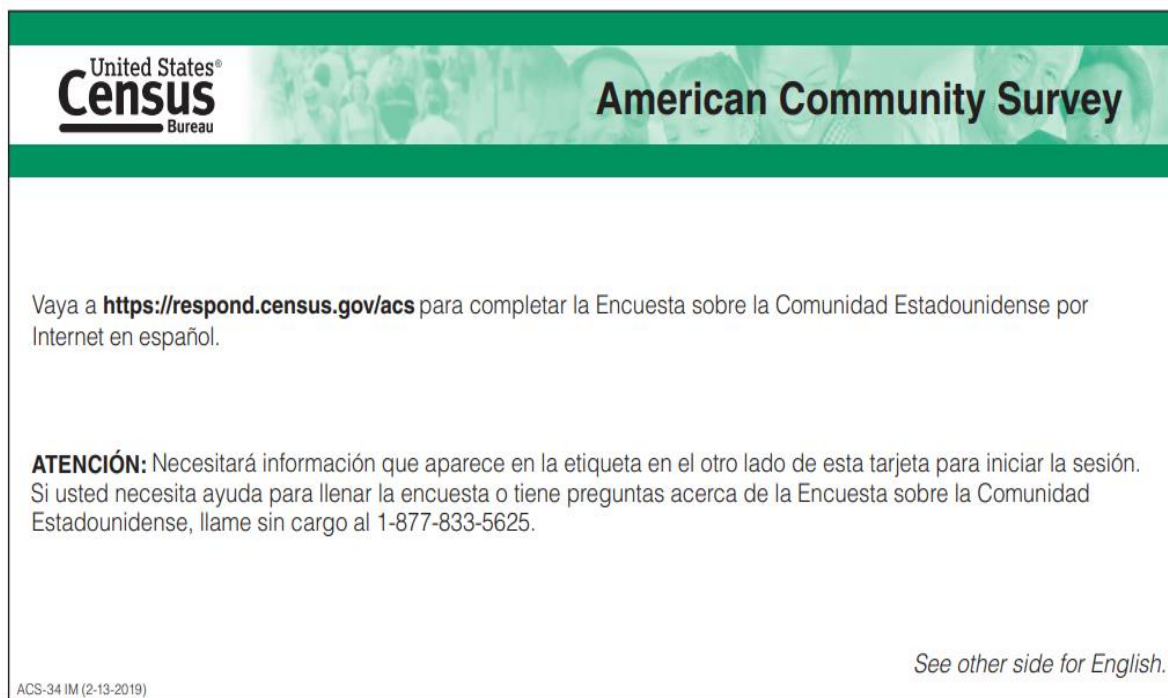


Figure 48. Control Treatment: ACS-341IM (Instruction Card) Back



English Translation: Go to <https://respond.gov/acs> to complete the American Community Online Survey in Spanish. **ATTENTION:** You will need information that appears on the label on the other side of this card to log in. If you need help filling out the survey or have questions about the American Community Survey, call toll-free 1-877-833-5625.



Figure 49. Control Treatment: ACS-9 (Multilingual Brochure)

**The U.S. Census Bureau is conducting the American Community Survey**

In a few weeks you will receive an American Community Survey questionnaire in the mail. Because you are living in the United States, you are required by law to respond to this survey. If you have questions about the form, please call us at 1-800-354-7271.

**What is the American Community Survey?**

The American Community Survey is an important survey conducted by the Census Bureau. It is designed to give communities current information about its people and housing. In order to make well-informed decisions, a community needs accurate and reliable information. By responding to this survey, you are helping your community to get this kind of information.

**Will my answers to this survey be kept confidential?**

Yes. The U.S. Census Bureau is required by law to keep your information confidential. The Census Bureau is not permitted to publicly release your responses in a way that could identify you. Per the Federal Cybersecurity Enhancement Act of 2015, your data are protected from cybersecurity risks through screening of the systems that transmit your data.

**La Oficina del Censo de los Estados Unidos está realizando la Encuesta sobre la Comunidad Estadounidense**

En unas semanas, usted recibirá por correo un cuestionario de la Encuesta sobre la Comunidad Estadounidense. Como usted está viviendo en los Estados Unidos, la ley exige que usted responda a esta encuesta. Si tiene preguntas sobre el cuestionario, llámenos al 1-877-833-5625.

**¿Qué es la Encuesta sobre la Comunidad Estadounidense?**

La encuesta sobre la Comunidad Estadounidense es una encuesta importante realizada por la Oficina del Censo de los Estados Unidos. Está diseñada para brindar información actual a las comunidades sobre las personas y las viviendas. Para poder tomar buenas decisiones, una comunidad necesita información precisa y confiable. Al responder a esta encuesta, usted está ayudando a su comunidad a obtener este tipo de información.

**¿Serán confidenciales mis respuestas a esta encuesta?**

Sí. La Oficina del Censo de los EE.UU. está obligada por ley a mantener confidencial su información. A la Oficina del Censo no se le permite divulgar sus respuestas de manera que este hogar pudiera ser identificado. En conformidad con la Ley para el Fortalecimiento de la Seguridad Cibernética Federal del 2015, sus datos están protegidos contra los riesgos de seguridad cibernética mediante los controles aplicados a los sistemas que transmiten su información.

**Important Information From the U.S. Census Bureau**

**Información Importante de la Oficina del Censo de los Estados Unidos**

**美国人口普查局重要通知**

Thông tin quan trọng từ Văn phòng Thống kê Dân số Hoa Kỳ

Важная информация от Бюро переписи населения США

미국 인구조사국에서 전해드리는 중요한 정보







Issued 03-19-2020  
ACS-9 (2021)  
Connect with us @censusbureau



**美国人口普查局正在进行美国社区问卷调查**

几周后，您将收到通过邮件发送的问卷，即美国社区问卷调查。由于您居住在美国，法律要求您必须回答此问卷调查。如果您对表格有任何问题，请致电 1-800-638-5945 联系我们。

**什么是美国社区问卷调查?**

美国社区问卷调查由美国人口普查局主持，是一项重要的调查。目的是为了向各个社区提供有关居民和住房方面的最新信息。一个社区要做出明智的决策，需要真实准确的信息。您答复此问卷调查，就是在帮助您所在社区获取这样的信息。

**我对这次调查的回答，人口普查局是否会保密?**

是的。根据法律规定，美国人口普查局将对您的信息保密。人口普查局不得以可识别您的身份的方式公开发布您的回复。依据2015年联邦增强网络安全法案，通过监察传输您资料的系统，来确保您个人资料受到保护，避免网络安全风险。

**Văn phòng Thống kê Dân số Hoa Kỳ đang thực hiện cuộc Khảo sát Cộng đồng tại Mỹ.**

Một vài tuần nữa quý vị sẽ nhận bản câu hỏi Khảo Sát Cộng Đồng tại Mỹ được gửi qua bưu điện. Vì quý vị đang sống ở Hoa Kỳ, pháp luật quy định quý vị phải trả lời khảo sát này. Nếu quý vị có thắc mắc về mẫu đơn này, vui lòng gọi cho chúng tôi theo số 1-877-221-9436.

**Cuộc Khảo sát Cộng đồng tại Mỹ là gì?**

Cuộc Khảo sát Cộng đồng tại Mỹ là một cuộc khảo sát quan trọng được Văn phòng Thống kê Dân số Hoa Kỳ thực hiện. Nó được thiết kế để cung cấp cho cộng đồng thông tin hiện tại về người dân và nhà của. Nhằm có được những quyết định thực tế có ích lợi trực tiếp cho những nhu cầu của cộng đồng quý vị, những thông tin cần được chính xác và đáng tin cậy. Bằng cách trả lời cuộc khảo sát này, quý vị đang giúp cộng đồng mình lấy được loại thông tin này.

**Liệu các câu trả lời khảo sát của tôi có được giữ bí mật không?**

Có. Cục Thống kê Dân số Hoa Kỳ được pháp luật yêu cầu bảo mật thông tin của quý vị. Cục Thống kê không được phép công bố công khai các phần hỏi của quý vị theo cách có thể nhận diện quý vị. Theo Luật Tăng Cường An Ninh Mạng của Liên Bang 2015, số liệu của quý vị sẽ được bảo vệ để tránh khỏi các nguy cơ về an ninh mạng qua cách kiểm duyệt các hệ thống chuyển số liệu của quý vị.

**Бюро переписи населения проводит Анкетирование населения США по месту жительства**

Через несколько недель Вы получите по почте анкету Анкетирования населения США по месту жительства. Поскольку Вы живете в Соединенных Штатах, закон требует, чтобы Вы ответили на этот опрос. Если у Вас имеются вопросы по этой форме, пожалуйста, звоните нам по телефону 1-866-225-2297.

**Что представляет собой Анкетирование населения США по месту жительства?**

Анкетирование населения США по месту жительства – это важнейшее исследование, проводимое Бюро переписи населения США. Его цель – обеспечить общество актуальной информацией о населении и жилищных условиях. Для принятия обоснованных решений на местах необходимо иметь точную и достоверную информацию. Отвечая на вопросы данного исследования, Вы помогаете своему району получить такую информацию.

**Будет ли сохранена конфиденциальность моих ответов?**

Да. По закону Бюро переписи населения США обязано соблюдать конфиденциальность ваших данных. Ему запрещено публично разглашать Ваши ответы таким образом, чтобы по ним можно было установить Вашу личность. Защиту Ваших данных от кибер-рисков регулирует федеральный закон «О повышении кибербезопасности» от 2015 года, в соответствии с которым регулярно проводится проверка систем передачи данных.

**미국 인구조사국에서는 미국 지역사회조사를 실시하고 있습니다.**

귀하께서는 몇 주 내에 미국 지역사회 조사 설문지를 우편으로 받게 되실 것입니다. 귀하께서 미국에 거주하고 계시기 때문에 법에 따라 이 설문조사에 응답할 의무가 있습니다. 설문지 양식에 대해 질문이 있으시면 1-800-772-6728 번호로 문의해 주십시오.

**미국 지역사회조사란 무엇인가요?**

미국 지역사회조사는 미국 인구조사국에서 시행하는 중요한 설문조사입니다. 이 설문조사는 지역사회 주민들과 무관한 관련 최근 정보를 알려드리고자 계획되었습니다. 지역사회가 정보에 기초한 합리적인 결정을 내리기 위해서 정확하고 믿을 수 있는 정보가 필요합니다. 귀하의 설문응답은 지역사회가 이런 정보를 수집하는 데 도움을 줍니다.

**설문조사에 대한 답변은 보호될까요?**

네, 미국 인구조사국은 법에 따라 귀하의 정보를 비밀로 유지해야 할 의무가 있습니다. 미국 인구조사국은 귀하가 응답한 정보를 귀하의 신상을 알 수 있는 형태로 일반에 공개할 수 없으며, 2015년 연방 사이버보안강화법에 따라, 귀하의 데이터는 데이터 전송 시스템의 철저한 검사를 통해 사이버 보안의 위험으로부터 보호됩니다.

Figure 50. Control Treatment: ACS-46IM (Initial Mailing Envelope) Front

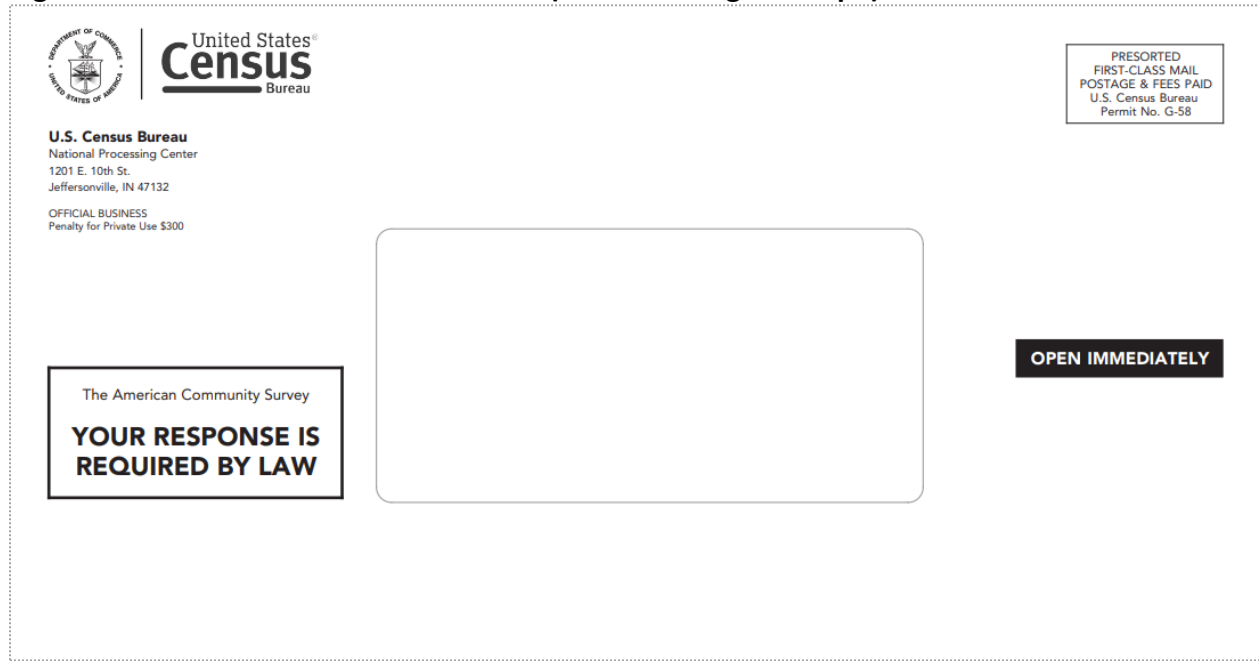


Figure 51. Control Treatment: ACS-46IM (Initial Mailing Envelope) Back

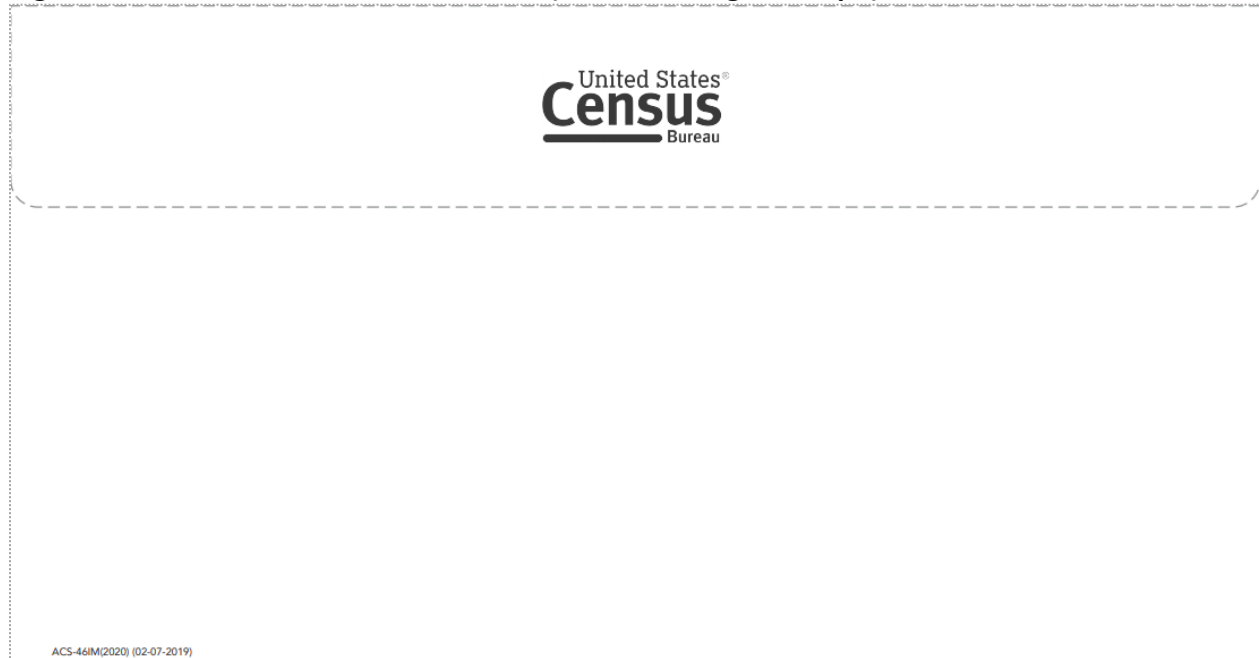


Figure 52. Control Treatment: ACS-20 (2<sup>nd</sup> Mailing Pressure Seal Mailer: Letter Side)

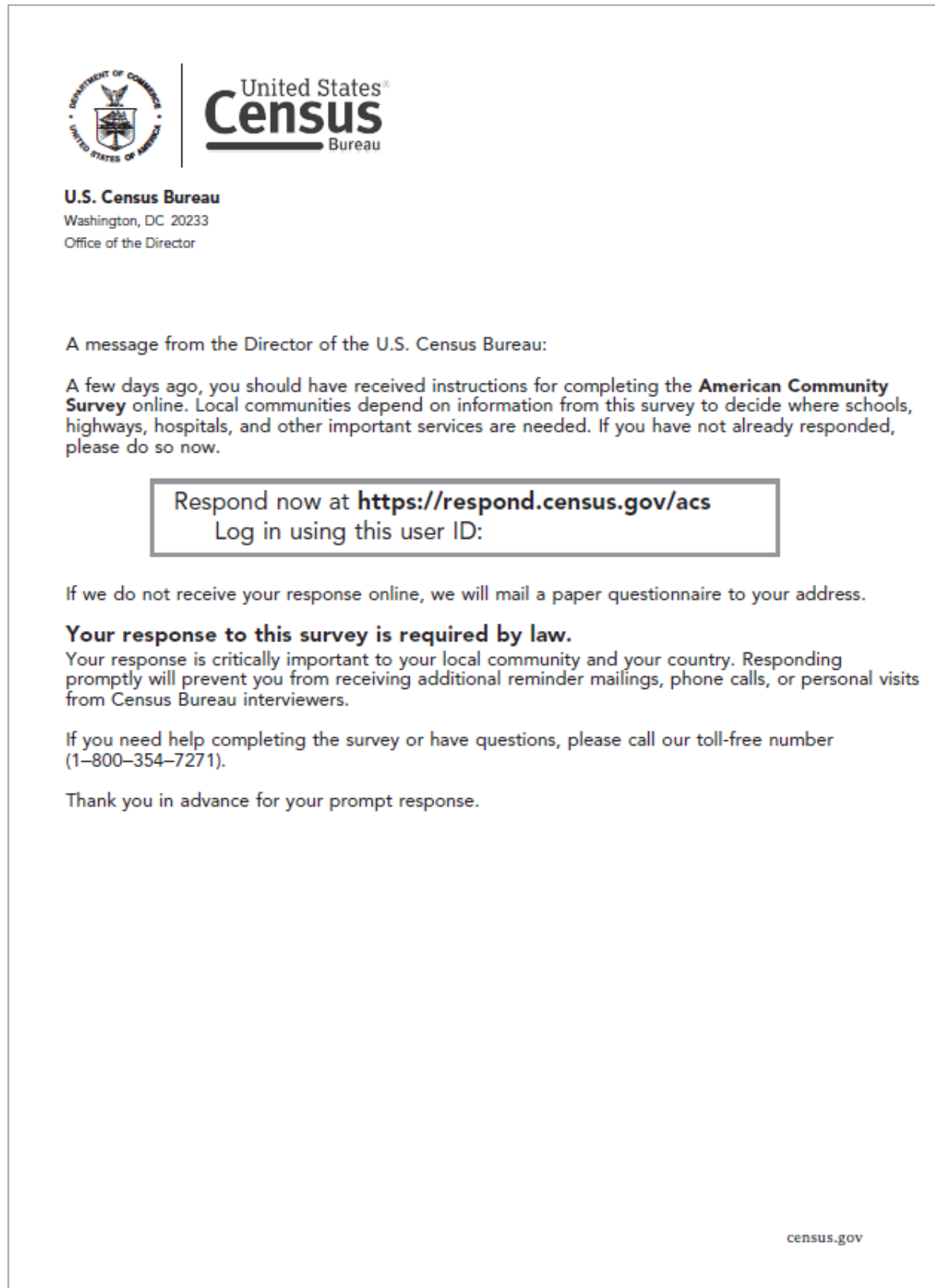


Figure 53. Control Treatment: ACS-20 (2<sup>nd</sup> Mailing Pressure Seal Mailer: Envelope Side)



Figure 54. Control Treatment: ACS-14(L) (3<sup>rd</sup> Mailing Letter) Front

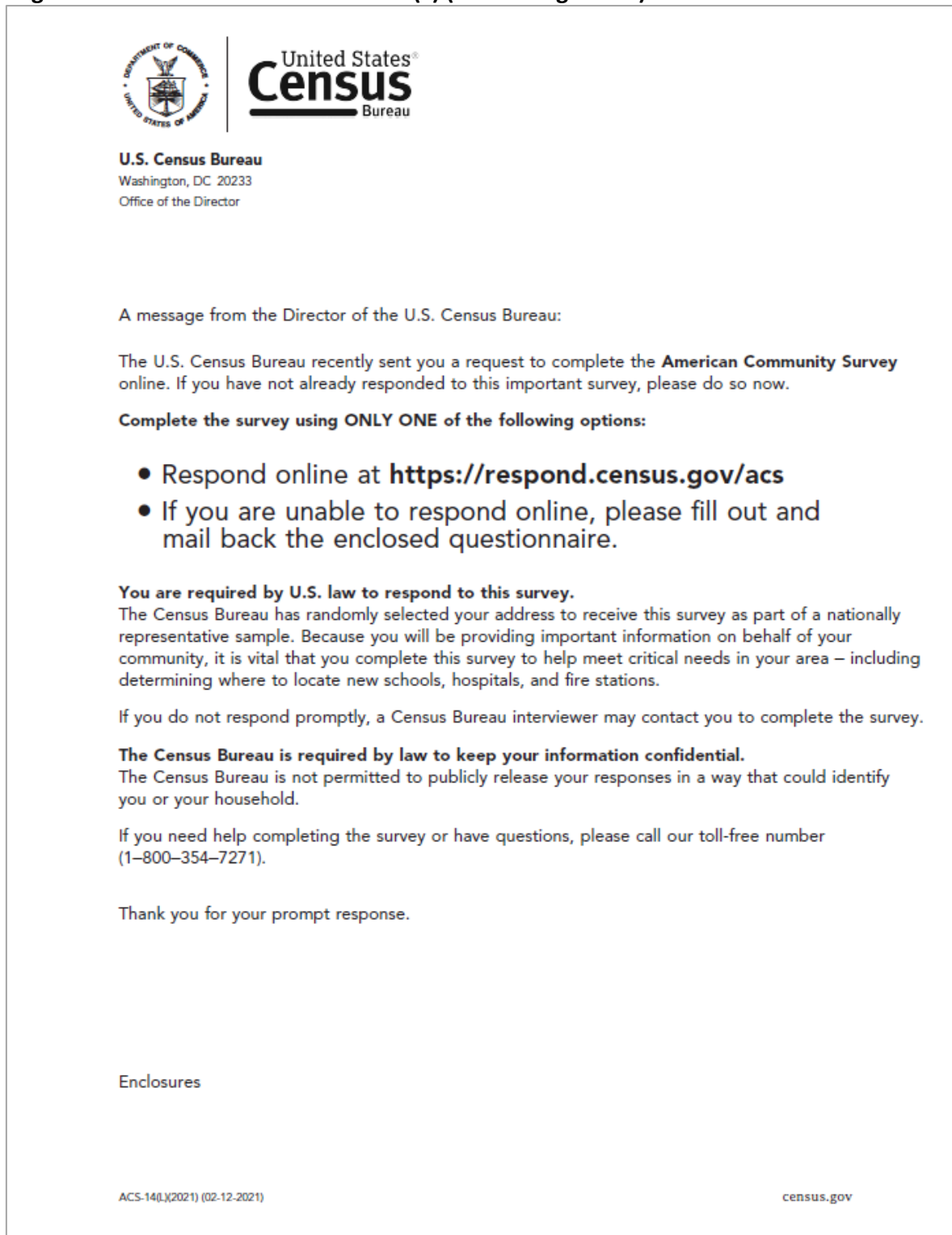


Figure 55. Control Treatment: ACS-14(L) (3<sup>rd</sup> Mailing Letter) Back

**Will my response be confidential?**

Yes. The U.S. Census Bureau is required by law to protect this information. The Census Bureau is not permitted to publicly release your responses in a way that could identify you. We are conducting this survey under the authority of Title 13, United States Code, Sections 141 and 193. Federal law protects your privacy and keeps your answers confidential (Title 13, United States Code, Section 9). Per the Federal Cybersecurity Enhancement Act of 2015, your data are protected from cybersecurity risks through screening of the systems that transmit your data.

**Am I required to fill out the survey?**

Yes. Your response to this survey is required by law (Title 13, U.S. Code, Sections 141, 193, and 221). Title 13, as changed by Title 18, imposes a penalty for not responding. As a randomly selected representative of your community, you are the voice of your neighbors and peers. To create an accurate picture of your community, it is critical that you respond.

**How will the Census Bureau use the information I provide?**

By law, the Census Bureau can only use your responses to produce statistics. Your information will be used in combination with information from other households to produce data for your community. Similar data will be produced for communities across Puerto Rico and the United States.

We may combine your answers with information that you gave to other agencies to enhance the statistical uses of these data. This information will be given the same protections as your survey information. Based on the information that you provide, you may be asked to participate in other Census Bureau surveys that are voluntary.

Figure 56. Control Treatment: ACS-1 (Paper Questionnaire) Front

 **United States**  
**Census**  
BUREAU

# The American Community Survey

## Mailing address printed here

---

### Start Here

**You have two ways to respond:**

 Respond online today at:  
<https://respond.census.gov/acs>

OR

 Complete this form and mail it back as soon as possible.

**Your response is required by law.**

The American Community Survey is conducted by the U.S. Census Bureau. This survey is one of only a few surveys for which all recipients are required by law to respond. The U.S. Census Bureau is required by law to protect your information.

 **If you need help or have questions about completing this form, please call 1-800-354-7271.**

**Text Telephone (TTY):**  
Call 1-800-582-8330.

**¿NECESITA AYUDA?** Llame sin cargo alguno al **1-877-833-5625.**

For more information about the American Community Survey, visit our website at: <https://www.census.gov/acs>

**➔ Please print the name and telephone number of the person who is filling out this form. We will only contact you if needed for official Census Bureau business.**

Last Name

First Name  MI

Area Code + Number  
  -

**➔ How many people are living or staying at this address?**

- **INCLUDE** everyone who is living or staying here for more than 2 months.
- **INCLUDE** yourself if you are living here for more than 2 months.
- **INCLUDE** anyone else staying here who does not have another place to stay, even if they are here for 2 months or less.
- **DO NOT INCLUDE** anyone who is living somewhere else for more than 2 months, such as a college student living away or someone in the Armed Forces on deployment.

**Number of people**

**➔ Fill out pages 2 – 7 for everyone, including yourself, who is living or staying at this address for more than 2 months. Then complete the rest of the form.**

FORM **ACS-1(2021)**  
(05-18-2020)

OMB No. 0607-0810  
OMB No. 0607-0936

Figure 57. Control Treatment: ACS-1 (Paper Questionnaire) Back

**Mailing Instructions**

- ➔ **Please make sure you have...**
  - listed all names and answered the questions on pages 2 – 7
  - answered all Housing questions
  - answered all Person questions for each person
- ➔ **Then...**
  - put the completed questionnaire into the postage-paid return envelope. If the envelope has been misplaced, please mail the questionnaire to:
 

**U.S. Census Bureau**  
**P.O. Box 5240**  
**Jeffersonville, IN 47199-5240**
  - make sure the barcode above your address shows in the window of the return envelope

**Thank you for participating in the American Community Survey.**

**For Census Bureau Use**

POP <input style="width: 100%; height: 20px;" type="text"/>	EDIT <input style="width: 100%; height: 20px;" type="text"/>	PHONE <input style="width: 100%; height: 20px;" type="text"/>	JIC1 <input style="width: 100%; height: 20px;" type="text"/>	JIC2 <input style="width: 100%; height: 20px;" type="text"/>
EDIT CLERK <input style="width: 100%; height: 20px;" type="text"/>	TELEPHONE CLERK <input style="width: 100%; height: 20px;" type="text"/>	JIC3 <input style="width: 100%; height: 20px;" type="text"/>	JIC4 <input style="width: 100%; height: 20px;" type="text"/>	

The Census Bureau estimates that, for the average household, this form will take 40 minutes to complete, including the time for reviewing the instructions and answers. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: Paperwork Project, U.S. Census Bureau, 4600 Silver Hill Road, ADCC – 4H277, Washington, D.C. 20233. You may e-mail comments to [acso.pra@census.gov](mailto:acso.pra@census.gov); use "Paperwork Project" as the subject. Please **DO NOT RETURN** your questionnaire to this address. Use the enclosed preaddressed envelope to return your completed questionnaire.

Respondents are not required to respond to any information collection unless it displays a valid approval number from the Office of Management and Budget. This 8-digit number appears in the bottom right on the front cover of this form.

Form ACS-1(2021) (05-18-2020)





Figure 58. Control Treatment: ACS-46 (Questionnaire Package Envelope) Front

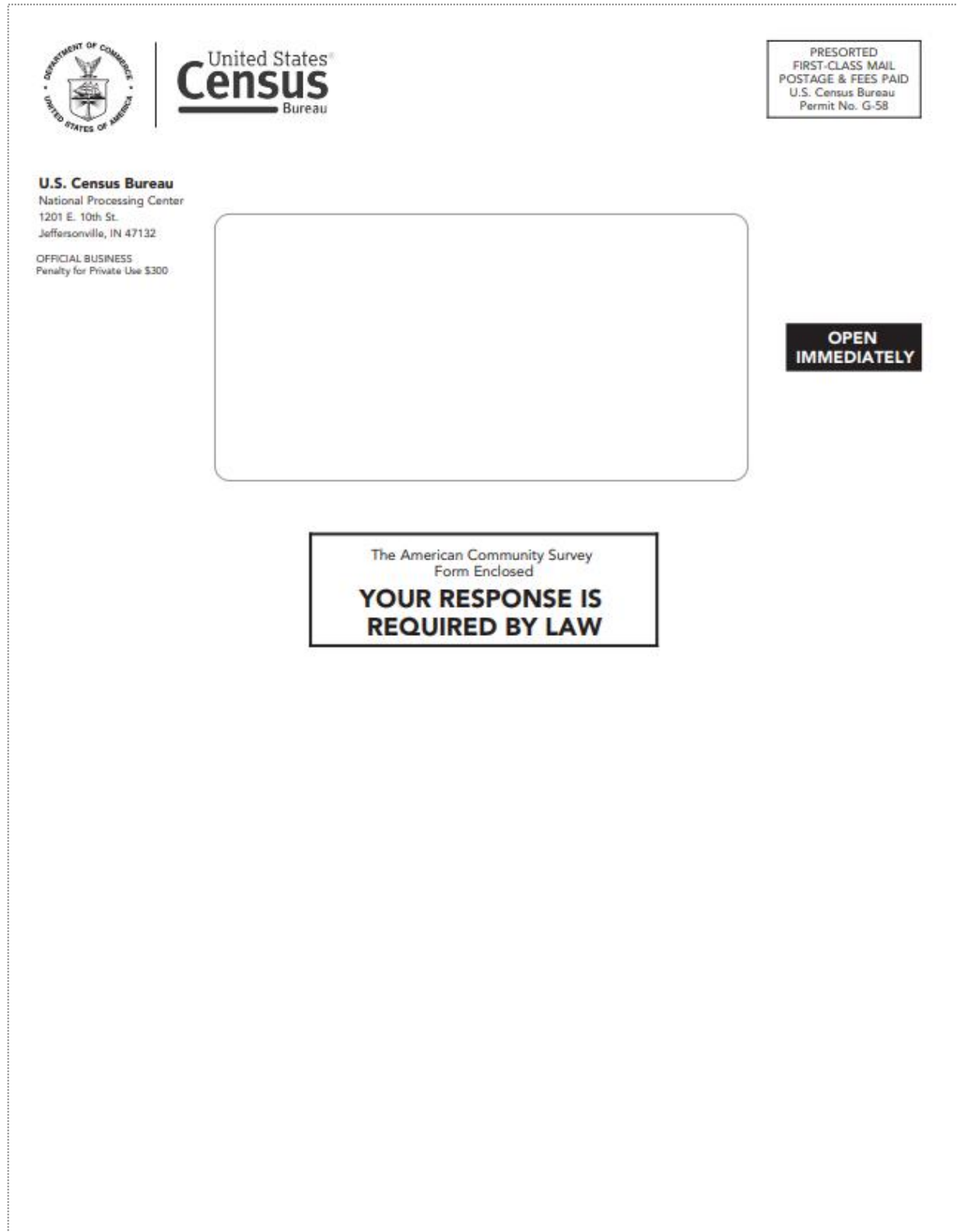


Figure 59. Control Treatment: ACS-46 (Questionnaire Package Envelope) Back

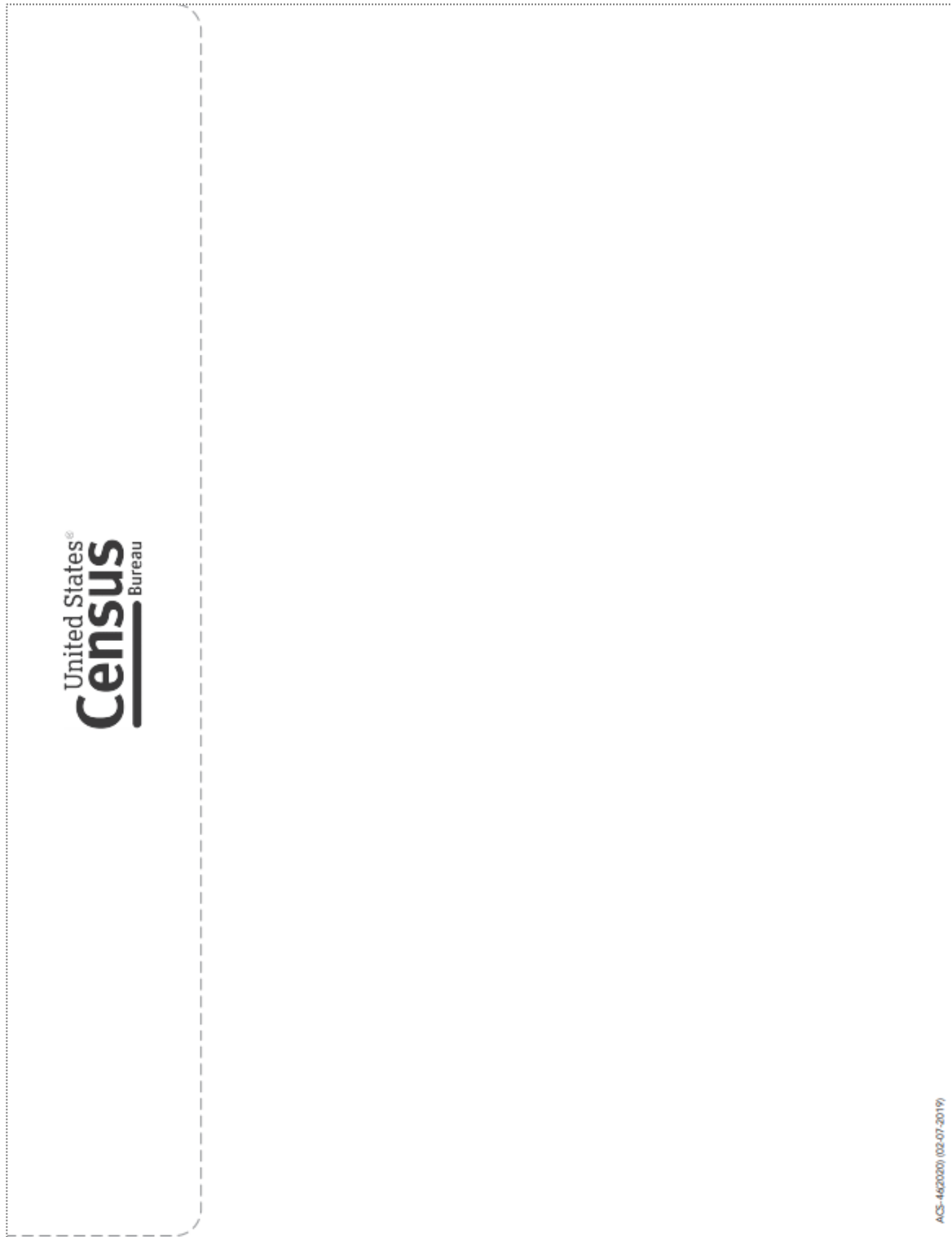


Figure 60. Control Treatment: ACS-29 (4<sup>th</sup> Mailing Postcard) Front

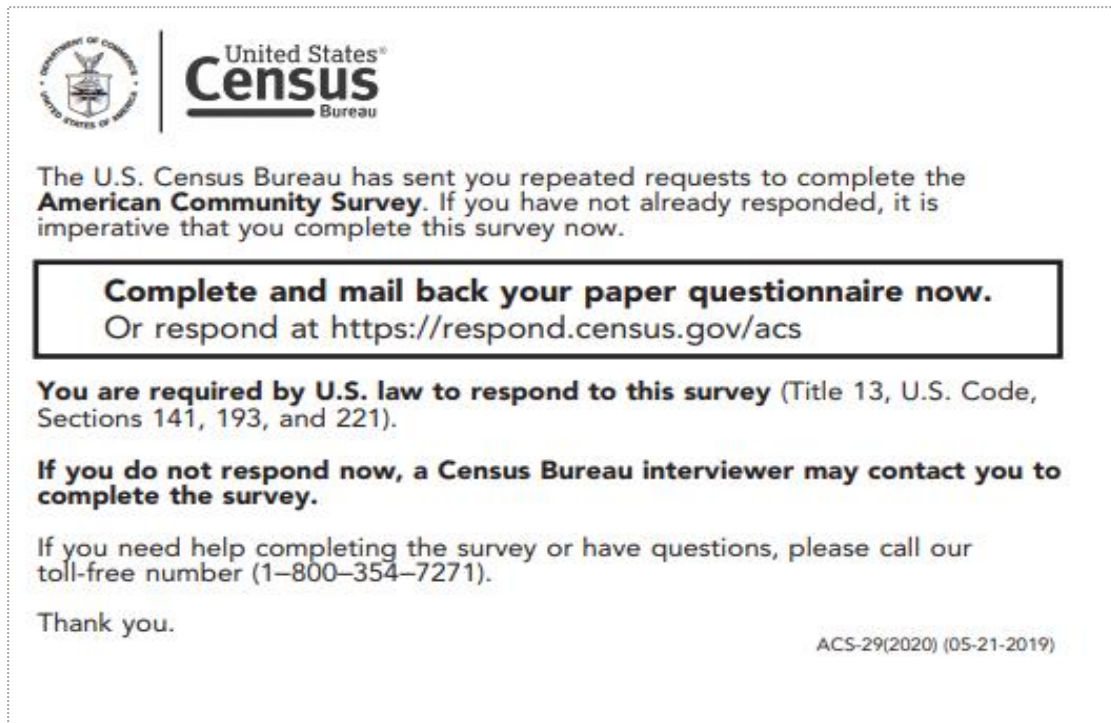


Figure 61. Control Treatment: ACS-29 (4<sup>th</sup> Mailing Postcard) Back



**Figure 62. Control Treatment: ACS-23 (5<sup>th</sup> Mailing Pressure Seal Mailer: Letter Side)**

(Note: The due date varies for each ACS monthly panel. This is a sample date. The actual date during the test was October 22, 2021.)

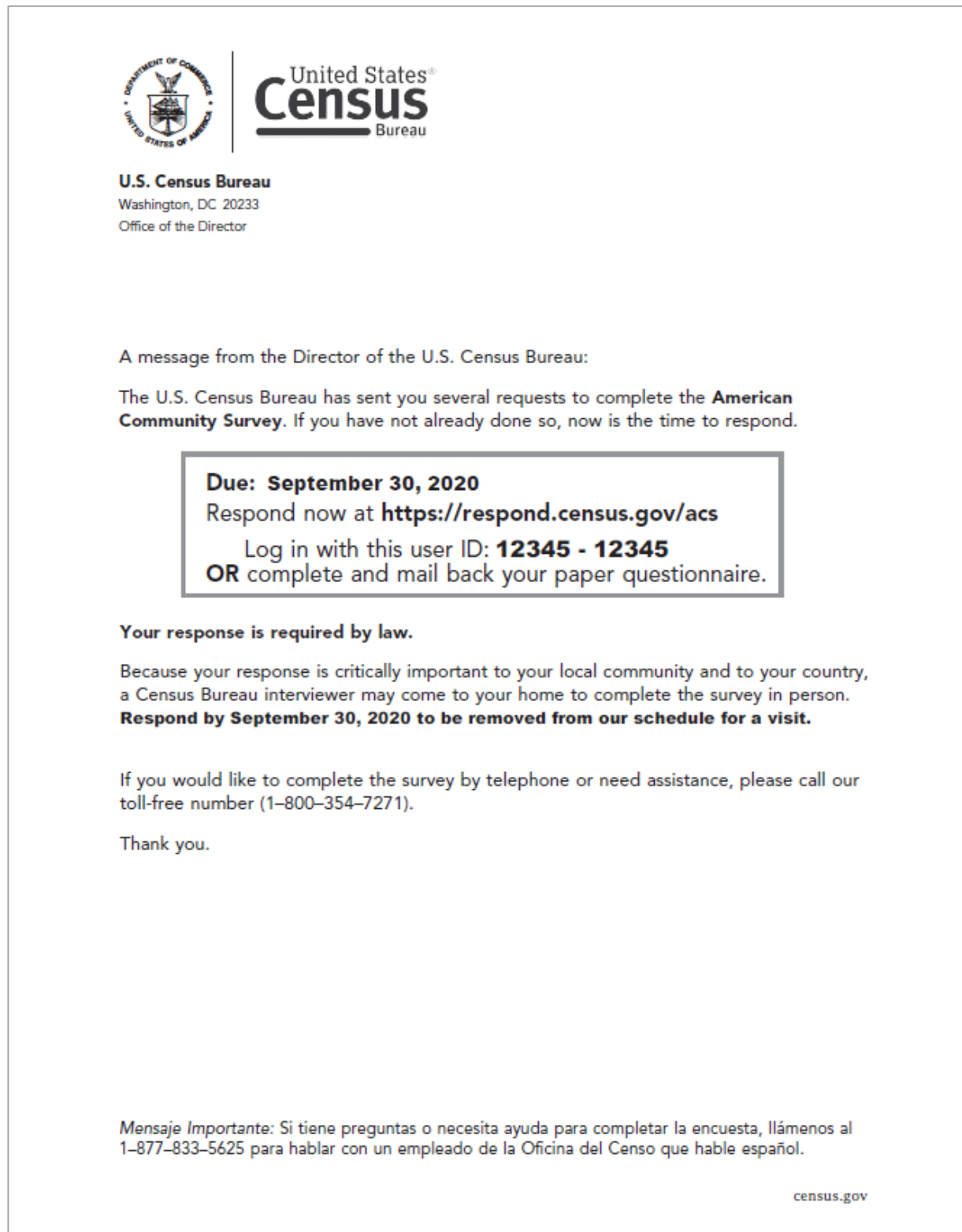


Figure 63. Control Treatment: ACS-23 (5<sup>th</sup> Mailing Pressure Seal Mailer: Envelope Side)



## Appendix F. Demographic Analysis Results Tables

Table 19. Comparison of Demographic Distributions, Self-Responses before the Third Mailing

Item	Control	Column and			
		Icon	Header	Sidebar	Minimalist
<b>AGE</b> ( <i>p</i> -value)		0.80	0.48	0.80	0.80
Under 18 years old	0.1 (<0.1)	0.2 (0.1)	0.2 (0.1)	0.2 (0.1)	0.1 (<0.1)
18 to 29 years old	8.8 (0.5)	7.8 (0.4)	7.8 (0.4)	8.4 (0.5)	8.4 (0.4)
30 to 49 years old	29.1 (0.7)	29.6 (0.8)	30.6 (0.8)	30.6 (0.8)	30.1 (0.7)
50 to 64 years old	29.9 (0.8)	29.2 (0.8)	28.6 (0.7)	29.2 (0.7)	29.1 (0.7)
65 years old or older	32.2 (0.8)	33.2 (0.8)	32.8 (0.7)	31.6 (0.8)	32.3 (0.7)
<b>SEX</b> ( <i>p</i> -value)		0.79	0.79	0.79	0.79
Male	48.5 (0.8)	48.0 (0.8)	47.4 (0.8)	48.3 (0.7)	47.2 (0.9)
Female	51.4 (0.8)	51.9 (0.8)	52.6 (0.8)	51.7 (0.7)	52.8 (0.9)
<b>HISPANIC ORIGIN</b> ( <i>p</i> -value)		0.98	0.98	0.98	0.98
Hispanic or Latino	7.6 (0.5)	7.6 (0.4)	7.9 (0.4)	7.8 (0.4)	7.6 (0.4)
Not Hispanic or Latino	92.4 (0.5)	92.4 (0.4)	92.0 (0.4)	92.2 (0.4)	92.4 (0.4)
<b>RACE</b> ( <i>p</i> -value)		0.65	0.65	0.65	0.77
White alone	82.8 (0.6)	83.6 (0.6)	81.6 (0.6)	82.5 (0.7)	81.9 (0.6)
Black or African American alone	5.8 (0.4)	4.8 (0.4)	5.8 (0.4)	5.4 (0.4)	6.1 (0.4)
Other race alone	8.2 (0.4)	8.6 (0.5)	9.3 (0.4)	9.3 (0.5)	8.5 (0.4)
Two or more races	3.3 (0.3)	3.0 (0.3)	3.3 (0.3)	2.9 (0.3)	3.5 (0.3)
<b>EDUC. ATTAINMENT</b> ( <i>p</i> -value)		0.79	0.95	0.79	0.34
High school, GED+, or less	19.7 (0.7)	19.2 (0.7)	19.5 (0.6)	19.7 (0.6)	19.8 (0.6)
Some college or associate's degree	26.8 (0.7)	28.2 (0.8)	27.2 (0.8)	28.1 (0.7)	28.9 (0.7)
Bachelor's degree or more	53.5 (0.9)	52.7 (0.8)	53.4 (0.9)	52.2 (0.8)	51.4 (0.8)
<b>BUILDING TYPE</b> ( <i>p</i> -value)		0.97	0.97	0.97	0.97
One-family home	78.0 (0.6)	78.7 (0.7)	79.5 (0.7)	77.3 (0.6)	78.2 (0.6)
Apartment	18.8 (0.6)	18.0 (0.7)	17.4 (0.6)	19.4 (0.6)	18.7 (0.6)
Other (boat, van, etc.)	3.1 (0.3)	3.3 (0.3)	3.1 (0.3)	3.2 (0.2)	3.1 (0.3)
<b>TENURE</b> ( <i>p</i> -value)		0.96	0.96	0.96	0.96
Owned with a mortgage	50.3 (0.8)	50.4 (0.8)	51.0 (0.7)	49.8 (0.8)	50.9 (0.8)
Owned free and clear	27.5 (0.7)	28.3 (0.8)	28.0 (0.7)	27.8 (0.7)	27.0 (0.7)
Rented	20.9 (0.7)	19.9 (0.7)	19.6 (0.5)	21.2 (0.6)	20.8 (0.7)
Occupied without payment of rent	1.2 (0.2)	1.3 (0.2)	1.4 (0.2)	1.1 (0.2)	1.2 (0.1)

†General Educational Development

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CBDRB-FY23-ACSO003-B0057

**Note:** Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a statistically significant result. For overall item distributions, significance was tested based on Rao-Scott chi-squared tests of independence at the  $\alpha=0.1$  level. P-values were adjusted for multiple comparisons using the Hochberg method. For items with statistically significantly different distributions, significance for individual response categories was tested based on a two-tailed t-test at the  $\alpha=0.1$  level.

**Table 20. Comparison of Demographic Distributions, Self-Responses before the Fifth Mailing**

Item	Control	Column and			
		Icon	Header	Sidebar	Minimalist
<b>AGE</b> ( <i>p</i> -value)		0.87	0.87	0.87	0.87
Under 18 years old	0.1 (0.1)	0.1 (0.1)	0.1 (0.1)	0.2 (0.1)	0.1 (0.1)
18 to 29 years old	7.5 (0.5)	7.7 (0.6)	7.1 (0.5)	7.7 (0.6)	7.4 (0.5)
30 to 49 years old	25.8 (0.8)	25.4 (0.9)	24.2 (1.1)	24.5 (0.9)	24.8 (0.9)
50 to 64 years old	25.1 (0.8)	27.0 (0.8)	26.8 (1.0)	26.4 (0.9)	26.3 (0.9)
65 years old or older	41.4 (0.9)	39.8 (0.9)	41.9 (1.1)	41.2 (0.9)	41.3 (0.8)
<b>SEX</b> ( <i>p</i> -value)		0.53	0.88	0.88	0.88
Male	48.0 (0.9)	46.0 (1.0)	47.8 (1.0)	47.7 (0.9)	47.4 (1.0)
Female	52.0 (0.9)	54.0 (1.0)	52.2 (1.0)	52.3 (0.9)	52.6 (1.0)
<b>HISPANIC ORIGIN</b> ( <i>p</i> -value)		0.82	0.82	0.82	0.82
Hispanic or Latino	9.9 (0.6)	10.3 (0.6)	8.9 (0.7)	9.0 (0.6)	10.1 (0.6)
Not Hispanic or Latino	90.1 (0.6)	89.7 (0.6)	91.1 (0.7)	91.1 (0.6)	89.9 (0.6)
<b>RACE</b> ( <i>p</i> -value)		0.18	0.58	0.58	0.58
White alone	80.5 (0.7)	77.3 (0.9)	81.7 (0.8)	79.4 (0.8)	80.2 (0.8)
Black or African American alone	8.4 (0.5)	9.5 (0.7)	7.6 (0.6)	7.9 (0.6)	7.2 (0.4)
Other race alone	7.9 (0.5)	9.4 (0.7)	7.9 (0.6)	9.1 (0.5)	8.8 (0.5)
Two or more races	3.3 (0.4)	3.8 (0.4)	2.8 (0.3)	3.6 (0.4)	3.8 (0.4)
<b>EDUC. ATTAINMENT</b> ( <i>p</i> -value)		0.39	0.56	0.56	0.56
High school, GED, or less	31.1 (0.9)	33.7 (1.0)	32.6 (1.0)	32.0 (0.9)	33.5 (1.1)
Some college or associate's degree	29.3 (0.9)	27.1 (1.0)	29.8 (1.0)	30.0 (1.0)	29.1 (1.0)
Bachelor's degree or more	39.5 (1.1)	39.3 (1.1)	37.6 (1.2)	38.0 (1.0)	37.4 (1.1)
<b>BUILDING TYPE</b> ( <i>p</i> -value)		0.99	0.99	0.99	0.99
One-family home	74.2 (0.8)	73.4 (0.9)	74.3 (0.9)	74.2 (0.8)	75.7 (0.9)
Apartment	20.7 (0.7)	22.1 (0.9)	20.1 (0.9)	20.6 (0.7)	19.2 (0.9)
Other (boat, van, etc.)	5.1 (0.4)	4.6 (0.4)	5.7 (0.5)	5.2 (0.4)	5.1 (0.4)
<b>TENURE</b> ( <i>p</i> -value)		0.83	0.83	0.83	0.50
Owned with a mortgage	44.6 (1.1)	43.3 (0.9)	45.1 (1.2)	44.5 (1.0)	44.9 (1.0)
Owned free and clear	28.5 (1.0)	29.2 (0.9)	29.9 (1.1)	29.0 (0.9)	30.8 (0.9)
Rented	25.3 (0.9)	25.3 (0.9)	23.4 (0.9)	24.6 (0.8)	22.7 (0.8)
Occupied without payment of rent	1.7 (0.2)	2.1 (0.3)	1.6 (0.2)	1.9 (0.3)	1.6 (0.2)

†General Educational Development

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CBDRB-FY23-ACSO003-B0057

**Note:** Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a statistically significant result. For overall item distributions, significance was tested based on Rao-Scott chi-squared tests of independence at the  $\alpha=0.1$  level. P-values were adjusted for multiple comparisons using the Hochberg method. For items with statistically significantly different distributions, significance for individual response categories was tested based on a two-tailed t-test at the  $\alpha=0.1$  level.

**Table 21. Comparison of Demographic Distributions, Self-Responses before CAPI**

Item	Control	Column and			
		Icon	Header	Sidebar	Minimalist
<b>AGE</b> ( <i>p</i> -value)		0.72	0.72	0.72	0.72
Under 18 years old	0.2 (0.2)	0.2 (0.2)	0.1 (0.1)	0.1 (0.1)	0.1 (0.1)
18 to 29 years old	10.5 (0.9)	9.4 (0.8)	9.7 (0.9)	9.3 (0.8)	9.0 (0.8)
30 to 49 years old	33.3 (1.3)	33.1 (1.2)	34.4 (1.5)	32.0 (1.3)	35.7 (1.6)
50 to 64 years old	29.1 (1.5)	27.9 (1.4)	27.0 (1.4)	28.8 (1.4)	29.7 (1.5)
65 years old or older	26.9 (1.3)	29.4 (1.2)	28.8 (1.3)	29.8 (1.5)	25.6 (1.3)
<b>SEX</b> ( <i>p</i> -value)		0.73	0.73	0.73	0.68
Male	47.2 (1.3)	45.9 (1.6)	47.9 (1.4)	48.2 (1.3)	44.6 (1.6)
Female	52.8 (1.3)	54.1 (1.6)	52.1 (1.4)	51.8 (1.3)	55.4 (1.6)
<b>HISPANIC ORIGIN</b> ( <i>p</i> -value)		0.79	0.79	0.79	0.79
Hispanic or Latino	12.4 (1.0)	13.0 (1.0)	12.0 (0.8)	12.1 (0.8)	13.4 (1.1)
Not Hispanic or Latino	87.6 (1.0)	87.0 (1.0)	87.9 (0.8)	87.9 (0.8)	86.6 (1.1)
<b>RACE</b> ( <i>p</i> -value)		0.48	0.48	0.07*	0.48
White alone	72.1 (1.4)	73.7 (1.3)	73.8 (1.3)	77.1 (1.2)*	74.1 (1.5)
Black or African American alone	11.2 (1.0)	10.6 (1.0)	9.3 (0.8)	8.6 (0.8)^	9.8 (0.9)
Other race alone	11.4 (0.9)	12.0 (1.0)	12.0 (0.8)	10.8 (0.9)	11.8 (1.1)
Two or more races	5.2 (0.7)	3.7 (0.5)	4.9 (0.6)	3.5 (0.5)^	4.2 (0.6)
<b>EDUC. ATTAINMENT</b> ( <i>p</i> -value)		0.79	0.75	0.79	0.79
High school, GED, or less	28.3 (1.4)	26.8 (1.3)	30.2 (1.4)	30.6 (1.4)	28.5 (1.3)
Some college or associate’s degree	31.8 (1.3)	32.8 (1.4)	28.1 (1.4)	30.4 (1.5)	30.5 (1.4)
Bachelor’s degree or more	39.9 (1.4)	40.4 (1.5)	41.7 (1.6)	38.9 (1.7)	41.0 (1.5)
<b>BUILDING TYPE</b> ( <i>p</i> -value)		0.91	0.91	0.91	0.93
One-family home	75.5 (1.3)	73.5 (1.3)	73.1 (1.5)	75.6 (1.2)	74.9 (1.4)
Apartment	20.4 (1.3)	21.3 (1.3)	22.1 (1.4)	19.0 (1.2)	20.8 (1.3)
Other (boat, van, etc.)	4.1 (0.5)	5.2 (0.6)	4.8 (0.6)	5.4 (0.6)	4.3 (0.7)
<b>TENURE</b> ( <i>p</i> -value)		0.92	0.96	0.96	0.96
Owned with a mortgage	50.5 (1.5)	48.7 (1.5)	49.4 (1.4)	48.9 (1.7)	49.8 (1.5)
Owned free and clear	20.6 (1.3)	23.7 (1.1)	20.9 (1.1)	23.2 (1.2)	20.7 (1.2)
Rented	27.0 (1.4)	26.4 (1.3)	27.6 (1.3)	25.7 (1.4)	27.4 (1.4)
Occupied without payment of rent	1.8 (0.4)	1.2 (0.3)	2.1 (0.4)	2.2 (0.5)	2.0 (0.4)

†General Educational Development

Source: U.S. Census Bureau, American Community Survey, 2021 ACS Strategic Framework Mail Materials Test; DRB Approval Number: CBDRB-FY23-ACSO003-B0057

**Note:** Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (\*) indicates a result that is statistically significantly higher than Control. A caret (^) indicates a result that is statistically significantly lower than Control. For overall item distributions, significance was tested based on Rao-Scott chi-squared tests of independence at the  $\alpha=0.1$  level. P-values were adjusted for multiple comparisons using the Hochberg method. For items with statistically significantly different distributions, significance for individual response categories was tested based on a two-tailed t-test at the  $\alpha=0.1$  level.