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MEMORANDUM FOR American Community Survey Research and Evaluation Workgroup

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Subject: 2018 ACS Mail Materials Test Report

Attached is the final American Community Survey (ACS) Research and Evaluation report entitled, 2018 Mail Materials Test. This report provides the results of an experiment conducted to measure the effect on response and cost differential of proposed design changes to the ACS materials, using the September 2018 ACS panel.

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2018 ACS Mail Materials Test

FINAL REPORT



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EXECUTIVE SUMMARY

The U.S. Census Bureau primarily communicates with people in housing units sampled for participation in the American Community Survey (ACS) through five mail communications. This process produces a self-response rate of about 57 percent (Baumgardner, 2020). The Census Bureau has been proactive in maintaining this relatively high self-response rate through continuous research and experiments (U.S. Census Bureau, 2017). The 2018 Mail Materials Test is a continuation of these efforts.

The 2018 Mail Materials Test tested ideas that combined results from years of ACS field tests, collaborative research with Reingold, Inc., and other outside research. This test consisted of six experimental treatments and one control treatment that used production ACS materials. Three of the treatments tested variations on the use of mandatory messaging, one treatment tested removing materials, one treatment tested changes to the questionnaire cover, and one treatment tested the type of pressure seal mailer used in the third and fifth mailing.

Of the three treatments that tested variations on the use of mandatory language, the treatment that performed the best was the one with the most emphasized mandatory messaging:

- It had a self-response return rate that was approximately 4.9 percentage points higher than production before the start of the Computer-Assisted Personal Interview (CAPI).
- It would result in an estimated cost savings of \$12 million annually.
- It would reduce the margins of error of estimates by an estimated 1.1 percent.

The other experimental treatments provided additional notable findings:

- The revision to the questionnaire cover (i.e., adding icons, revising the layout, and adding more information) increased self-response prior to CAPI by 1.2 percentage points.
- Adding the phrase “Open Immediately” to the envelope in the first mailing increased self-response prior to the third mailing by 0.8 percentage points.
- Approximately \$437,000 can be saved annually by removing the FAQ brochure and the instruction card; there was no statistically significant effect on self-response from their removal.
- Bi-fold pressure seal mailers can continue to be used in production, as there was no statistically significant difference between using the tri-fold pressure seal mailers and the bi-fold mailers.

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1. INTRODUCTION

The U.S. Census Bureau continually evaluates how the American Community Survey (ACS) mail materials and methodology might be further refined to increase survey participation, reduce survey costs, and address concerns raised by stakeholders and potential respondents about the ACS. To increase self-response, the Census Bureau collaborated with Reingold, Inc. to research and propose revisions to design elements and messages in the ACS mail materials.

Recommendations from this collaboration covered a variety of different aspects of the mail materials, including the look and feel of the letters and the messaging used to encourage response (U.S. Census Bureau, 2015).

In 2015, the Census Bureau conducted the Summer Mandatory Messaging Test to test many of these recommendations. The experimental treatment that increased the emphasis of the mandatory messages (typically by highlighting them in bold text) and improved the design of the materials resulted in a significant increase in self-response (Oliver et al., 2016).¹

For the 2018 ACS Mail Materials Test, we tested improvements to the materials from the 2015 Summer Mandatory Messaging Test, which emphasized the mandatory messages as one of the experimental treatments. We also tested three variations on these improved materials that adjusted the mandatory language by de-emphasizing it in targeted ways, keeping the mandatory language on the outside of the envelopes, but de-emphasizing it inside the letters themselves. Three additional experimental treatments were also included in this test to isolate and test specific elements of the mailings.

2. BACKGROUND

2.1 Current ACS Data Collection Strategy

The ACS is an ongoing, nationwide survey conducted by the U.S. Census Bureau to produce detailed social, economic, housing, and demographic information. Each month, the Census Bureau sends requests for survey participation to about 295,000 housing unit addresses, which is about 3.5 million addresses per year.² Each monthly sample is considered a panel, and is designed to be representative of the entire year and the entire sample frame. The data

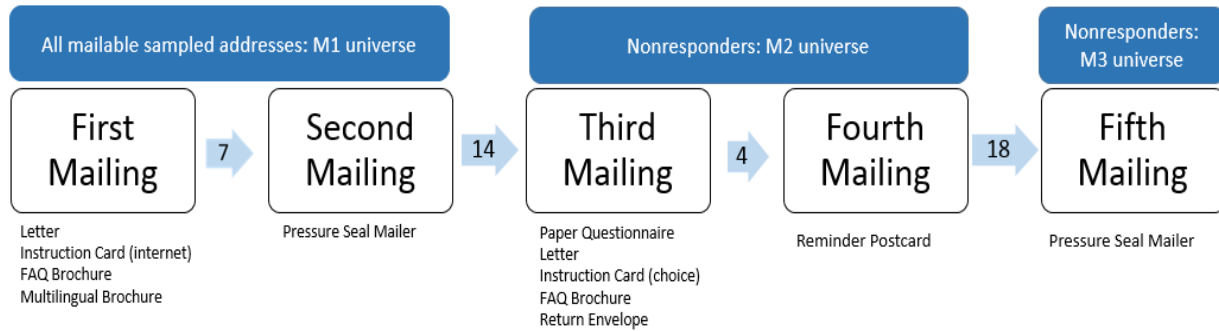
¹ Some of the design changes included writing in a bulleted format instead of longer paragraphs for ease of reading and testing a new logo design that more closely connects the ACS to the Census Bureau.

² The ACS collects data for housing units and group quarters (GQs). Each year, approximately 20,000 GQs are visited to produce an annual sample of about 194,000 GQ residents. However, this project only focuses on housing unit data collection.

collection for housing units is conducted in two phases: a self-response phase, which lasts up to nine weeks, followed by a Nonresponse Followup phase, which lasts about four weeks.

In the self-response phase, the Census Bureau employs a mail contact strategy to encourage residents in sampled addresses to self-respond. The first and second mailings are sent to all mailable sampled addresses.³ See Figure 1 for a synopsis of the five mailings.

Figure 1. Overview of the 2018 Production ACS Mail Contact Strategy



The days between mailings, displayed in the arrows, are approximate

The initial mailing package (*first mailing*) includes:

- An invitation to participate in the ACS online that informs recipients that a paper questionnaire will be sent in a few weeks to those unable to or who prefer not to respond online.⁴
- An instruction card that provides instructions to go online.
- A Frequently Asked Questions (FAQ) brochure.
- A Multilingual Brochure.

About seven days later, the Census Bureau mails a pressure seal mailer (*second mailing*) to these addresses to remind the recipients to respond online or wait for a paper questionnaire.⁵

About two weeks after the second mailing is sent, addresses from which we have received a response are removed from the address file to create a new mailing universe of nonresponders.

³ The requirement for a “mailable” address in the United States is met if there is either a complete city-style address (includes a house number, street name, and ZIP Code) or rural-route address (includes a rural-route number, box number, and ZIP Code).

⁴ Prospective respondents can also complete the survey by telephone through the Telephone Questionnaire Assistance Center (TQA).

⁵ A pressure seal mailer is one-page document that contains a pre-applied adhesive that is folded and sealed with pressure.

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The Census Bureau sends these nonresponders a questionnaire package (*third mailing*)—a package that includes:

- A paper questionnaire.
- An instruction card that provides instructions to go online or to return the completed paper questionnaire.
- A FAQ brochure.
- A return envelope.

This package is followed by a reminder postcard (*fourth mailing*), mailed about four days later.

About eighteen days later, addresses from which we have received a response are again removed from the address file to create a new mailing universe of nonresponders. The remaining addresses are mailed a pressure seal mailer (*fifth mailing*); a final reminder to the recipients to respond to the survey.

The Nonresponse Followup operation begins between 17 to 24 days after the fifth mailing. Census Bureau representatives visit a sample of the remaining addresses and attempt to obtain a survey response through Computer-Assisted Personal Interviewing (CAPI). The CAPI operation lasts about four weeks. During this period, the Census Bureau still accepts forms completed by the self-response modes.⁶

2.2 Literature Review

To increase self-response, the Census Bureau collaborated with Reingold, Inc. in 2013 and 2014, to research design elements and messages in the ACS mailing materials. The high-level recommendations from the research were:

- Emphasize the Census Bureau brand in ACS mail materials.
- Use visual design principles to draw attention to key messages and help respondents navigate through ACS materials with greater ease.
- Use deadline-oriented messages to attract attention and create a sense of urgency.
- Prioritize an official “governmental” appearance over a visually rich “marketing” approach.
- Emphasize effective “mandatory” messaging.
- Demonstrate benefits of ACS participation to local communities.
- Draw a clearer connection between questions with sensitive topics and real-world applications and benefits of the information provided by respondents’ answers.
- Streamline mail packages and individual materials (U.S. Census Bureau, 2015).

⁶ See the ACS Design and Methodology Report (U.S. Census Bureau, 2014) for detailed information about the ACS methodology.

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Based on these and other recommendations, the Census Bureau conducted field tests to improve the ACS mail materials and messaging. The test objectives were to address respondent concerns about the perceived intrusiveness of the survey, to improve self-response rates, and to reduce survey costs. Some of the findings from the tests have been incorporated in the production mail materials, while other features required further testing.

The 2015 Replacement Mail Questionnaire Package Test examined ways to reduce the complexity of the third mailing package by omitting some of its contents. The test showed that removing the Instruction Guide from the third mailing reduced cost and did not negatively affect response. The Instruction Guide was removed from ACS production in 2016. The test also examined removing the instruction card from the third mailing; however, the results were inconclusive (Clark et al., 2015). When looking for materials that could be removed as part of the 2018 Mail Materials Test, the FAQ brochure and the instruction card in the third mailing stood out as materials that could potentially be removed to reduce costs without reducing response.

The 2015 Envelope Mandatory Messaging Test removed mandatory messages from the envelopes to de-emphasize the mandatory nature of the survey. Removing “Your response is required by law” from the outside of the envelopes significantly decreased self-response (Barth et al., 2015). Therefore, none of the treatments in the 2018 Mail Materials Test removed mandatory messaging from the envelopes and mandatory messaging was added to the fourth mailing postcard.

The 2015 Summer Mandatory Messaging Test removed or modified (both emphasizing and de-emphasizing) the mandatory messages and updated the visual design of the letters and envelopes. De-emphasizing the mandatory messaging significantly reduced self-response, and emphasizing it significantly increased self-response. However, in all the treatments that de-emphasized the mandatory language, it was removed from the outside of the envelope (Oliver et al., 2016). For the 2018 Mail Materials test, we tested designs where the mandatory messaging was de-emphasized in the letters but remained on the envelopes.

The 2017 Pressure Seal Mailing Materials Test replaced reminder letters and postcards with pressure seal mailers. This test found that replacing two of the existing mailing materials with tri-fold pressure seal mailers would potentially be cost effective (Risley & Barth, 2018). For the implementation of pressure seal mailers in production, the National Processing Center recommended using bi-fold pressure seal mailers instead of the tri-fold because of efficiencies in processing and cost. Because these bi-fold pressure seal mailers were not tested in the 2017 Pressure Seal Mailing Materials Test, we included them in the 2018 Mail Materials Test.

The 2017 Mail Design Test de-emphasized the mandatory messaging with new messaging that attempted to convey a conversational tone and other design changes. While many of the changes were not found to be effective at increasing response, for example, the inclusion of a

“Why We Ask” brochure, there was some evidence that the redesigned questionnaire cover that provided instructional information and additional mandatory messaging might increase response (Oliver et al., 2018). Therefore, the 2018 Mail Materials Test included a treatment with a new questionnaire cover that contained some of the same design elements.

3. METHODOLOGY

3.1 Experimental Design

The 2018 ACS Mail Materials Test was conducted using the September 2018 ACS panel.⁷ 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. This test had seven treatments, each randomly assigned two methods panel groups (approximately 24,000 mailing addresses per treatment). The remaining 10 methods panel groups received production ACS materials.

Sections 3.1.1 through 3.1.5 describe the experimental treatments that tested messaging in the ACS materials. Section 3.1.6 describes the treatment used to test the tri-fold pressure seal mailer. Section 3.1.7 describes the treatment only containing the current production materials.

3.1.1 Treatment 1 (Production with Select Materials Removed)

Treatment 1 used production materials, shown in Appendix C, but removed a few select pieces. The FAQ brochure was removed from the first mailing and the third mailing, and the information that had been in the FAQ brochure was moved to the back of the letters in the first and third mailings (see Appendix D). Similarly, the legally required cybersecurity language located on the front of these letters was moved to the back. The instruction card, which provided information on how to respond online or with the paper questionnaire, was also removed from the third mailing. All the other materials were the same as the production materials.

This treatment was created in order to explicitly test the removal of these materials, a feature common to most of the experimental treatments. Since the removal of the materials is the only change made for Treatment 1, by comparing it to the production materials, we were able to measure the effect of only removing the materials. By then comparing Treatments 2, 3, and 4 to Treatment 1, we were able to measure the effect of the changes made to those treatments, independent of the removed materials.

⁷ See Appendix A for dates of the mailout schedule for the September 2018 panel.

3.1.2 Treatment 2 (Emphasized Mandatory with Revised Questionnaire)

Treatment 2, shown in Appendix E, placed the strongest emphasis on the mandatory nature of the survey. Mandatory messages were printed in bold-faced font and placed in more prominent places throughout the letters (such as at the beginning of a paragraph instead of in the middle). This was the only experimental treatment that added “Your Response Is Required By Law” to the address side of the postcard in the fourth mailing and used bold font to emphasize that an interviewer may contact the recipient if the Census Bureau did not receive their response. This treatment also emphasized the urgency of a response by adding “Open Immediately” to the outside of the envelopes in the first and third mailings and “Final Notice Respond Now” to the outside of the pressure seal mailer in the fifth mailing.

As was done in Treatment 1, this treatment removed the FAQ brochure from the first mailing and the third mailing and the instruction card from the third mailing.

This treatment also included a few visual design changes to the mail materials. A few of the most notable changes were:

- The U.S. Census Bureau logo was moved from the very bottom of the letter to the top to make it more prominent.
- A bulleted list was used to describe survey benefits, in order to improve ease of reading.
- Bolding was used to highlight a few of letter’s key takeaways.

This treatment used a newly redesigned questionnaire cover, shown in Figure 20 in Appendix E. The revised design cover included the following changes:

- New wording was used that informed recipients that they were receiving a questionnaire because they had not previously responded.
- Icons were added to draw attention to the response options.
- The *date of response* question was moved from the questionnaire cover to the first page of the revised questionnaire.

- The front cover of the revised questionnaire included a new paragraph about the mandatory nature of the survey:

Your response is required by law.⁸

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.

- The text in Spanish was reduced from a paragraph to single sentence to make room for the new paragraph. It instructed Spanish speakers to call a toll-free number for help.

3.1.3 Treatment 3 (De-emphasized Mandatory with Revised Questionnaire)

In the 2015 Summer Mandatory Messaging Test, the treatments with de-emphasized mandatory messaging had significantly lower response rates than the treatment that emphasized the mandatory messaging (Oliver et al., 2016). However, those treatments did not have any mandatory messaging on the outside of the envelopes. It was impossible to distinguish whether the decline in response was because of the de-emphasizing of the mandatory messages inside the mailing or because of the absence of mandatory messaging on the envelopes.

Treatment 3, shown in Appendix F, included the same revised design elements as Treatment 2, but presented a de-emphasized version of the mandatory nature of the survey within the text of the mailings, and maintained the stronger language on the outside of most of the mailings. The second mailing, a pressure seal mailer, removed all mandatory messaging, which de-emphasized the mandatory language to a level softer than the production materials. In other mailings, the mandatory language was either similar to production or appeared in regular font instead of the bold-faced font used in the production letters.

Treatment 3 had all the same messaging on the outside of the mailings as Treatment 2, except for the postcard in the fourth mailing, which did not include “Your Response is Required by Law” on the address side. The paper questionnaire was revised in the same way as in Treatment 2, except that it did NOT include the heading “Your response is required by law.”

⁸ The expectation for the inclusion of the header “Your response is required by law” on Treatment 2’s questionnaire was that it would increase response rates, based on past testing of “mandatory” language on the ACS mail materials (Barth et al., 2015; Oliver et al., 2016). A decision was made not to add another treatment just to test this design change feature.

3.1.4 Treatment 4 (Removed Mandatory with Revised Questionnaire)

Treatment 4, shown in Appendix G, provided the third and final variation on the emphasis of the mandatory messaging. In the first two mailings, Treatment 4 had the same mandatory language as Treatment 3, but mandatory language was not in the letters in mailings 3, 4, and 5. The mandatory language remained on the outside of the mailings; however, “Open Immediately” was not included on the outside of the envelopes. While “Open Immediately” expresses urgency, it is also commonly used on junk mail, so this treatment omitted the phrase. Direct comparisons can be made to test the effectiveness of omitting “Open Immediately” from the first mailing prior to the third mailing, but not at later time points (because of design changes made to Treatment 4 starting in the third mailing).

Treatment 4 had the same revised design elements in the letters as Treatments 2 and 3. The paper questionnaire was the same as the one used in Treatment 3.

3.1.5 Treatment 5 (De-emphasized Mandatory with Production Questionnaire)

Treatment 5 used the same materials as Treatment 3, except for the questionnaire, which was identical to production, shown in Appendix H. This treatment was specifically designed to show the effect of the redesigned questionnaire on response.

3.1.6 Treatment 6 (Production with Tri-fold Pressure Seal Mailers)

The 2017 Pressure Seal Mailing Materials Test indicated that the ACS program would benefit from replacing the second and fifth mailings with pressure seal mailers (Risley & Barth, 2018). Because of efficiencies in processing and cost considerations, the National Processing Center recommended using bi-fold pressure seal mailers in production implementation. This treatment tests the use of the bi-fold mailers over the tri-fold mailers that had been tested in the 2017 Pressure Seal Mailing Materials Test.

All materials are the same as production, except for the type of pressure seal mailer in the second and fifth mailing. Production uses a bi-fold pressure seal mailer that is folded in half, shown in Appendix C, while Treatment 6 uses a tri-fold pressure seal mailer that is folded into thirds, shown in Appendix I.

3.1.7 Treatment 7 (Production, Sorted Separately)

Treatment 7 had materials identical to production materials, shown in Appendix C. This treatment was sorted separately from regular production to ensure a similar sample size to the other treatments for comparison purposes. Previous ACS testing has found that mailings that go to more respondents arrive quicker because of U.S. Postal Service (USPS) efficiencies in processing and therefore affects comparisons of return rates at points in time (Heimel, 2016). By

having a sample size comparable to the other treatments, we reduce the risk of the treatment being treated differently by the USPS.

3.2 Research Questions

1. What is the impact on self-response return rates of removing materials from the first mailing (FAQ brochure) and the third mailing (FAQ brochure and the instruction card) and modifying the letter in the mailings?
2. What is the impact on self-response return rates of using a redesigned front cover of the questionnaire? What is the impact on item nonresponse rates for the questions on the front cover of the questionnaire and the question that was moved to the first page of the questionnaire?
3. What is the impact on self-response return rates of modifying the design and wording of the mail materials? What is the impact of not including the phrase “Open Immediately” on the envelope in the first mailing?
4. What is the impact on self-response return rates of using bi-fold pressure seal mailers instead of tri-fold mailers for the second and fifth mailings?
5. What would be the cost impact, relative to current production, of implementing each experimental treatment into a full ACS production year? What would be the impact on the reliability of the ACS estimates?

3.3 Analysis Metrics

We used two-tailed hypothesis tests and a significance level of $\alpha=0.1$ to test for differences between treatments. For analysis that involved multiple comparisons, we adjusted for the Type I familywise error rate using the Hochberg method (Hochberg, 1988). Generally, we adjusted the error rate when multiple comparisons were made to answer a single research question for the same point in time. The note underneath a table will mention if the adjustment has been made for any comparisons in that table.

3.3.1 Unit Response Analysis

To assess the effect of the experimental changes on self-response, we calculated the self-response return rates at selected points in time in the data collection cycle. These points in time reflect the dates of the mailings or the end of the self-response data collection period. An increase in self-response would present a cost savings for each subsequent phase of the mailing process by decreasing the number of mailing pieces that needed to be sent. A significant increase in self-response before CAPI would decrease the number of costly interviews that would need to be conducted. Calculating the return rates at the different points in the data collection cycle gave us an idea of how the experimental treatments would affect operational and mailing costs if they were implemented into a full ACS production year.

If there was a significant decrease in response (both self-response and CAPI) by the end of the data collection period, then there may be a negative effect on the reliability of the estimates produced by the data collected. To assess whether the experimental changes affected response in this manner, we calculated final response rates and how each response mode contributed to the total final response.

3.3.1.1 Self-Response Return Rates

To evaluate the effectiveness of the experimental treatments, we calculated self-response return rates. We calculated the rates for total self-response and separately for internet and mail response. For the comparisons of return rates by mode, the small number of returns obtained from TQA were classified as mail returns. The return rates were calculated using the following formula:

$$\text{Self-Response Return Rate} = \frac{\text{Number of mailable and deliverable sample addresses that either provided a nonblank}^9 \text{ return by mail or TQA, or a complete or sufficient partial}^{10} \text{ response by internet}}{\text{Total number of mailable and deliverable sample addresses}^{11}} * 100$$

3.3.1.2 Final Response Rates

To evaluate the effect of the experimental treatments on overall response to the survey, we calculated final overall response rates as well as how each mode contributed to the overall final response rate.

The final response rates were calculated using the following formula:

$$\text{Final Response Rate} = \frac{\text{Number of eligible sample addresses that either provided a nonblank}^9 \text{ return by mail or TQA, a complete or sufficient partial}^{10} \text{ response by internet, or a complete CAPI interview}}{\text{Total number of sample addresses eligible to reply to the survey and not sampled out of CAPI}} * 100$$

⁹ A blank form is a form in which there are no persons with sufficient response data and there is no telephone number listed on the form.

¹⁰ A sufficient partial internet response is one in which the respondent provided enough data to be considered a valid response.

¹¹ We remove addresses deemed to be Undeliverable-as-Addressed by the Postal Service if no response is received.

3.3.2 Item Response Analysis

3.3.2.1 Item Nonresponse Rates

We calculated item nonresponse for the items on the front of the questionnaire to assess whether the new design affected the response to those items: *Last Name, First Name, Phone Number, and the number of people living or staying at the address*. We calculated the individual item nonresponse rates as well as the nonresponse rate for the cover as a whole, using the unedited response date. We also assessed item nonresponse for the *date of response* question. This question was on the front cover of the questionnaire in production but was on the first page of the redesigned questionnaire. We limited the universe of this analysis to mail returns, because the purpose of this analysis was to examine the effect of the changes to the questionnaire cover.

The formula for the item nonresponse rate was:

$$\text{Item Nonresponse Rate} = \frac{\text{Number of nonresponses to item of interest}}{\text{All Mail Returns}} * 100$$

$$\text{Front Cover Nonresponse Rate} = \frac{\text{Number of nonresponses to items on the front cover of the revised questionnaire}}{\text{All Mail Returns}} * 100$$

3.3.2.2 Form Completion Rates

Form completion measures the number of questions that were answered among those that should have been answered.¹² Like the item nonresponse, we limited the universe of this analysis to mail returns. We calculated the rate for the questionnaire as a whole as well as for the three sections of the questionnaire, Basic Person, Detailed Person, and Housing. The formulas used for the form completion rates were:

$$\text{Section Completion Rate} = \frac{\text{Number of questions answered in a section across all mail returns}}{\text{Number of questions that should have been answered in a section across all mail returns}} * 100$$

¹² The number of questions that should have been answered is determined based on respondent answers and questionnaire skip patterns.

$$\text{Overall Form Completion Rate} = \frac{\text{Number of questions answered in a section across all mail returns}}{\text{Number of questions that should have been answered across all mail returns}} * 100$$

3.3.3 Relative Cost Analysis

The cost differences, relative to current production, for each experimental treatment were calculated to determine how each treatment would affect costs for the ACS program. Significant differences in the return rates could affect printing, assembly, and postage costs, as well as costs for data capture and Nonresponse Followup activities.

All costs presented in this report were derived from fiscal year 2018 estimates. We used these estimates to calculate printing, assembly, and postage costs for each mailing, which were extrapolated for an annual production workload.

3.3.4 Response Reliability Analysis

Significant differences in final response, as well as the distribution of mode of those responses, have the potential to impact the reliability of the ACS estimates. To determine if there would be a change in reliability, we calculated final response rates as well as how each mode of response contributed to the final response. Each experimental treatment was then compared to Treatment 7 (Production, Sorted Separately).

We calculated the changes in the reliability of the estimates under a series of cost and sampling scenarios to assess the potential impact on reliability of each treatment. The metric used to measure this is the ratio of the sum of the completed interview squared weights for one of the experimental treatments to Treatment 7. This ratio estimates the reduction in variance across all ACS estimates rather than the impact on specific characteristics. The estimated reduction in margin of error can then be calculated by taking the square root. The three scenarios used to assess each treatment were:

- Keep current sample size.
- Adjust the current sample size to keep the reliability unchanged.
- Adjust the current sample size to keep survey costs unchanged.

3.3.5 Calculation of Standard Errors

All variances were estimated using the Successive Differences Replication (SDR) method with replicate weights, the standard method used for the ACS.¹³ The variance for each rate and difference was calculated using the following formula:

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

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 .

The standard error of an estimate is the square root of the estimated variance.

3.3.6 Weighting

All self-response analyses, except for the relative cost analysis, were weighted using the ACS base sampling weight (the inverse of the probability of selection).¹⁴ For all calculations involving CAPI responses, the weights were adjusted with a subsampling factor, which was multiplied by the base weight. All nonresponding addresses in the initial sample were eligible for the CAPI sample, including unmailable and undeliverable addresses. Addresses eligible for CAPI were sampled at a rate of about one in three, because of the high cost of obtaining a response by personal interviews.

4. ASSUMPTIONS AND LIMITATIONS

4.1 Assumptions

- A single ACS monthly sample is representative of an entire year (twelve 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.
- We assume that 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. Previous research indicated that postal procedures alone could cause a difference in response rates at a given point in time between

¹³ See Chapter 12 of the ACS Design and Methodology document for details and references regarding the successive differences (SDR) method for variance estimation (U.S. Census Bureau, 2014).

¹⁴ Check-in rates calculated for costs analysis were not weighted because they were used to estimate workloads for analysis of data collection costs.

experimental treatments of different sizes, with response for the smaller treatments lagging (Heimel, 2016).

- While the paper questionnaire is written in English (a Spanish language questionnaire is available on request), there is a Spanish paragraph on the current front page of the questionnaire that provides information on how to respond in Spanish. Because of space constraints, the Spanish text on the cover of the redesigned paper questionnaire was reduced to a brief sentence and a telephone number describing how to respond or get help. We assume this will have minimal effect on Spanish language response, because we get very few self-responses in Spanish. The majority of ACS Spanish responses are conducted as personal interviews.
- The effect of the questionnaire changes seen by comparing Treatment 3 to Treatment 5 would apply to the either treatments, despite there being potential differences in the universe of paper questionnaire recipients.
- There was not a treatment to test this specific design feature, but the expectation for the inclusion of the header “Your response is required by law” on Treatment 2’s questionnaire was that it would increase response rates, based on past testing of “mandatory” language on the ACS mail materials (Barth et al., 2015; Oliver et al., 2016).

4.2 Limitations

- Group quarters and sample housing unit addresses from remote Alaska and Puerto Rico are not included in the sample for the test.
- The relative cost analysis uses estimates to make cost projections. These estimates do not account for monthly variability in production costs, such as changes in staffing, production rates, or printing price adjustments.

5. RESULTS

5.1 Response Analysis

5.1.1 Removal of Materials in the Mailings

What is the impact on self-response return rates of removing materials from the first mailing (FAQ brochure) and the third mailing (FAQ brochure and the instruction card) and modifying the letter in the mailings?

To answer this question, we calculated and compared self-response return rates between Treatment 7 and Treatment 1. Treatment 1 differed from Treatment 7 by removing the FAQ brochure from the first mailing and removing the FAQ brochure and the instruction card from the third mailing. Instead, some FAQ information and some language about cybersecurity from the front of the letters was placed on the back of the letters.

Since an increase in self-response would decrease the cost of subsequent phases of the data collection cycle targeting nonresponders, we compared self-response return rates for the universe of all mailable sampled addresses just before the third mailing, before the fifth mailing, and before the start of CAPI. We compared return rates by response mode and overall (modes combined).

Shown in Table 1, removing materials from the first and third mailings and adding the information to the back of the letters did not have a statistically significant impact on self-response returns rates at any calculated point in time. This was true both overall and by response mode for each point in time examined. This result indicates that this change could be made without a negative impact on response while having a potentially positive impact on cost (see section 5.2 for discussion of cost impact).

Table 1. Self-Response Return Rates: Comparison of Treatment 1 (Materials Removed) to Treatment 7 (Full Production Materials)

Point in Data Collection Cycle and Mode	Treatment 1	Treatment 7	Difference	P-Value
Before the Third Mailing	23.3 (0.3)	22.7 (0.4)	0.6 (0.5)	0.24
Mail & TQA	0.3 (<0.1)	0.2 (<0.1)	<0.1 (0.1)	0.55
Internet	23.1 (0.3)	22.5 (0.4)	0.6 (0.5)	0.26
Before the Fifth Mailing	46.0 (0.4)	45.4 (0.3)	0.6 (0.6)	0.34
Mail & TQA	15.3 (0.3)	15.0 (0.3)	0.3 (0.4)	0.35
Internet	30.7 (0.4)	30.4 (0.4)	0.2 (0.5)	0.67
Before CAPI	50.6 (0.4)	50.2 (0.4)	0.4 (0.6)	0.59
Mail & TQA	17.5 (0.3)	17.3 (0.3)	0.2 (0.4)	0.52
Internet	33.1 (0.4)	33.0 (0.4)	0.1 (0.6)	0.84

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

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.

5.1.2 Redesign of the Questionnaire Cover

5.1.2.1 Redesign’s Effect on Unit Level Response

What is the impact on self-response return rates of using a redesigned front cover of the questionnaire?

To assess the impact on self-response of redesigning the front cover of the questionnaire, we calculated and compared the self-response return rates of the addresses that were mailed the questionnaire package (third mailing). Treatment 3 used the revised questionnaire and Treatment 5 used the production questionnaire. We compared the rates before the fifth mailing and before the start of CAPI for each response mode (internet and mail separately) and overall (modes combined).

As shown in Table 2, the redesigned front cover of the questionnaire had a statistically significant impact on self-response. Treatment 3 had a self-response return rate that was about 1 percentage point higher than Treatment 5 both before the fifth mailing as well as before CAPI. These differences were not driven by any single mode, as neither mode was significantly different at either time point.

Table 2. Self-Response Return Rates: Comparison of Treatment 3 (Revised Questionnaire) and Treatment 5 (Production Questionnaire)

Point in Data Collection Cycle and Mode	Treatment 3	Treatment 5	Difference	P-Value
Before the Fifth Mailing	33.3 (0.4)	32.3 (0.4)	1.0 (0.5)	0.07*
Mail & TQA	18.3 (0.4)	17.6 (0.4)	0.7 (0.5)	0.17
Internet	15.0 (0.4)	14.8 (0.3)	0.3 (0.5)	0.56
Before CAPI	41.1 (0.4)	39.9 (0.4)	1.2 (0.6)	0.04*
Mail & TQA	21.8 (0.4)	21.0 (0.4)	0.8 (0.6)	0.16
Internet	19.3 (0.4)	18.9 (0.3)	0.4 (0.5)	0.45

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

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.

5.1.2.2 Redesign’s Effect on Item Level Response

What is the impact on item nonresponse rates for the questions on the front cover of the questionnaire and the question that was moved to the first page of the questionnaire?

To answer this research question, we calculated and compared item nonresponse rates for each item on the front cover¹⁵, as well as the section completion rates (all items on the front cover combined). Additionally, we calculated item nonresponse rates for the *date of response* question, which was on the front cover of the production questionnaire but was moved to the top of the next page on the redesigned questionnaire. This analysis included all English mail responses collected until the end of the monthly panel closeout. We were particularly interested in seeing if moving the *date of response* field to the next page had any impact on response to that item. In the 2017 Mail Design Test, moving the date field did not have a statistically significant effect on the nonresponse rate (Oliver et al., 2018).

As shown in Table 3, moving the *date of response* question to the next page did not have a statistically significant effect on its item nonresponse rate.

¹⁵ The items on the front cover are: the respondent’s first name, the respondent’s last name, the respondent’s telephone number, the respondent provided number of persons living at the address, and the date of response.

Table 3. Date of Response Item Nonresponse Rate, Mail Responses: Comparison of Treatment 3 (Redesigned Questionnaire) and Treatment 5 (Production Questionnaire)

Item	Treatment 3	Treatment 5	Difference	P-Value
Date of Response	6.2 (0.5)	7.7 (0.6)	-1.5 (0.7)	0.13

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

Note: Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (*) indicates a statistically significant result after being adjusted for multiple comparisons with the four items in Table 4. Significance was tested based on a two tailed t-test at the $\alpha=0.1$ level.

Shown in Table 4, there was no statistically significant difference in item nonresponse for all the questions that remained on the front cover combined. However, there was a difference for individual items. For the *first name* and *last name* questions, the item nonresponse was higher for the revised questionnaire than for the production questionnaire.

For the remaining two questions, *telephone number* and *number of persons in household*, the difference was not statistically significant.

Table 4. Item and Front Cover Nonresponse Rates, Mail Responses: Comparison of Treatment 3 (Redesigned Questionnaire) and Treatment 5 (Production Questionnaire)

Item	Treatment 3	Treatment 5	Difference	P-Value
Front Cover Nonresponse	3.0 (0.2)	2.7 (0.2)	0.3 (0.3)	0.37
First Name	2.1 (0.2)	1.2 (0.2)	0.9 (0.3)	0.02*
Last Name	1.9 (0.2)	1.1 (0.2)	0.8 (0.3)	0.02*
Telephone Number	5.6 (0.4)	5.7 (0.4)	-0.1 (0.6)	0.86
Number of Persons in Household	2.3 (0.2)	2.8 (0.3)	-0.5 (0.4)	0.34

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

Note: Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (*) indicates a statistically significant result after being adjusted for multiple comparisons for the four items in this table and the item in Table 3. Significance was tested based on a two tailed t-test at the $\alpha=0.1$ level.

For all other questions not affected by the redesign of the questionnaire’s front cover, there was no difference in form completeness rates overall or by section between treatments, as shown in Table 5.

Table 5: Form Completeness Rates, Mail Responses: Comparison of Treatment 3 (Redesigned Questionnaire) and Treatment 5 (Production Questionnaire)

Section	Treatment 3	Treatment 5	Difference	P-value
Overall	90.4 (0.2)	90.4 (0.3)	>-0.1 (0.4)	0.97
Basic Person	96.5 (0.2)	96.6 (0.2)	-0.1 (0.2)	0.77
Detailed Person	88.3 (0.3)	88.1 (0.4)	0.1 (0.5)	0.77
Housing	93.8 (0.2)	94.1 (0.2)	-0.4 (0.3)	0.77

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

Note: Standard errors are in parentheses. Significance was tested based on a two tailed t-test at the $\alpha=0.1$ level. The p-values for the individual sections have been adjusted for multiple comparisons.

5.1.3 Wording and Design Modifications

What is the impact on self-response return rates of modifying the design and wording of the mail materials?

To assess the impact on self-response of the design and wording changes, we compared self-response return rates for the first mailing universe for four of the treatments. By comparing Treatment 1, modified production materials with fewer inserts, to Treatments 2, 3, and 4, we examined how the design elements in each experimental treatment affected self-response.

We compared self-response return rates at three time points: before the third mailing, before the fifth mailing, and before the start of CAPI by response mode (internet and mail separately) and overall (modes combined). We also calculated return rates for High Response Areas and Low Response Areas (as defined on the current Planning Database) to see if the experimental treatments affected these areas differently.¹⁶

As shown in Table 6, Treatment 2, with emphasized mandatory messaging and improved design elements, had a self-response return rate that was significantly higher than Treatment 1. This was driven by an increase in internet response, with the difference in internet return rates also being statistically significant at each of the three points in time. The mail and TQA return rates were not statistically different at any point in time. These results were not surprising, as it was consistent with the 2015 Summer Mandatory Messaging Test where a similar treatment also performed well (Oliver et al., 2016).

¹⁶ The Census Bureau's Planning Database contains select operational, housing, demographic, and socio-economic statistics from the 2010 Census the ACS 5-year files at both the block group and tract levels. It also contains the Low Response Score, which is a predicted value of mail self-response.

Table 6. Self-Response Return Rates: Comparison of Treatment 2 (Emphasized Mandatory) and Treatment 1 (Modified Production)

Point in Data Collection				
Cycle and Mode	Treatment 2	Treatment 1	Difference	P-Value
Before the Third Mailing	26.9 (0.3)	23.3 (0.3)	3.6 (0.4)	<0.01*
Mail & TQA	0.4 (0.1)	0.3 (<0.1)	0.1 (0.1)	0.71
Internet	26.5 (0.3)	23.1 (0.3)	3.5 (0.4)	<0.01*
Before the Fifth Mailing	49.3 (0.4)	46.0 (0.4)	3.3 (0.6)	<0.01*
Mail & TQA	15.1 (0.3)	15.3 (0.3)	-0.2 (0.4)	0.55
Internet	34.2 (0.4)	30.7 (0.4)	3.5 (0.5)	<0.01*
Before CAPI	55.1 (0.3)	50.6 (0.4)	4.5 (0.6)	<0.01*
Mail & TQA	17.8 (0.3)	17.5 (0.3)	0.3 (0.4)	0.51
Internet	37.3 (0.4)	33.1 (0.4)	4.2 (0.5)	<0.01*

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

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

As shown in Table 7, Treatment 3, with de-emphasized mandatory language and improved design elements, had a significantly higher self-response return rate than Treatment 1 before the start of the CAPI operation. This difference of 1.9 percentage points was driven by the internet response mode.

Table 7. Self-Response Return Rates: Comparison of Treatment 3 (De-emphasized Mandatory) and Treatment 1 (Modified Production)

Point in Data Collection				
Cycle and Mode	Treatment 3	Treatment 1	Difference	P-Value
Before the Third Mailing	24.1 (0.4)	23.3 (0.3)	0.8 (0.5)	0.23
Mail & TQA	0.3 (<0.1)	0.3 (<0.1)	<0.1 (0.1)	0.97
Internet	23.8 (0.4)	23.1 (0.3)	0.8 (0.5)	0.24
Before the Fifth Mailing	46.2 (0.4)	46.0 (0.4)	0.2 (0.6)	0.80
Mail & TQA	15.0 (0.3)	15.3 (0.3)	-0.4 (0.5)	0.55
Internet	31.2 (0.4)	30.7 (0.4)	0.5 (0.6)	0.70
Before CAPI	52.5 (0.4)	50.6 (0.4)	1.9 (0.6)	<0.01*
Mail & TQA	17.8 (0.3)	17.5 (0.3)	0.3 (0.5)	0.51
Internet	34.6 (0.4)	33.1 (0.4)	1.6 (0.6)	0.01*

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

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

As shown in Table 8, Treatment 4, which had improved design elements but removed mandatory messaging in the last three mailings, had less response than Treatment 1 before the

fifth mailing. This was driven by a statistically significant lower mail return rate. At the time point before the CAPI operation, the mail return rate remains significantly lower for Treatment 4, but the overall rate was no longer significantly different.

Table 8. Self-Response Return Rates: Comparison of Treatment 4 (Removed Mandatory) and Treatment 1 (Modified Production)

Point in Data Collection Cycle and Mode	Treatment 4	Treatment 1	Difference	P-Value
Before the Third Mailing	23.2 (0.3)	23.3 (0.3)	-0.1 (0.4)	0.76
Mail & TQA	0.3 (<0.1)	0.3 (<0.1)	<0.1 (0.1)	0.97
Internet	22.9 (0.3)	23.1 (0.3)	0.1 (0.4)	0.75
Before the Fifth Mailing	44.6 (0.4)	46.0 (0.4)	-1.4 (0.6)	0.03*
Mail & TQA	14.0 (0.3)	15.3 (0.3)	-1.3 (0.4)	<0.01*
Internet	30.6 (0.4)	30.7 (0.4)	-0.1 (0.5)	0.91
Before CAPI	49.9 (0.5)	50.6 (0.4)	-0.7 (0.6)	0.26
Mail & TQA	16.3 (0.3)	17.5 (0.3)	-1.2 (0.4)	0.01*
Internet	33.6 (0.4)	33.1 (0.4)	0.6 (0.5)	0.29

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

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

In addition to the overall self-response return rates, we compared the difference in return rates between High and Low response areas. We then compared this difference for each treatment. The purpose of this analysis was to understand if the changes to the materials affect respondents differently in High and Low response areas. As show in Table 9, Table 10, and Table 11, none of the three experimental treatments had a difference in response that was significantly different from Treatment 1. This suggests that increase in self-response for Treatment 2, seen in Table 6, and for Treatment 3, seen in Table 7, was due to increases in Low response areas as well as High response areas.

Table 9: Difference in Response between the High and Low Response Areas: Comparison to Treatment 1 (Modified Production) Before the Third Mailing

	Treatment 1	Treatment 2	Treatment 3	Treatment 4
High Response Areas	26.5 (0.4)	30.2 (0.4)	27.3 (0.4)	26.3 (0.4)
Low Response Areas	13.3 (0.4)	16.9 (0.7)	14.2 (0.5)	13.6 (0.6)
Difference in Response(DIR)	13.2 (0.6)	13.3 (0.8)	13.2 (0.7)	12.6 (0.8)
DIR Difference	-	-0.1 (0.9)	>-0.1 (0.8)	0.6 (0.9)

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

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

Table 10: Difference in Response between the High and Low Response Areas: Comparison to Treatment 1 (Modified Production) Before the Fifth Mailing

	Treatment 1	Treatment 2	Treatment 3	Treatment 4
High Response Areas	51.5 (0.5)	54.3 (0.4)	51.6 (0.5)	49.9 (0.5)
Low Response Areas	29.0 (0.7)	34.0 (0.7)	29.6 (0.7)	28.2 (0.8)
Difference in Response(DIR)	22.5 (0.9)	20.3 (0.9)	22.0 (0.7)	21.7 (0.9)
DIR Difference	-	2.2 (1.2)	0.5 (1.1)	0.8 (1.2)

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

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

Table 11: Difference in Response between the High and Low Response Areas: Comparison to Treatment 1 (Modified Production) Before CAPI

	Treatment 1	Treatment 2	Treatment 3	Treatment 4
High Response Areas	56.4 (0.5)	60.5 (0.4)	58.4 (0.5)	55.4 (0.5)
Low Response Areas	32.4 (0.7)	38.7 (0.7)	34.4 (0.7)	32.9 (0.8)
Difference in Response(DIR)	24.0 (0.9)	21.8 (0.9)	24.1 (0.8)	22.5 (1.0)
DIR Difference	-	2.3 (1.2)	> -0.1 (1.0)	1.5 (1.2)

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

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

So far, we examined how these experimental treatments compare to Treatment 1. The following analysis looks at how they compare to each other.

Shown in Table 12 and Table 13, at all three time points, Treatment 2, with the strongest mandatory language, performed better than Treatment 3 and Treatment 4, which had de-emphasized and minimal mandatory messaging respectively. Treatment 2 had internet returns rates that were significantly higher than Treatment 3 at all three time points. There was no difference in the mail return rates between Treatments 2 and 3 at any point in time. On the

other hand, Treatment 2 performed better than Treatment 4, because both had a significantly higher internet return rate at all three of the time points and Treatment 2 additionally had a significantly higher mail return rate at the latter two time points.

Table 12. Self-Response Return Rates: Comparison of Treatment 2 (Emphasized Mandatory) and Treatment 3 (De-emphasized Mandatory)

Point in Data Collection Cycle and Mode	Treatment 2	Treatment 3	Difference	P-Value
Before the Third Mailing	26.9 (0.3)	24.1 (0.4)	2.8 (0.5)	<0.01*
Mail & TQA	0.4 (0.1)	0.3 (<0.1)	0.1 (0.1)	0.45
Internet	26.5 (0.3)	23.8 (0.4)	2.7 (0.5)	<0.01*
Before the Fifth Mailing	49.3 (0.4)	46.2 (0.4)	3.1 (0.6)	<0.01*
Mail & TQA	15.1 (0.3)	15.0 (0.3)	0.1 (0.4)	0.73
Internet	34.2 (0.4)	31.2 (0.4)	3.0 (0.6)	<0.01*
Before CAPI	55.1 (0.3)	52.5 (0.4)	2.6 (0.6)	<0.01*
Mail & TQA	17.8 (0.3)	17.8 (0.3)	<0.1 (0.4)	0.98
Internet	37.3 (0.4)	34.6 (0.4)	2.6 (0.6)	<0.01*

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

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

Table 13. Self-Response Return Rates: Comparison of Treatment 2 (Emphasized Mandatory) and Treatment 4 (Removed Mandatory)

Point in Data Collection Cycle and Mode	Treatment 2	Treatment 4	Difference	P-Value
Before the Third Mailing	26.9 (0.3)	23.2 (0.3)	3.7 (0.4)	<0.01*
Mail & TQA	0.4 (0.1)	0.3 (<0.1)	0.1 (0.1)	0.45
Internet	26.5 (0.3)	22.9 (0.3)	3.6 (0.4)	<0.01*
Before the Fifth Mailing	49.3 (0.4)	44.6 (0.4)	4.7 (0.5)	<0.01*
Mail & TQA	15.1 (0.3)	14.0 (0.3)	1.1 (0.4)	0.04*
Internet	34.2 (0.4)	30.6 (0.4)	3.6 (0.5)	<0.01*
Before CAPI	55.1 (0.3)	49.9 (0.5)	5.2 (0.5)	<0.01*
Mail & TQA	17.8 (0.3)	16.3 (0.3)	1.6 (0.5)	<0.01*
Internet	37.3 (0.4)	33.6 (0.4)	3.6 (0.5)	<0.01*

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

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

As shown in Table 14, Treatment 3, which had de-emphasized mandatory messaging, performed consistently better than Treatment 4, which removed mandatory messaging from three of the letters. Treatment 3 had an overall self-response return rate that was significantly higher than

Treatment 4 before the third mailing, caused by a significantly higher internet return rate. Before the fifth mailing, the internet return rates were no longer significantly different, but the mail return rate had become significantly lower for Treatment 4, causing the overall self-response return rate to be lower. Finally, before CAPI Treatment 4 had both a mail return rate and an internet return rate that was significantly lower than Treatment 3. This led to the overall self-response return rate of Treatment 4 to be 2.6 percentage points lower than Treatment 3.

Table 14. Mail Self-Response Return Rates: Comparison of Treatment 3 (De-emphasized Mandatory) and Treatment 4 (Removed Mandatory)

Point in Data Collection Cycle and Mode	Treatment 3	Treatment 4	Difference	P-Value
Before the Third Mailing	24.1 (0.4)	23.2 (0.3)	0.9 (0.5)	0.06*
Mail & TQA	0.3 (<0.1)	0.3 (<0.1)	>0.1 (0.1)	0.97
Internet	23.8 (0.4)	22.9 (0.3)	0.9 (0.5)	0.06*
Before the Fifth Mailing	46.2 (0.4)	44.6 (0.4)	1.6 (0.6)	0.01*
Mail & TQA	15.0 (0.3)	14.0 (0.3)	1.0 (0.5)	0.08*
Internet	31.2 (0.4)	30.6 (0.4)	0.6 (0.6)	0.32
Before CAPI	52.5 (0.4)	49.9 (0.5)	2.6 (0.6)	<0.01*
Mail & TQA	17.8 (0.3)	16.3 (0.3)	1.6 (0.5)	<0.01*
Internet	34.6 (0.4)	33.6 (0.4)	1.0 (0.6)	0.10*

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

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

What is the impact of not including the phrase “Open Immediately” on the envelope in the first mailing?

To assess the impact on self-response of not including the phrase “Open Immediately” on the envelope in the first mailing, we calculated and compared self-response return rates for Treatments 3 and 5 combined, with “Open Immediately”, to Treatment 4, without “Open Immediately”. The removal of “Open Immediately” was the only difference in the treatments for the first two mailings. We compared self-response return rates just before the third mailing for the first mailing universe.

Shown in Table 15, including “Open Immediately” on the initial envelope increased self-response by a statistically significant amount. Before the third mailing, the treatments that included “Open Immediately” had a self-response return rate that was 0.8 percentage points higher than the treatment without.

Table 15. Self-Response Return Rates: Comparison of Treatment 4 (without “Open Immediately”) with Treatments 3 and 5 Combined (“With Open Immediately”)

Point in Data Collection Cycle and Mode	Treatments 3 and 5 Combined		Difference	P-Value
	Treatment 3	Treatment 4		
Before the Third Mailing	24.0 (0.2)	23.2 (0.3)	0.8 (0.4)	0.06*
Mail & TQA	0.3 (<0.1)	0.3 (<0.1)	<0.1 (0.1)	0.59
Internet	23.7 (0.2)	22.9 (0.3)	0.7 (0.4)	0.07*

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

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.

5.1.4 Pressure Seal Mailer Design

What is the impact on self-response return rates of using bi-fold pressure seal mailers instead of tri-fold mailers for the 2nd and 5th mailings?

To assess the impact on self-response of using bi-fold pressure seal mailers instead of tri-fold mailers for the second and fifth mailings, we calculated and compared self-response return rates for Treatment 6 (tri-fold) and Treatment 7 (bi-fold). We compared self-response return rates, for the first mailing universe, before the third mailing, before the fifth mailing, and before the start of CAPI. We compared return rates by response mode (internet and mail separately) and overall (modes combined) using a two-tailed hypothesis test.

Shown in Table 16, using tri-fold pressure seal mailers instead of bi-fold pressure seal mailers in the second and fifth mailings did not have a statistically significant impact. At all three measured time points there was no statistically significant difference between Treatment 7 and Treatment 6, overall and by mode. While the decision to use bi-fold mailers was based on logistic concerns, there is no evidence that they perform better or worse than tri-fold mailers.

Table 16. Self-Response Return Rates: Comparison of Treatment 6 (Tri-Fold) and Treatment 7 (Bi-fold)

Point in Data Collection				
Cycle and Mode	Treatment 7	Treatment 6	Difference	P-Value
Before the Third Mailing	22.7 (0.4)	22.9 (0.4)	-0.2 (0.5)	0.76
Mail & TQA	0.2 (<0.1)	0.2 (<0.1)	0.1 (<0.1)	0.14
Internet	22.5 (0.4)	22.7 (0.4)	-0.2 (0.5)	0.65
Before the Fifth Mailing	45.4 (0.3)	45.0 (0.4)	0.4 (0.5)	0.46
Mail & TQA	15.0 (0.3)	14.5 (0.3)	0.5 (0.4)	0.15
Internet	30.4 (0.4)	30.6 (0.4)	-0.1 (0.5)	0.80
Before CAPI	50.2 (0.4)	50.4 (0.4)	-0.1 (0.6)	0.82
Mail & TQA	17.3 (0.3)	17.0 (0.3)	0.2 (0.4)	0.52
Internet	33.0 (0.4)	33.3 (0.4)	-0.4 (0.5)	0.48

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

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.

5.2 Relative Cost Analysis

What would be the cost impact, relative to current production, of implementing each experimental treatment into a full ACS panel?

5.2.1 Overall Self-Response Return Rate Results

A difference in response at certain times in the data collection cycle could affect data collection costs. Those points in time are before the third mailing, before the fifth mailing, and before the start of the CAPI operation. Differences at these time points affect the workloads of later mailings and the CAPI operation. Table 17, Table 18, and Table 19 show the self-response rates for each treatment at these three time points. These rates are based on the first mailing universe, which includes all sample addresses that were mailed the first mailing and excludes unmailable and undeliverable addresses.

Table 17: Overall Self-Response Return Rates, Treatment 7 (Full Production Materials) vs. Each Experimental Treatment

Treatment	Before Third Mailing	Before Fifth Mailing	Before CAPI
1. Production with Select Materials Removed	23.3 (0.3)	46.0 (0.4)	50.6 (0.4)
2. Emphasized Mandatory, Revised Questionnaire	26.9 (0.3)*	49.3 (0.4)*	55.1 (0.3)*
3. De-emphasized Mandatory, Revised Questionnaire	24.1 (0.4)*	46.2 (0.4)	52.5 (0.4)*
4. Removed Mandatory, Revised Questionnaire	23.2 (0.3)	44.6 (0.4)	49.9 (0.5)
5. De-emphasized Mandatory, Production Questionnaire	23.8 (0.3)*	45.3 (0.4)	51.4 (0.4)*
6. Production with Tri-fold Pressure Seal	22.9 (0.4)	45.0 (0.4)	50.4 (0.4)
7. Production, Sorted Separately	22.7 (0.4)	45.4 (0.4)	50.2 (0.4)

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

Note: Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (*) indicates a statistically significant result between that treatment and Treatment 7 after being adjusted for multiple comparisons. Significance was tested based on a two tailed t-test at the $\alpha=0.1$ level.

Table 18: Mail and TQA Return Rates, Treatment 7 (Full Production Materials) vs. Each Experimental Treatment

Treatment	Before Third Mailing	Before Fifth Mailing	Before CAPI
1. Production with Select Materials Removed	0.3 (<0.1)	15.3 (0.3)	17.5 (0.3)
2. Emphasized Mandatory, Revised Questionnaire	0.4 (0.1)	15.1 (0.3)	17.8 (0.3)
3. De-emphasized Mandatory, Revised Questionnaire	0.3 (<0.1)	15.0 (0.3)	17.8 (0.3)
4. Removed Mandatory, Revised Questionnaire	0.3 (<0.1)	14.0 (0.3)*	16.3 (0.3)*
5. De-emphasized Mandatory, Production Questionnaire	0.3 (0.1)	14.5 (0.3)	17.2 (0.3)
6. Production with Tri-fold Pressure Seal	0.2 (<0.1)	14.5 (0.3)	17.0 (0.3)
7. Production, Sorted Separately	0.2 (<0.1)	15.0 (0.3)	17.3 (0.3)

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

Note: Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (*) indicates a statistically significant result between that treatment and Treatment 7 after being adjusted for multiple comparisons. Significance was tested based on a two tailed t-test at the $\alpha=0.1$ level.

Table 19: Internet Return Rates, Treatment 7 (Full Production Materials) vs. Each Experimental Treatment

Treatment	Before Third Mailing	Before Fifth Mailing	Before CAPI
1. Production with Select Materials Removed	23.1 (0.3)	30.7 (0.4)	33.1 (0.4)
2. Emphasized Mandatory, Revised Questionnaire	26.5 (0.3)*	34.2 (0.4)*	37.3 (0.4)*
3. De-emphasized Mandatory, Revised Questionnaire	23.8 (0.4)*	31.2 (0.4)	34.6 (0.4)*
4. Removed Mandatory, Revised Questionnaire	22.9 (0.3)	30.6 (0.4)	33.6 (0.4)
5. De-emphasized Mandatory, Production Questionnaire	23.5 (0.3)	30.8 (0.3)	34.2 (0.3)
6. Production with Tri-fold Pressure Seal	22.7 (0.4)	30.6 (0.4)	33.3 (0.4)
7. Production, Sorted Separately	22.5 (0.4)	30.4 (0.4)	33.0 (0.4)

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

Note: Minor additive discrepancies are due to rounding. Standard errors are in parentheses. An asterisk (*) indicates a statistically significant result between that treatment and Treatment 7 after being adjusted for multiple comparisons. Significance was tested based on a two tailed t-test at the $\alpha=0.1$ level.

Shown in Tables 17 through 19, three treatments had a self-response return rate that were significantly different from Treatment 7 for at least one time point in time. Treatment 2 was significantly different at all three points in time; Treatment 3 and Treatment 5 were both significantly different before the third mailing and before CAPI. In each case, the experimental treatment performed better than Treatment 7.

While Treatment 4 did not have an overall-response return rate that was different from production before CAPI, it did have a mail return rate that was significantly lower. However, this difference was no longer significant at Closeout so ultimately it would not affect return postage costs and data capture costs.

5.2.2 Estimated Cost Impacts

In addition to differences in self-response, there were cost differences due to the materials used in each treatment. For the first five treatments, two of the mailings had fewer materials than production and therefore cost less to produce. The first five treatments removed the FAQ brochure from the first mailing and removed both the FAQ brochure and the instruction card from the third mailing.

Differences in costs are driven by differences in the mailing materials and differences in self-response. Treatment 1, Treatment 4, and Treatment 6 had return rates that were not significantly different from Treatment 7 at the important time points, so any cost differences are because of differences in materials. The remaining three treatments (Treatment 2, Treatment 3,

and Treatment 5) had differences in cost because of both differences in self-response and differences in materials.

Table 20 shows a predicted change in the annual cost of the ACS program for the three treatments that had return rates that were no different from Treatment 7. Implementing Treatment 1 and Treatment 4, where mailing pieces were removed from the first and third mailings, would decrease the annual cost of the ACS program by an estimated \$437,000. For Treatment 6, the only change from production was the use of tri-fold pressure seal mailers instead of bi-fold pressure seal mailers, which has no difference in cost. Therefore, with no difference in return rates and no difference in materials costs, there is no predicted cost difference if Treatment 6 was implemented.

Table 20: ACS Annual Total Cost Estimates: Comparison between Treatment 7 and Other Treatments

Mail Material	Point Estimate of the Cost Difference from Treatment 7
Treatment 1 (Modified Production)	\$(437,000)
Treatment 4 (Removed Mandatory)	\$(437,000)
Treatment 6 (Tri-fold Pressure Seal Mailer)	\$0

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

Note: Negative values are denoted with parentheses and indicate a cost savings.

For the remaining treatments, Table 21 shows that the implementation of all three treatments would result in cost savings for the ACS program. The largest savings are predicted for Treatment 2, with an estimated reduction in cost of nearly \$12 million.

Table 21: ACS Annual Total Cost Estimates: Comparison between Treatment 7 and Other Treatments

Mail Material	Point Estimate of the Cost Difference from Treatment 7
Treatment 2 (Emphasized Mandatory)	\$(11,774,000)
Treatment 3 (De-emphasized Mandatory)	\$(4,733,000)
Treatment 5 (De-emphasized with Production Questionnaire)	\$(3,415,000)

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

Note: Negative values are denoted with parentheses and indicate a cost savings.

5.3 Reliability Analysis

What would be the impact on reliability of the ACS estimates of implementing each experimental treatment into a full ACS panel?

Significant differences in the overall final response and the mode distribution of final response affect the reliability of the estimates. As described in section 3.3.4, the reliability metrics were calculated only for treatments that had overall self-response return rates that were significantly different from Treatment 7 prior to CAPI. As was previously shown in Table 19, only three met this criteria: Treatment 2, Treatment 3, and Treatment 5.

As shown in Table 22, none of the three treatments had a final response rate that was significantly different from Treatment 7. However, all three treatments have a difference in the modes of response that are significantly different.

Table 22. Final Response Rates and Response Distributions by Mode

	Treatment 2	Treatment 3	Treatment 5	Treatment 7
Overall Response	92.7 (0.4)	91.9 (0.3)	91.9 (0.3)	91.7 (0.4)
Self-Response	57.0 (0.5)*	53.9 (0.6)*	53.7 (0.5)*	51.8 (0.6)
Mail & TQA	18.1 (0.3)	17.9 (0.3)	17.9 (0.3)	17.6 (0.3)
Internet	38.9 (0.5)*	36.0 (0.5)*	35.8 (0.4)*	34.2 (0.5)
CAPI	35.7 (0.5)*	38.1 (0.6)*	38.1 (0.5)*	39.9 (0.6)

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

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

To examine the predicted impact of implementing each experimental treatment on the reliability of estimates we consider three scenarios:

- Change the reliability by maintaining the current sample size.
- Keep the reliability unchanged by adjusting the current sample size.
- Keep survey costs unchanged by adjusting the current sample size.

5.3.1 Maintaining the Current Sample Size

As shown in Table 23, the implementation of all three of these experimental treatments into ACS production would increase reliability. The largest increase in reliability is estimated for Treatment 2, where the margin of error is estimated to decrease by 1.1 percent.

Table 23. Treatment Implementation’s Estimated Effect on Reliability

	Treatment 2	Treatment 3	Treatment 5	Treatment 7
Initial Sample (m)	3.540	3.540	3.540	3.540
Expected Completed Interviews (m)	2.256	2.209	2.189	2.170
Change in Completed Interviews (m)	0.086	0.039	0.019	-
Estimated Change in Variance	-2.2%	-1.2%	-0.6%	-
Estimated Change in Margin of Error	-1.1%	-0.6%	-0.3%	-

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

Note: Minor additive discrepancies are due to rounding. Initial sample and completed interviews are given in millions.

5.3.2 Maintain Current Reliability by Adjusting Initial Sample Size

As shown in Table 24, it is estimated that for all three of these experimental treatments, the initial sample could be decreased while maintaining the current reliability of estimates. The largest decrease in the initial sample that would maintain reliability is estimated for Treatment 2, where the initial sample could be decreased by 2.2 percent.

Table 24. Estimated Change to Sample Size to Maintain Current Reliability

	Treatment 2	Treatment 3	Treatment 5	Treatment 7
Initial Sample (m)	3.461	3.497	3.520	3.540
Difference from Current Sample (m)	-0.079	-0.043	0.020	-
% Difference from Current Sample	-2.2%	-1.2%	-0.6%	-

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

Note: Minor additive discrepancies are due to rounding. Initial sample and difference from current sample are given in millions.

5.3.3 Maintain Current Survey Costs by Adjusting Initial Sample Size

As shown in Table 25, it is estimated that for all three of these experimental treatments the initial sample could be increased while maintaining the current survey costs, resulting in decreases in the margin of error. The largest increase in reliability is estimated for Treatment 2, where the initial sample could be increased by 8.8%, causing an estimated decrease in the margin of error of 5.2 percent.

Table 25. Estimated Effect on Reliability if Maintaining Current Survey Costs

	Treatment 2	Treatment 3	Treatment 5	Treatment 7
Initial Sample (m)	3.852	3.660	3.626	3.540
Expected Completed Interviews (m)	2.455	2.284	2.242	2.170
Change in Completed Interviews (m)	0.285	0.114	0.072	-
Estimated Change in Variance	-10.2%	-4.4%	-2.9%	-
Estimated Change in Margin of Error	-5.2%	-2.2%	-1.5%	-

Source: U.S. Census Bureau, American Community Survey, 2018 ACS Mail Materials Test, CBDRB-FY20-ACSO003-B0014

Note: Minor additive discrepancies are due to rounding. Initial sample and completed interviews are given in millions.

6. CONCLUSIONS

- Emphasizing the mandatory messaging as well as making design changes increased self-response by 4.5 percentage points higher prior to the CAPI operation. This was due to an increase in internet response. Implementing this treatment in ACS productions is estimated to reduce the yearly operating cost of the ACS by about \$12 million and reduce margins of error by 1.1 percent.
- Making design changes but de-emphasizing the mandatory messaging increased self-response by 1.9 percentage points prior to CAPI. That increase was driven by the internet mode. Implementing this in ACS production is estimated to reduce the yearly operating cost of the ACS by about \$5 million and reduce margins of error by 0.6 percent.
- Making the design changes and de-emphasizing the mandatory messaging the most of any treatment reduced self-response prior to the fifth mailing by 1.4 percentage points. By the start of CAPI, there was no longer a difference overall, but the mail response was still lower by 1.2 percentage points. Implementing this in ACS production is estimated to reduce the yearly operating cost of the ACS by an estimated \$650,000 and reduce margins of error by 0.3 percent.
- Removing the FAQ brochure from the first and third mailings and the instruction card from the third mailing reduced printing costs and did not adversely affect self-response.

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- Adding the phrase “open immediately” to the initial envelope increased overall self-response before the third mailing by 0.8 percentage points.
- Bi-fold pressure seal mailers can continue to be used in production, as there was no statistically significant difference between using the tri-fold pressure seal mailers and the bi-fold mailers.
- The revision to the questionnaire cover (i.e., adding icons, revising the layout, and adding more information) increased self-response prior to CAPI by 1.2 percentage points.
- Moving the *date of response* field from the front cover to inside the questionnaire (as part of the front cover revisions) did not significantly affect its item nonresponse rate. However, for two of the items remaining on the cover, *first name* and *last name*, there was an increase in item nonresponse.
- The preliminary results of this experiment were positive enough that Treatment 2 was implemented into ACS production in January 2020.

7. REFERENCES

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Appendix A. 2018 Mailing Descriptions and Schedule for the 2018 September Production Panel

Table 26. 2018 September Production Panel Mailing Descriptions and Schedule

Mailing	Description of Materials	Mailout Date
First Mailing	A package of materials containing the following: Introduction Letter, Frequently Asked Questions (FAQ) Brochure, Multi-Lingual Informational Brochure, and Instruction Card. This mailing urges housing units to respond by the internet.	08/30/18
Second Mailing	A pressure sealed reminder letter sent to all addresses that were sent the Initial Mailing Package, reiterating the request to respond.	09/07/18
Third Mailing	A package of materials sent to addresses that have not responded. Contains the following: Letter, Paper Questionnaire, Return Envelope, Instruction Card, and FAQ Brochure.	09/20/18
Fourth Mailing	A reminder postcard sent to all addresses that were also sent the Paper Questionnaire Package, reiterating the request to respond.	09/24/18
Fifth Mailing	An additional pressure sealed reminder sent to addresses that have not yet responded and are ineligible for telephone follow up.	10/12/18

Appendix B. Description of Experimental Treatments

Table 27. Contents of the First Mailing for Each Treatment

Mailing Contents	Current Production	Treatment 1 (Production with Select Materials Removed)	Treatment 2 (Emphasized Mandatory with Revised Questionnaire)	Treatment 3 (De-emphasized Mandatory with Revised Questionnaire)	Treatment 4 (Removed Mandatory with Revised Questionnaire)	Treatment 5 (De-emphasized Mandatory with Production Questionnaire)	Treatment 6 (Production with Tri-fold Pressure Seal Mailers)	Treatment 7 (Production, Sorted Separately)
Outgoing Envelope	Your Response is Required by Law	Your Response is Required by Law	Your Response is Required by Law Open Immediately†	Your Response is Required by Law Open Immediately†	Your Response is Required by Law	Your Response is Required by Law Open Immediately†	Your Response is Required by Law	Your Response is Required by Law
FAQ Brochure	YES	NO†	NO†	NO†	NO†	NO†	YES	YES
Letter Design	Current design No Callout Box	Current design No Callout Box	Updated design Callout Box†	Updated design Callout Box†	Updated design Callout Box†	Updated design Callout Box†	Current design No Callout Box	Current design No Callout Box
Letter Wording	Current wording	Current wording; Cybersecurity removed from front; FAQ Information added to back	Emphasized mandatory, FAQ information added to back	Mandatory wording similar to Treatment 1, FAQ information added to back†	Mandatory wording similar to Treatment 1, FAQ information added to back†	Mandatory wording similar to Treatment 1, FAQ information added to back†	Current wording	Current wording

Note: The areas marked with † in this table indicate how the treatment differs from current production.

Table 28. Contents of the Second Mailing for Each Treatment

Mailing Contents	Current Production	Treatment 1 (Production with Select Materials Removed)	Treatment 2 (Emphasized Mandatory with Revised Questionnaire)	Treatment 3 (De-emphasized Mandatory with Revised Questionnaire)	Treatment 4 (Removed Mandatory with Revised Questionnaire)	Treatment 5 (De-emphasized Mandatory with Production Questionnaire)	Treatment 6 (Production with Tri-fold Pressure Seal Mailers)	Treatment 7 (Production, Sorted Separately)
Outside of Mailer	No message	No message	No message	No message	No message	No message	No message	No message
Letter Wording	Current wording	Current wording	Updated design, emphasized mandatory†	Updated design, mandatory wording de-emphasized compared to Treatment 1†	Updated design, mandatory wording de-emphasized compared to Treatment 1†	Updated design, mandatory wording de-emphasized compared to Treatment 1†	Current wording	Current wording
Printing Style	Bi-fold	Bi-fold	Bi-fold	Bi-fold	Bi-fold	Bi-fold	Tri-fold	Bi-fold

Note: The areas marked with † in this table indicate how the treatment differs from current production.

Table 29. Contents of the Third Mailing for Each Treatment

Mailing Contents	Current Production	Treatment 1 (Production with Select Materials Removed)	Treatment 2 (Emphasized Mandatory with Revised Questionnaire)	Treatment 3 (De-emphasized Mandatory with Revised Questionnaire)	Treatment 4 (Removed Mandatory with Revised Questionnaire)	Treatment 5 (De-emphasized Mandatory with Production Questionnaire)	Treatment 6 (Production with Tri-fold Pressure Seal Mailers)	Treatment 7 (Production, Sorted Separately)
Outgoing Envelope	Your Response is Required by Law	Your Response is Required by Law	Your Response is Required by Law Open Immediately†	Your Response is Required by Law Open Immediately†	Your Response is Required by Law	Your Response is Required by Law Open Immediately†	Your Response is Required by Law	Your Response is Required by Law
Questionnaire	Current design	Current design	Design Changes; Bold Mandatory Heading†	Design Changes†	Design Changes†	Current design	Current design	Current design
FAQ Brochure	YES	NO†	NO†	NO†	NO†	NO†	YES	YES
Letter Wording	Current wording	Cybersecurity removed from front; FAQ Information added to back†	Updated design, emphasized mandatory wording, FAQ Information added to back†	Updated design, mandatory similar to Treatment 1, FAQ Information added to back†	Updated design, NO Mandatory, FAQ Information added to back†	Updated design, mandatory similar to Treatment 1, FAQ Information added to back†	Current wording	Current wording
Instruction Card	YES	NO†	NO†	NO†	NO†	NO†	YES	YES

Note: The areas marked with † in this table indicate how the treatment differs from current production.

Table 30. Contents of the Fourth Mailing for Each Treatment

Mailing Contents	Current Production	Treatment 1 (Production with Select Materials Removed)	Treatment 2 (Emphasized Mandatory with Revised Questionnaire)	Treatment 3 (De-emphasized Mandatory with Revised Questionnaire)	Treatment 4 (Removed Mandatory with Revised Questionnaire)	Treatment 5 (De-emphasized Mandatory with Production Questionnaire)	Treatment 6 (Production with Tri-fold Pressure Seal Mailers)	Treatment 7 (Production, Sorted Separately)
Address Side	Current Design	Current Design	Updated Design with added "Your Response is Required by Law" box†	Updated Design†	Updated Design†	Updated Design†	Updated Design†	Updated Design†
Wording	Current wording	Current wording	Updated design, bold mandatory, bold interviewer contact note†	Updated design, unbold mandatory, unbold interviewer contact note†	Updated design, no mandatory, unbold interviewer contact note†	Updated design, unbold mandatory, unbold interviewer contact note†	Current wording	Current wording

Note: The areas marked with † in this table indicate how the treatment differs from current production.

Table 31. Contents of the Fifth Mailing for Each Treatment

Mailing Contents	Current Production	Treatment 1 (Production with Select Materials Removed)	Treatment 2 (Emphasized Mandatory with Revised Questionnaire)	Treatment 3 (De-emphasized Mandatory with Revised Questionnaire)	Treatment 4 (Removed Mandatory with Revised Questionnaire)	Treatment 5 (De-emphasized Mandatory with Production Questionnaire)	Treatment 6 (Production with Tri-fold Pressure Seal Mailers)	Treatment 7 (Production, Sorted Separately)
Outside of Mailer	No message	No message	'Final Notice Respond Now' [†]	'Final Notice Respond Now' [†]	'Final Notice Respond Now' [†]	'Final Notice Respond Now' [†]	No message	No message
Wording	Current wording	Updated wording, added callout box [†]	Updated design, bold mandatory [†]	Updated design, unbold mandatory [†]	Updated design, NO mandatory wording [†]	Updated design, unbold mandatory [†]	Current wording	Current wording
Printing Style	Bi-fold	Bi-fold	Bi-fold	Bi-fold	Bi-fold	Bi-fold	Tri-fold [†]	Bi-fold

Note: The areas marked with † in this table indicate how the treatment differs from current production.

Appendix C. 2018 ACS Production Mail Materials

Figure 2. Production First Mailing – Instruction Card (Front and Back)

**United States[™]
Census
Bureau**

American Community Survey

U.S. Department of Commerce | Economics and Statistics Administration

Go to <https://respond.census.gov/acs> to complete the American Community Survey online.

(Vea el otro lado para español.)

IMPORTANT: You will need information from the address label on this card to log in. If you need help or have questions about the American Community Survey, call the toll-free number 1-800-354-7271.

**United States[™]
Census
Bureau**

American Community Survey

U.S. Department of Commerce | Economics and Statistics Administration

Vaya a <https://respond.census.gov/acs> para completar la Encuesta sobre la Comunidad Estadounidense por Internet en español.

ATENCIÓN: Necesitará información que aparece en la etiqueta en el otro lado de esta tarjeta para iniciar la sesión. Si usted necesita ayuda para llenar la encuesta o tiene preguntas acerca de la Encuesta sobre la Comunidad Estadounidense, llame sin cargo al 1-877-833-5625.

See other side for English.

ACS-34 IM (08/08/2013)

Figure 3. Production First Mailing – Letter

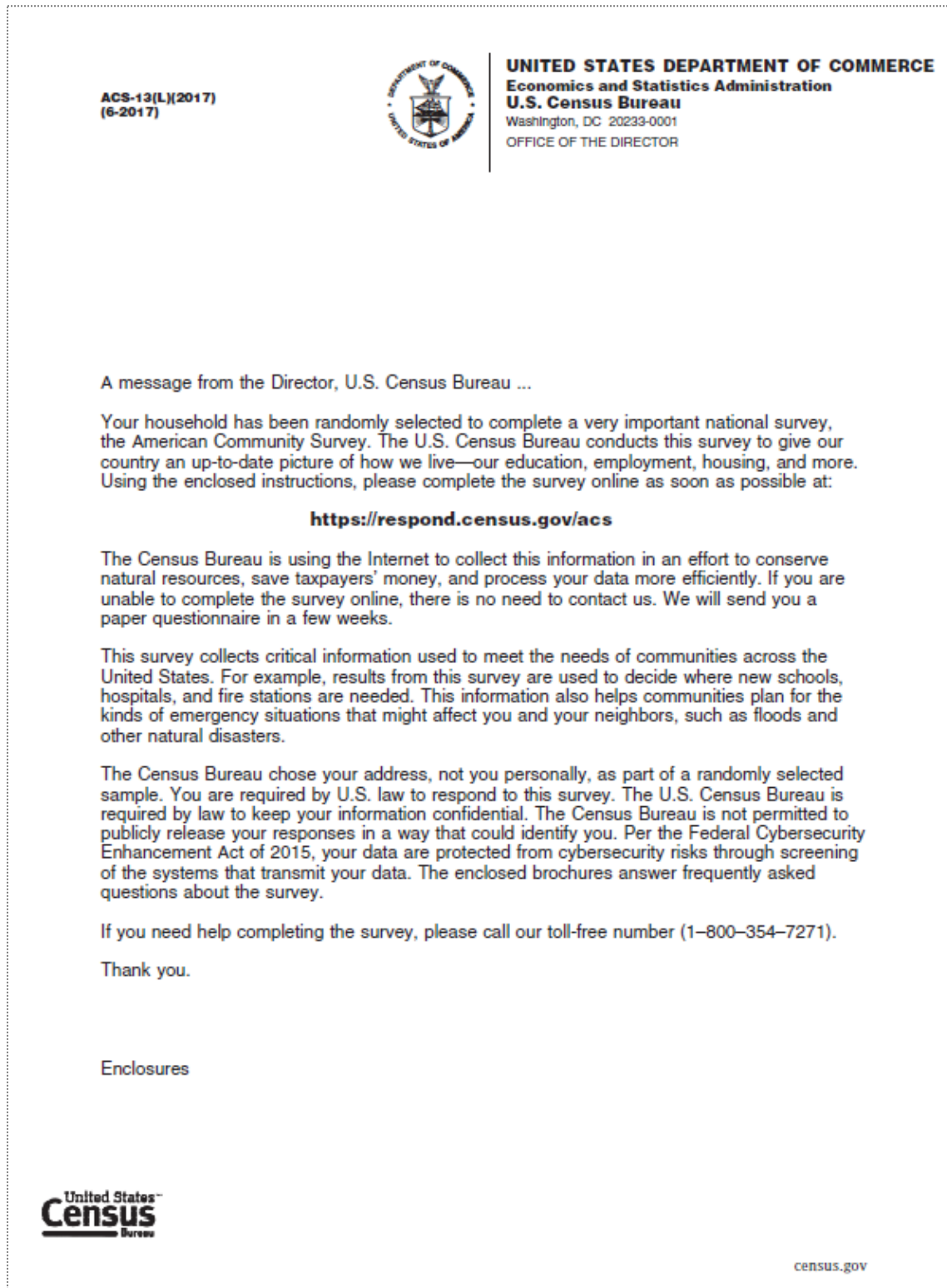


Figure 4. Production First Mailing – Multilingual Brochure

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

In a few days 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 toll-free 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. All of the information the Census Bureau collects for this survey about you and your household is confidential by law (Title 13, United States Code).

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

En unos días, 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 para hablar con uno de nuestros empleados que habla español. La llamada es gratis. El empleado podrá contestar sus preguntas o usted podrá completar la encuesta por teléfono.

¿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?

Así es. Toda información que la Oficina del Censo de los Estados Unidos obtenga durante esta encuesta sobre usted y su vivienda es confidencial según la ley (Título 13, Código de los Estados Unidos).

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



U.S. Department of Commerce
Economics and Statistics Administration
U.S. Census Bureau
census.gov

Issued August 2013
ACS-9 (2014)

United States
Census
Bureau

Figure 5. Production First Mailing – Envelope (Front)

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU
1201 East 10th Street
Jeffersonville IN 47132-0001

OFFICIAL BUSINESS
Penalty for Private Use \$300

ACS-46IM(2013) (12-2012)

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POSTAGE & FEES PAID
U.S. Census Bureau
Permit No. G-58

The American Community Survey

**YOUR RESPONSE IS
REQUIRED BY LAW**

United States
Census
Bureau

Figure 6. Production First Mailing – FAQ Brochure (Front and Back)



Frequently Asked Questions

What is the American Community Survey?

The American Community Survey collects information about population and housing characteristics for the nation, states, cities, counties, metropolitan areas, and communities on a continuous basis. Based on the American Community Survey, the U.S. Census Bureau can provide up-to-date data about our rapidly changing country more often than once every 10 years when the census is conducted.

Do I have to answer the questions on the American Community 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. We estimate this survey will take about 40 minutes to complete.

Will the Census Bureau keep my information confidential?

Yes. The Census Bureau is required by law to protect your information. 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.

How do I benefit by answering the American Community Survey?

Communities need data about the well-being of children, families, and the older population to provide services to them. By responding to the American Community Survey questionnaire, you are helping your community to establish goals, identify problems and solutions, and measure the performance of programs.

The data also are used to decide where to locate new highways, schools, hospitals, and community centers; to show a large corporation that a town has the workforce the company needs; and in many other ways.

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

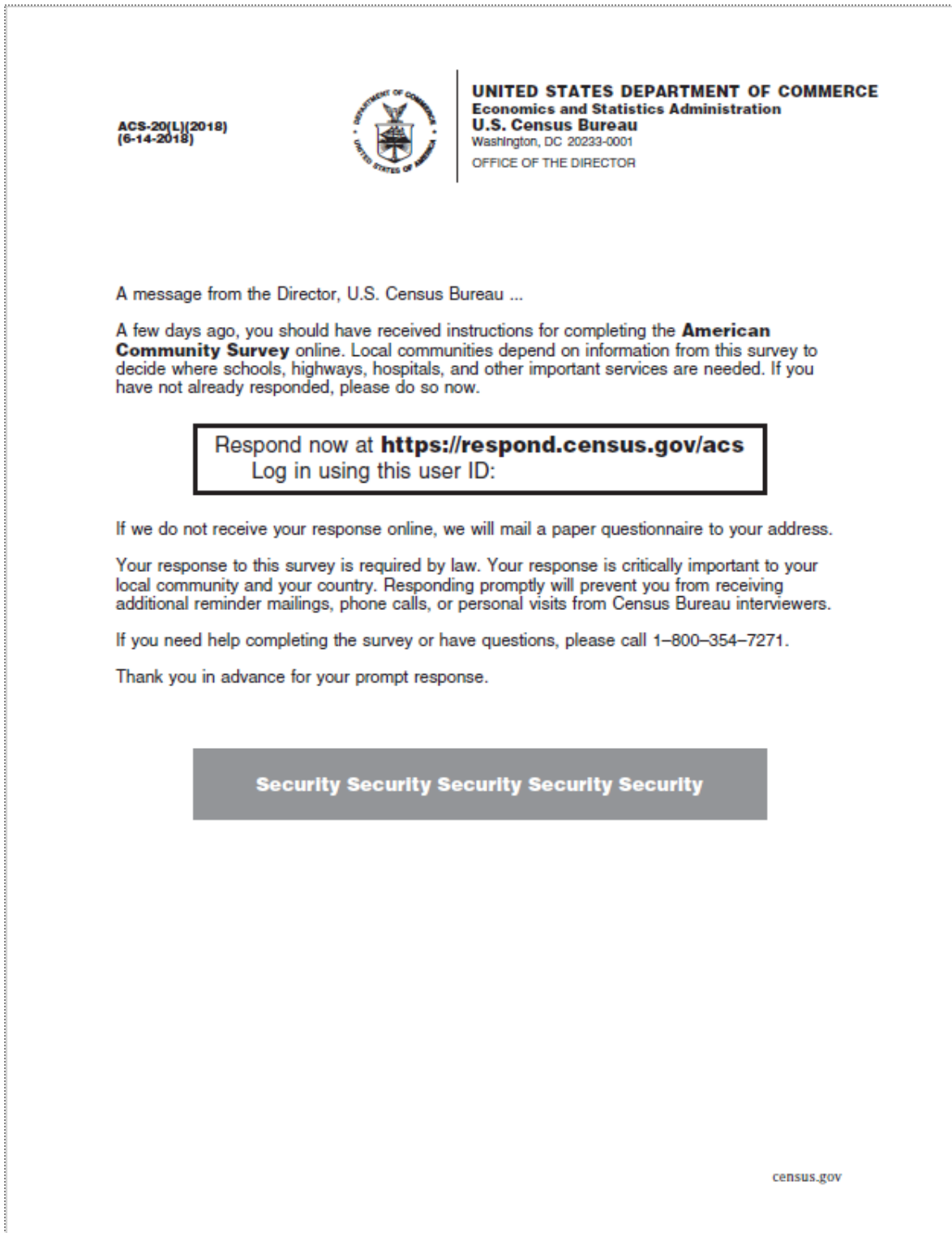
By law, the Census Bureau can only use your responses to produce statistics. Your information will be used in combination with information from other households to produce data for your community. Similar data will be produced for communities across Puerto Rico and the United States.

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.

Where can I find more information about the American Community Survey or get assistance?

You may visit our Web site at census.gov/acs or call 1-800-354-7271, if you need assistance or more information.

Figure 7. Production Second Mailing – Bi-Fold Pressure Seal Letter (inside and outside)



U.S. DEPARTMENT OF COMMERCE **AN EQUAL OPPORTUNITY EMPLOYER**
Economic and Statistics Administration
U.S. CENSUS BUREAU
1201 E 10th Street
Jeffersonville IN 47132-0001

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Penalty for Private Use \$300

ACS-20(L)(2018) (6-14-2018)

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U.S. Census Bureau
Permit No. G-58



Figure 8. Production Third Mailing – Outgoing Envelope

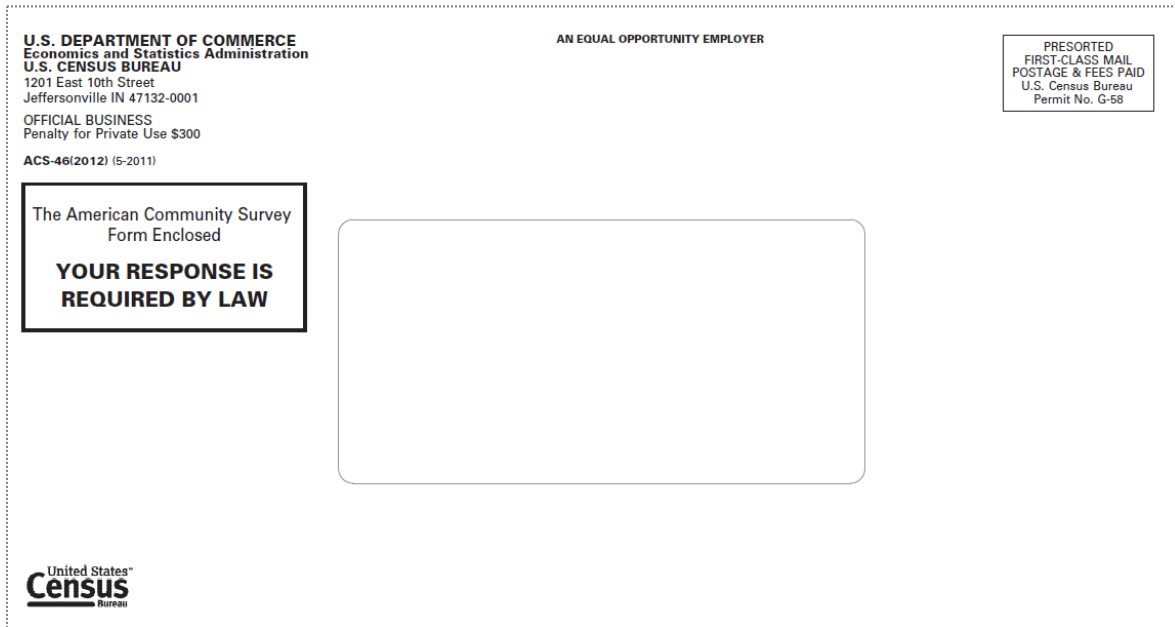


Figure 9. Production Third Mailing – Return Envelope



Figure 10. Production Third Mailing – Letter

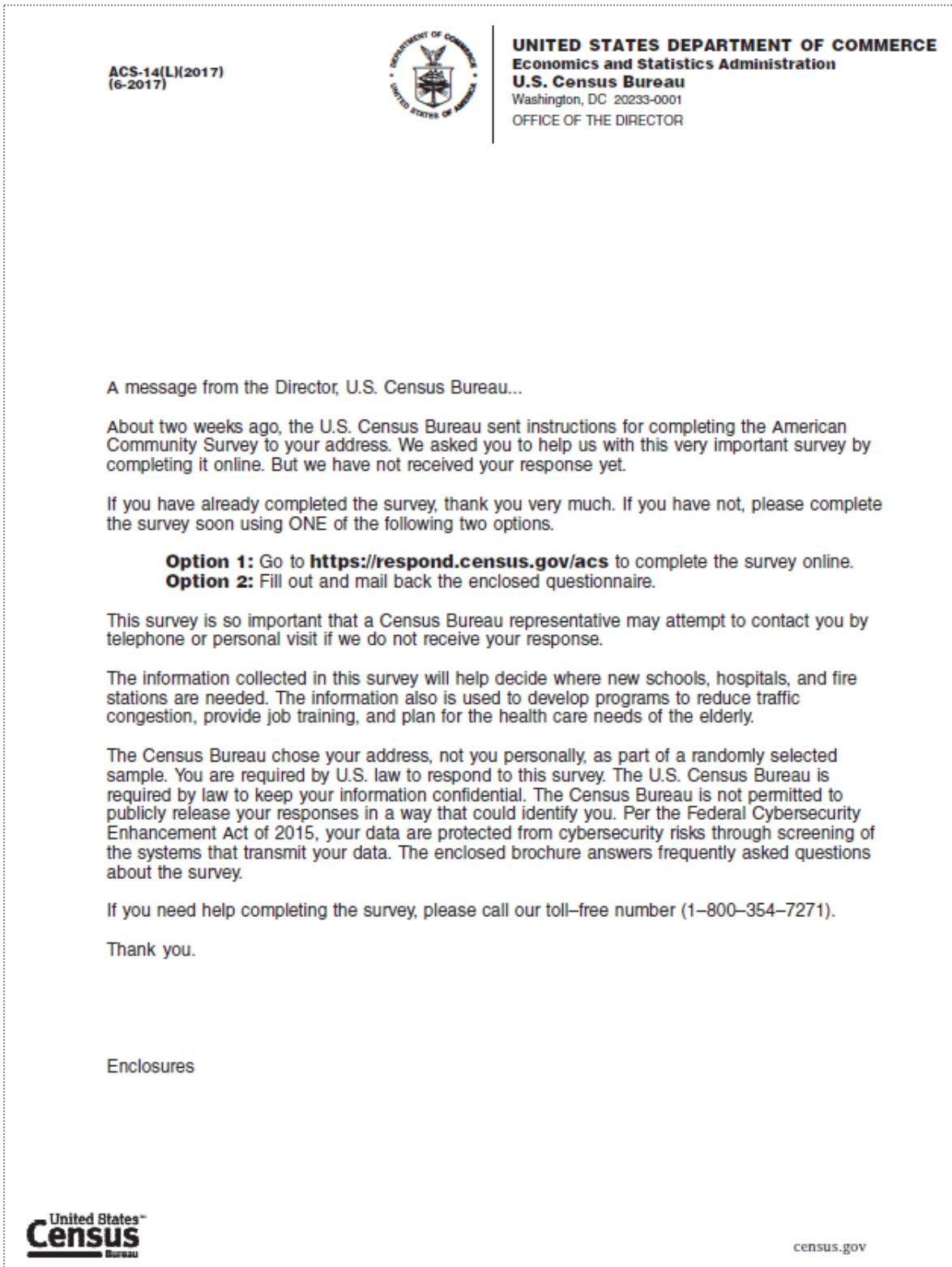



Figure 11. Production Third Mailing – Questionnaire (Front Page)

13197017

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU




THE American Community Survey

Start Here

Respond online today at:
<https://respond.census.gov/acs>
OR
Complete this form and mail it back as soon as possible.

This form asks for information about the people who are living or staying at the address on the mailing label and about the house, apartment, or mobile home located at the address on the mailing label.



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

Telephone Device for the Deaf (TDD):
Call 1-800-582-8330. The telephone call is free.

¿NECESITA AYUDA? Si usted habla español y necesita ayuda para completar su cuestionario, llame sin cargo alguno al **1-877-833-5625**. Usted también puede completar su entrevista por teléfono con un entrevistador que habla español. O puede responder por Internet en: <https://respond.census.gov/acs>

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

➔ **Please print today's date.**

Month Day Year

➔ **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, 3, and 4 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(2017)
(03-14-2018)

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



ACS-1(2017), Page 1, Base (Black)ACS-1(2017), Page 1, Green Pantone 354 (18, 100%)


Figure 12. Production Third Mailing – Instruction Card (Front and Back)


United States™
Census
Bureau

American Community Survey

U.S. Department of Commerce | Economics and Statistics Administration

Two Ways to Complete the American Community Survey:

 **Option 1** – Go to <https://respond.census.gov/acs> to complete the survey online.
IMPORTANT: You will need information from the address label on the enclosed questionnaire to log in.

 **Option 2** – Fill out the enclosed questionnaire and mail it back in the postage-paid envelope.

Please choose **ONLY** one way to respond. If you need help or have questions about the American Community Survey, call the toll-free number 1-800-354-7271.

Vea el otro lado para español.

ACS-34RM (11/15/2016)

United States™
Census
Bureau

American Community Survey

U.S. Department of Commerce | Economics and Statistics Administration

Hay dos maneras para completar la Encuesta sobre la Comunidad Estadounidense:

 **Opción 1** – Vaya a <https://respond.census.gov/acs> para completar la encuesta por Internet en español. **ATENCIÓN:** Necesitará información que aparece en la etiqueta del cuestionario adjunto para iniciar la sesión.

 **Opción 2** – Llene y devuelva **por correo** el cuestionario adjunto en el sobre de envío incluido.

Por favor, escoja **SOLAMENTE** una manera de responder. Si usted necesita ayuda para llenar la encuesta o tiene preguntas acerca de la Encuesta sobre la Comunidad Estadounidense, llame sin cargo al 1-877-833-5625.

See other side for English.

ACS-34RM (11/15/2016)

Figure 13. Production Fourth Mailing – Postcard (Front and Back)

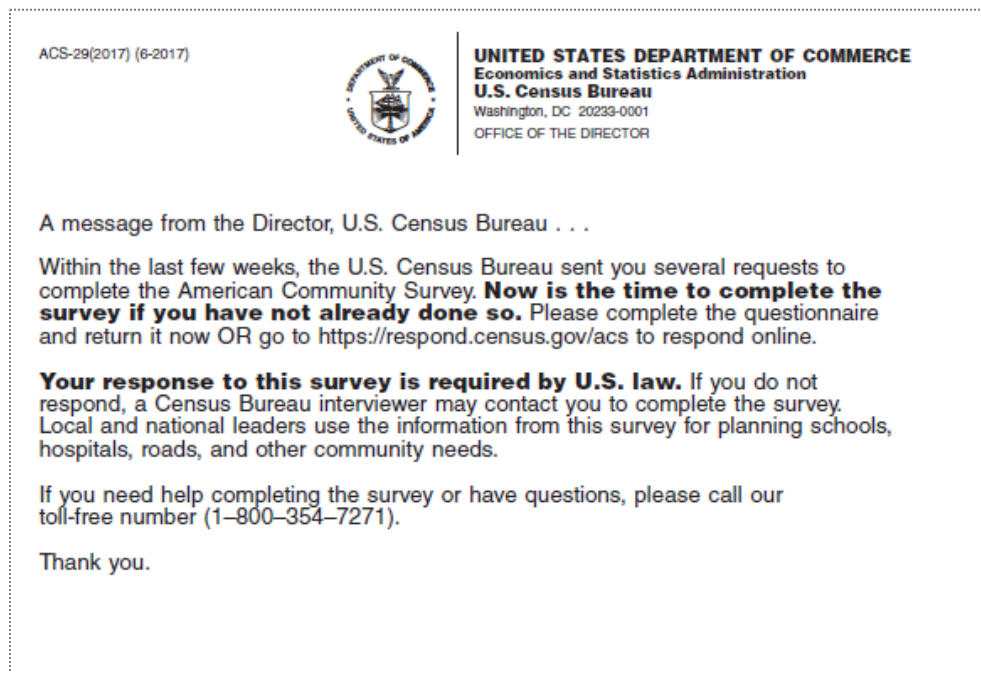
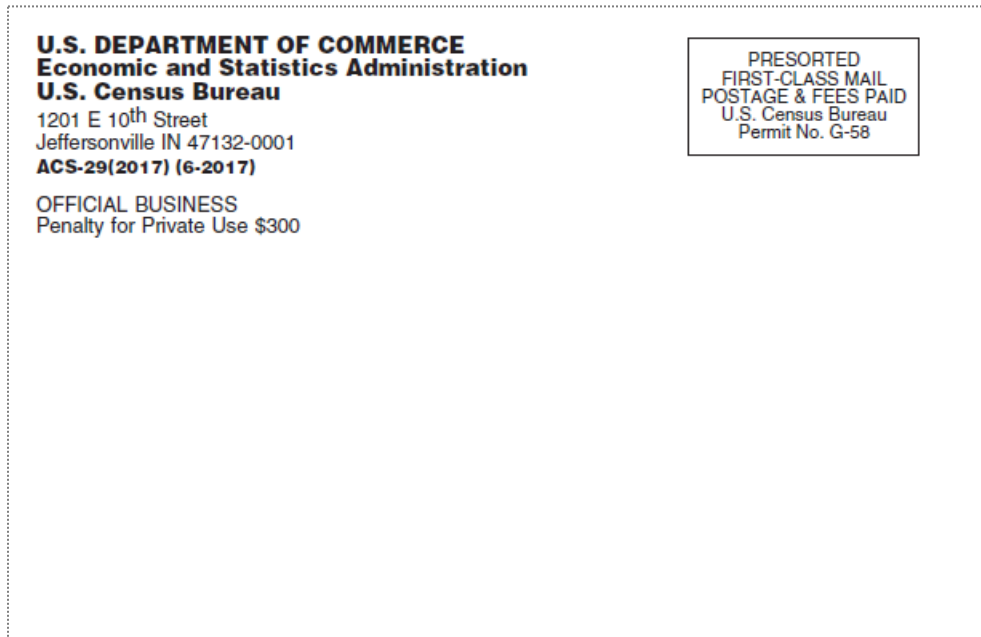
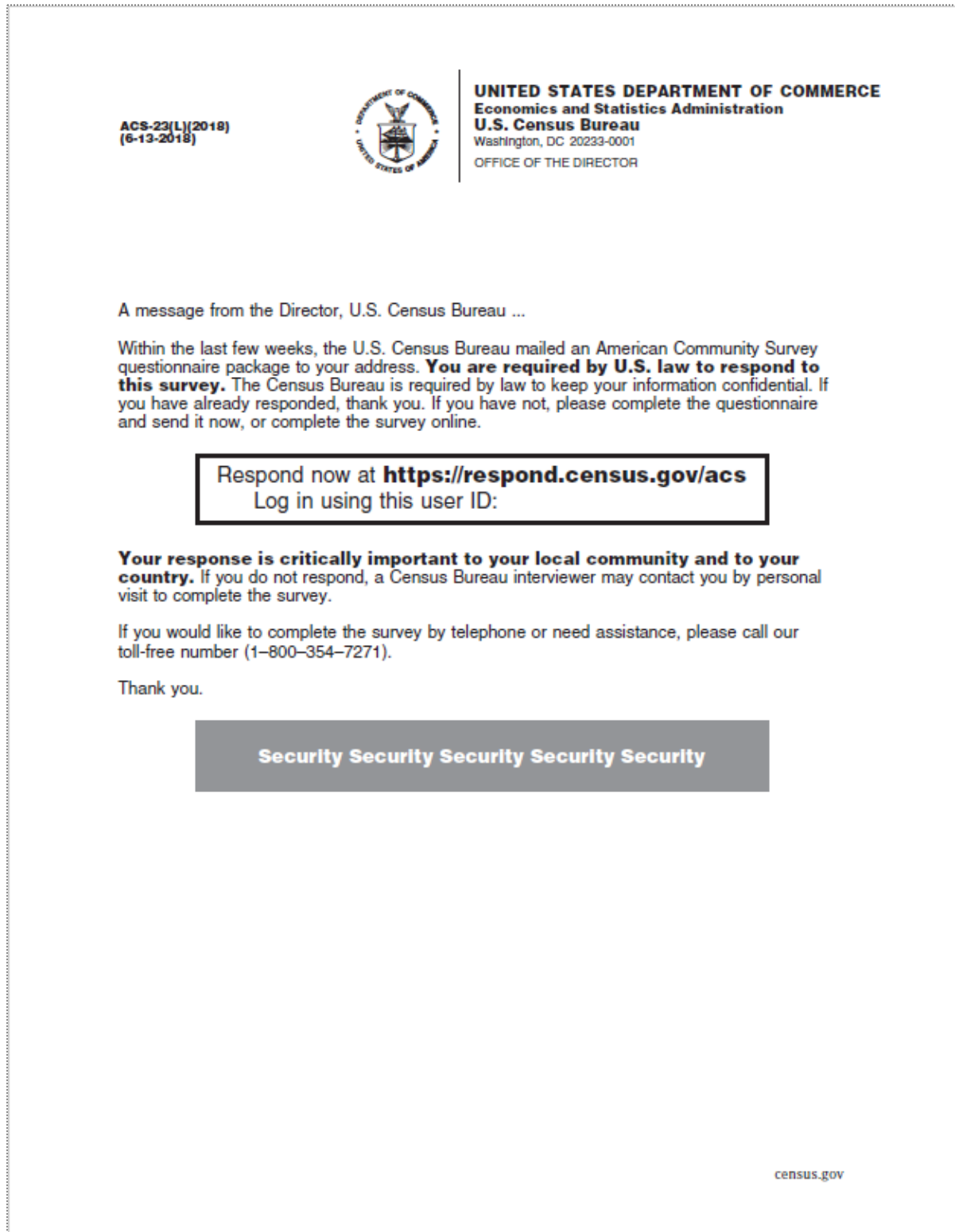


Figure 14. Production Fifth Mailing – Bi-Fold Pressure Seal Letter (inside and outside)



U.S. DEPARTMENT OF COMMERCE **AN EQUAL OPPORTUNITY EMPLOYER**
Economics and Statistics Administration
U.S. CENSUS BUREAU
1201 E 10th Street
Jeffersonville IN 47132-0001

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ACS-23(L)(2018) (6-13-2018)

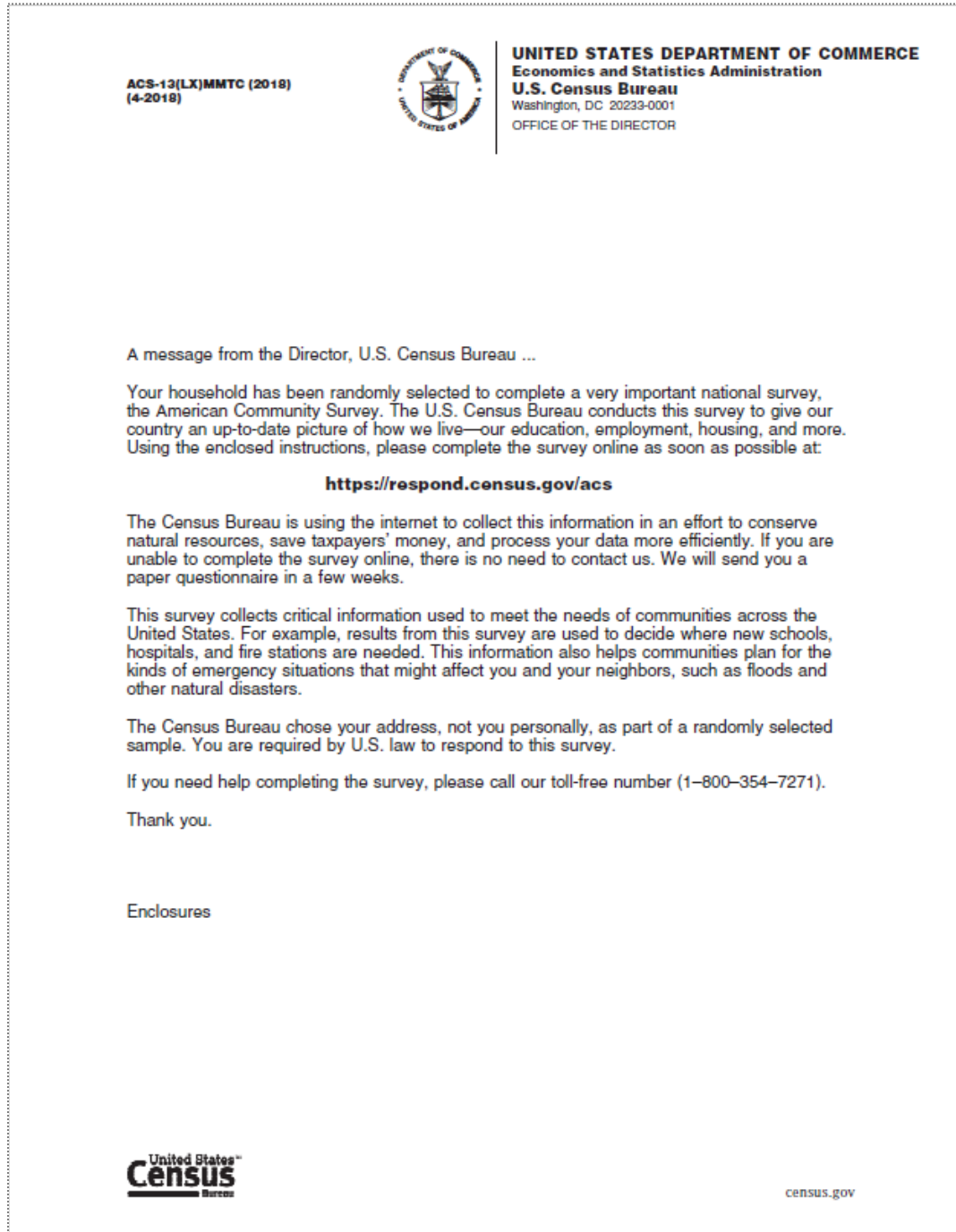
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POSTAGE & FEES PAID
U.S. Census Bureau
Permit No. G-58



Appendix D. Treatment 1 Mail Materials

Images of the materials used in Treatment 1 that differ from those used in Production.

Figure 15. Treatment 1 First Mailing – Letter (front and 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?

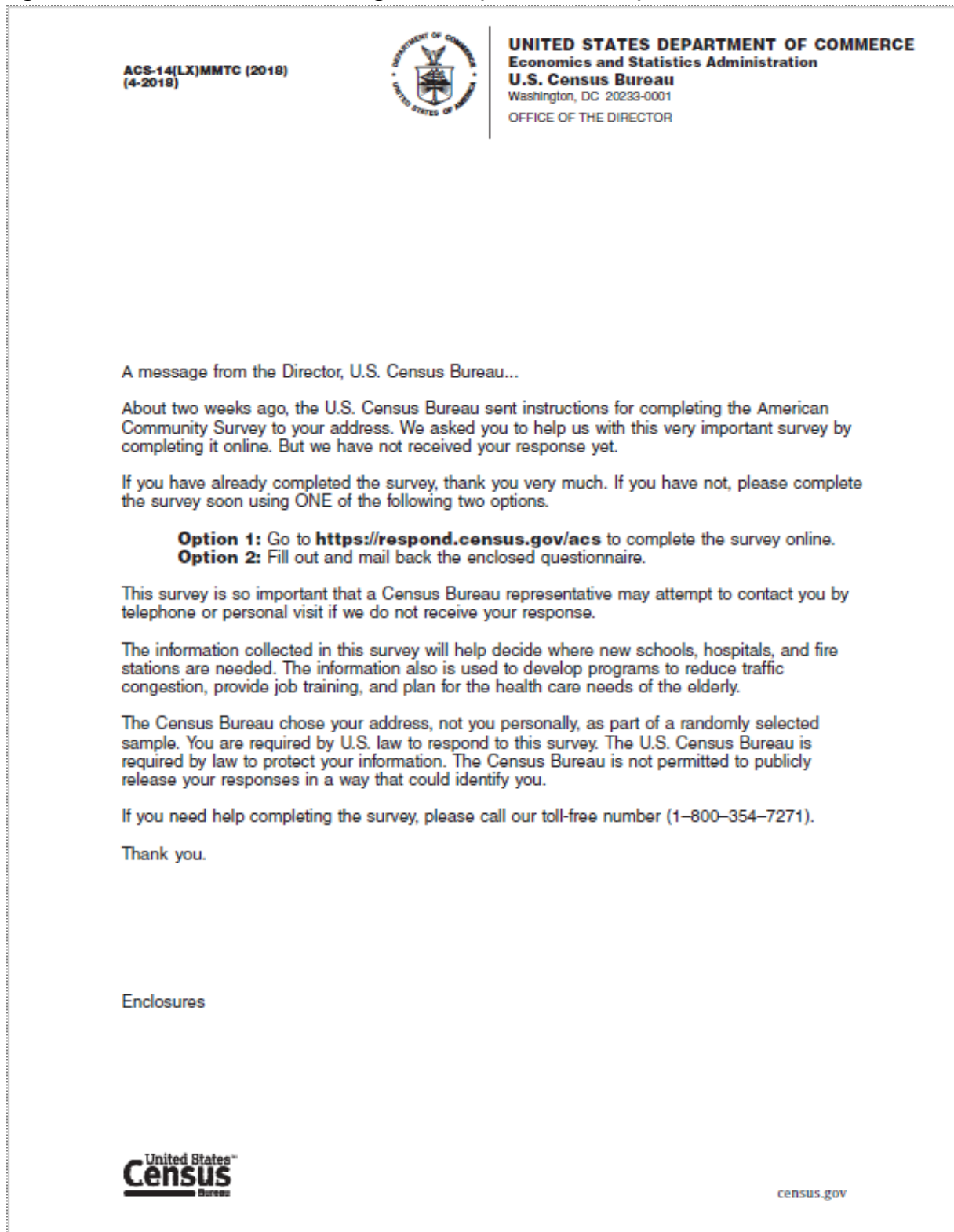
Yes. Your response to this survey is required by law (Title 13, U.S. Code, Sections 141, 193, and 221). Title 13, as changed by Title 18, imposes a penalty for not responding. As a randomly selected representative of your community, you are the voice of your neighbors and peers. To create an accurate 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 16. Treatment 1 Third Mailing – Letter (front and 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?

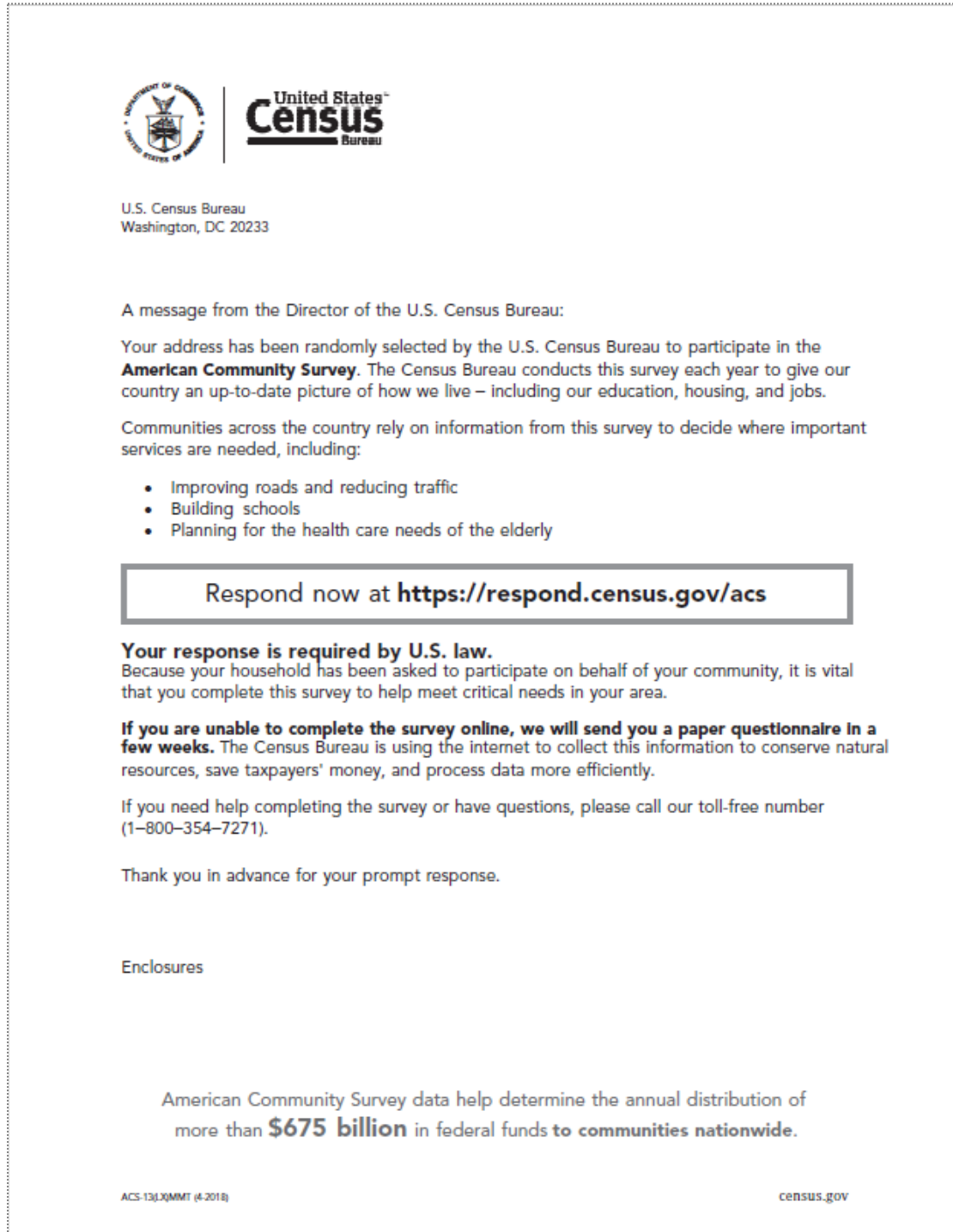
By law, the Census Bureau can only use your responses to produce statistics. Your information will be used in combination with information from other households to produce data for your community. Similar data will be produced for communities across Puerto Rico and the United States.

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.

Appendix E. Treatment 2 Mail Materials

Images of the materials in Treatment 2 that differ from those used in Production.

Figure 17. Treatment 2 First Mailing – Letter (front and 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 18. Treatment 2 First Mailing – Envelope

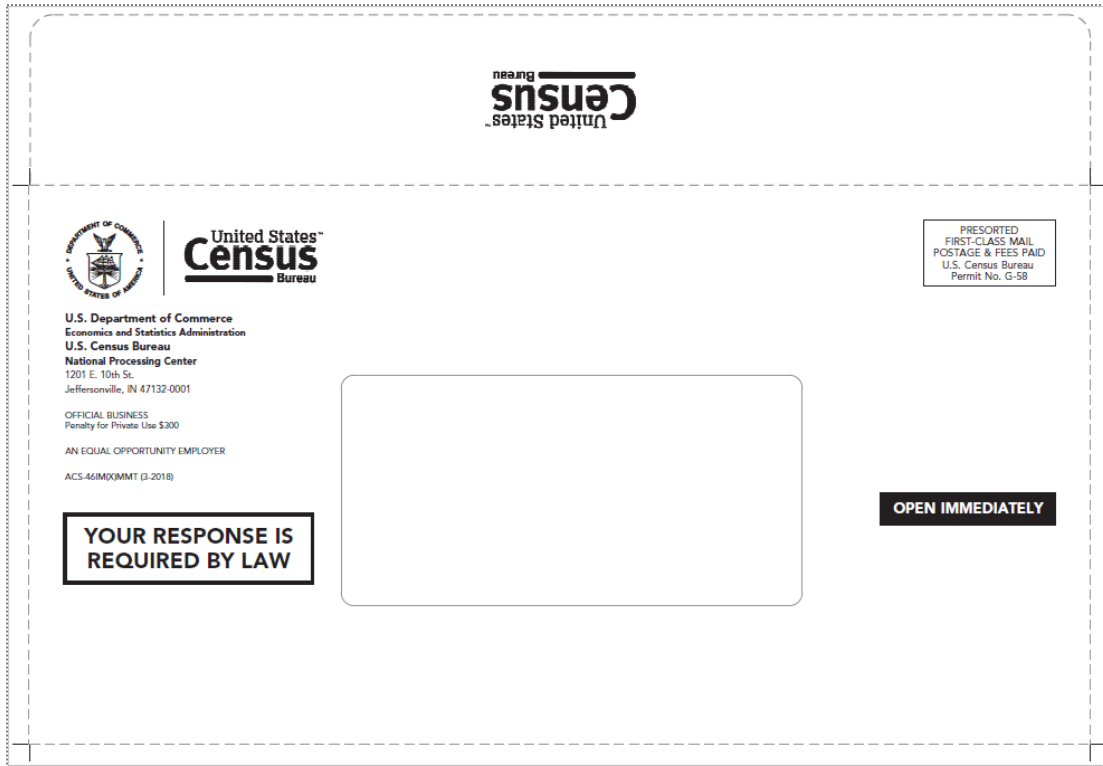
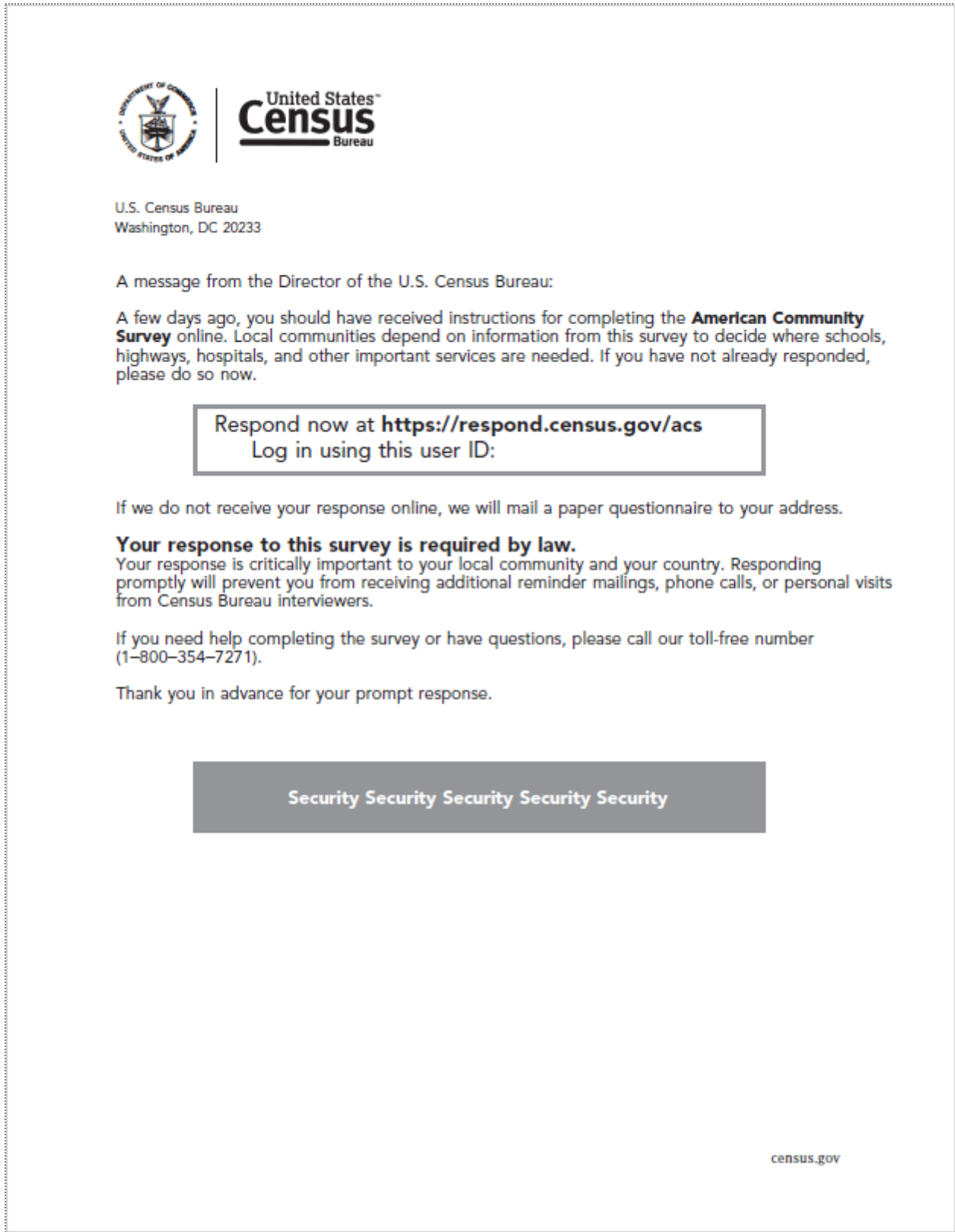


Figure 19. Treatment 2 Second Mailing – Bi-Fold Pressure Seal Letter (inside and outside)





United States[™]
Census
Bureau

U.S. Department of Commerce
Economics and Statistics Administration
U.S. Census Bureau
National Processing Center
1201 E. 10th St.
Jeffersonville, IN 47132-0001

OFFICIAL BUSINESS
Penalty for Private Use \$300


AN EQUAL OPPORTUNITY EMPLOYER

ACS-20(LX)MMT (6-2018)

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U.S. Census Bureau
Permit No. G-58

Figure 20. Treatment 2 Third Mailing – Questionnaire (Front Page)

13028014



United States
Census
Bureau


The American Community Survey

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU


Start Here

We wrote to you earlier with a request to respond online. We are sending this paper questionnaire to all households that have not yet responded because we realize not everyone can or wants to respond over the internet.

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 survey,** please call toll-free 1-800-354-7271.

Telephone Device for the Deaf (TDD):
Call toll-free 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: <http://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, 3, and 4 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)MMT2**
06-27-2010

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


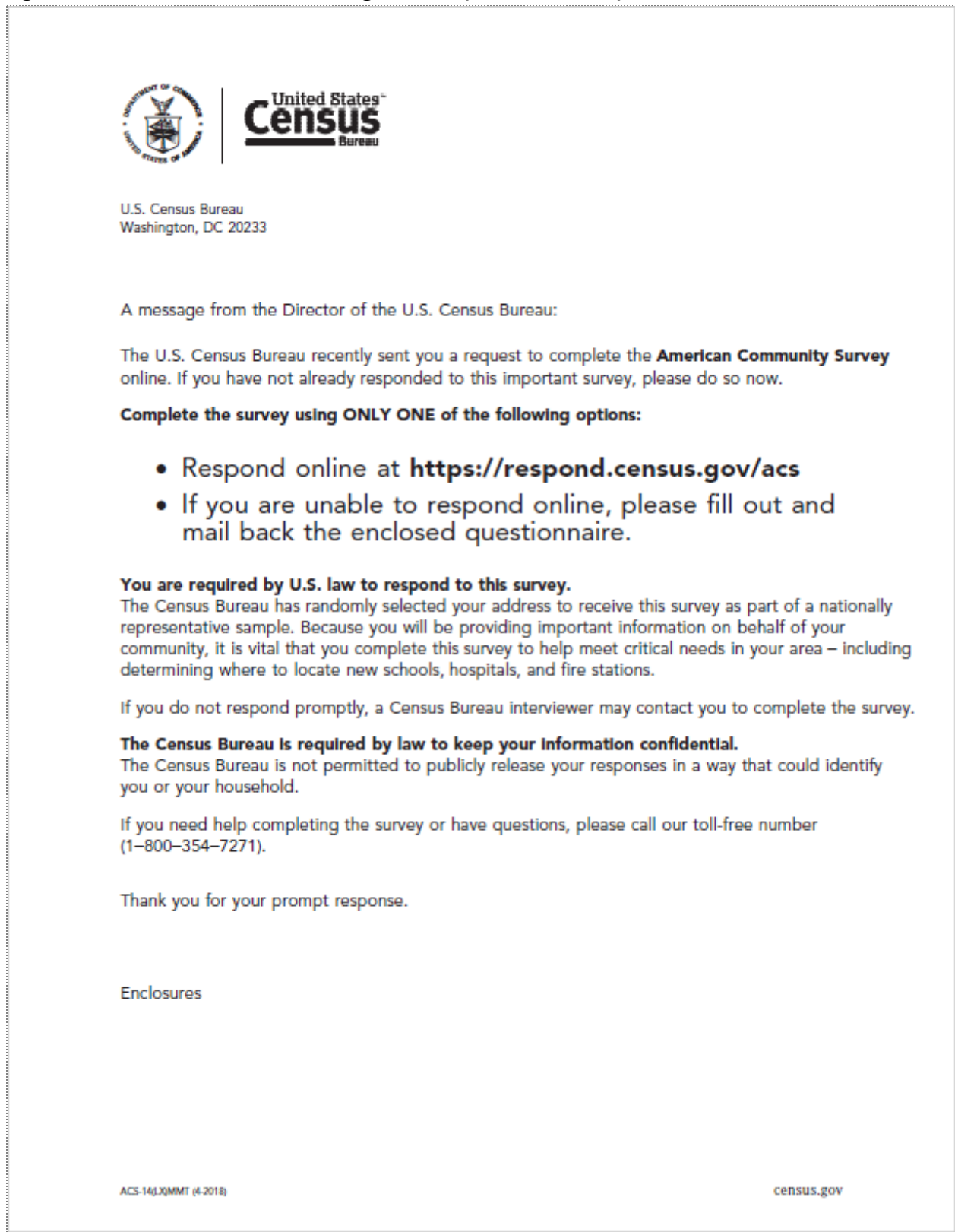


Figure 21. Treatment 2 Third Mailing – Letter (front and back)



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 22. Treatment 2 Third Mailing – Envelope

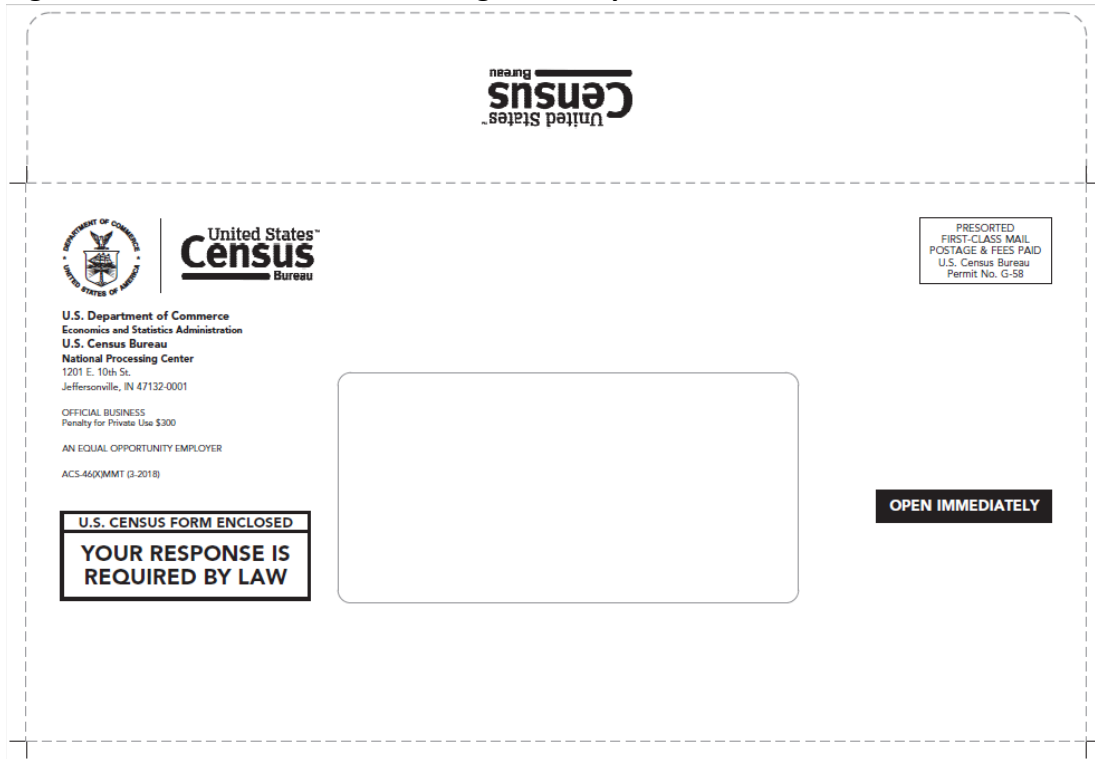
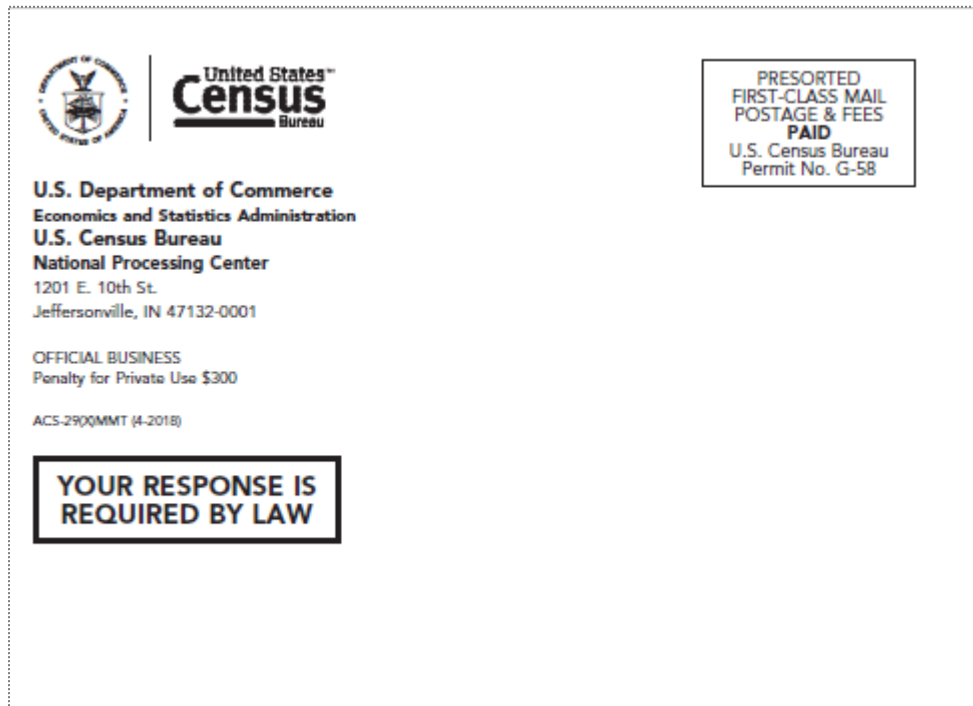


Figure 23. Treatment 2 Fourth Mailing – Postcard

Front:



Back:

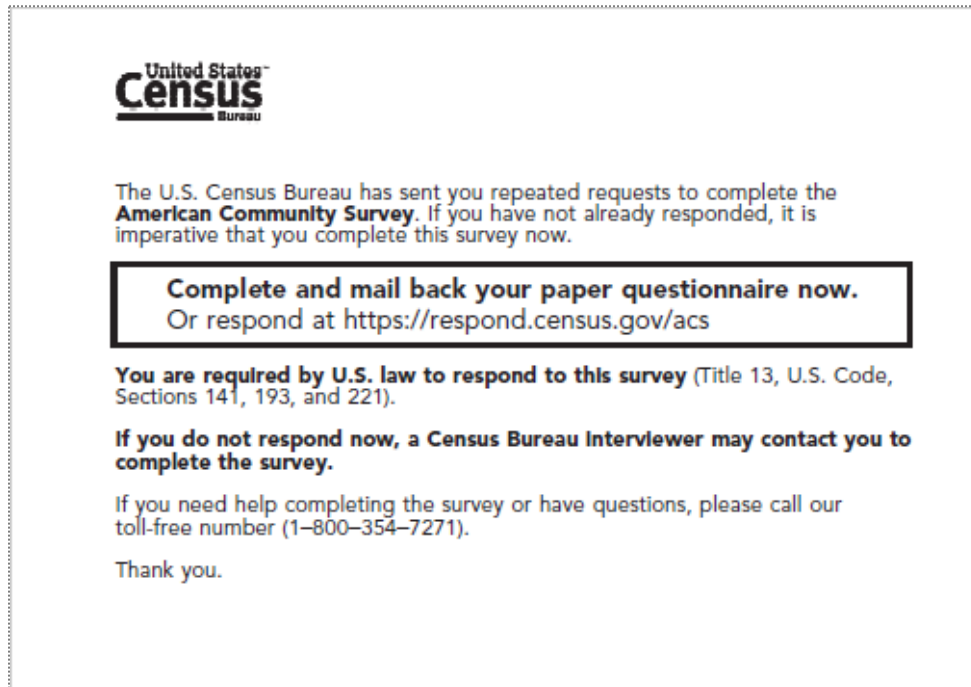
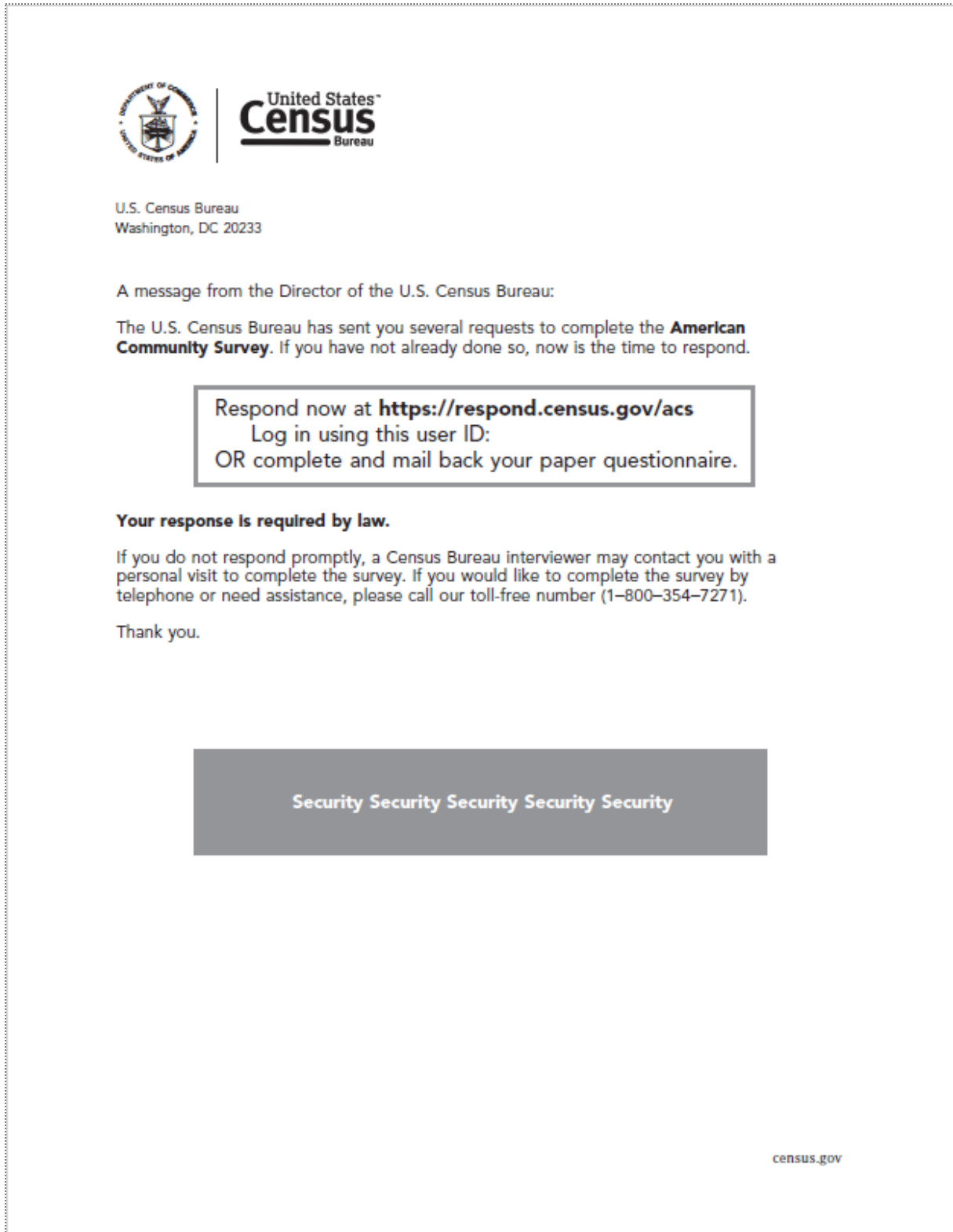


Figure 24. Treatment 2 Fifth Mailing – Bi-Fold Pressure Seal Letter (inside and outside)





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ACS-23(LX)MMT (6-2018)

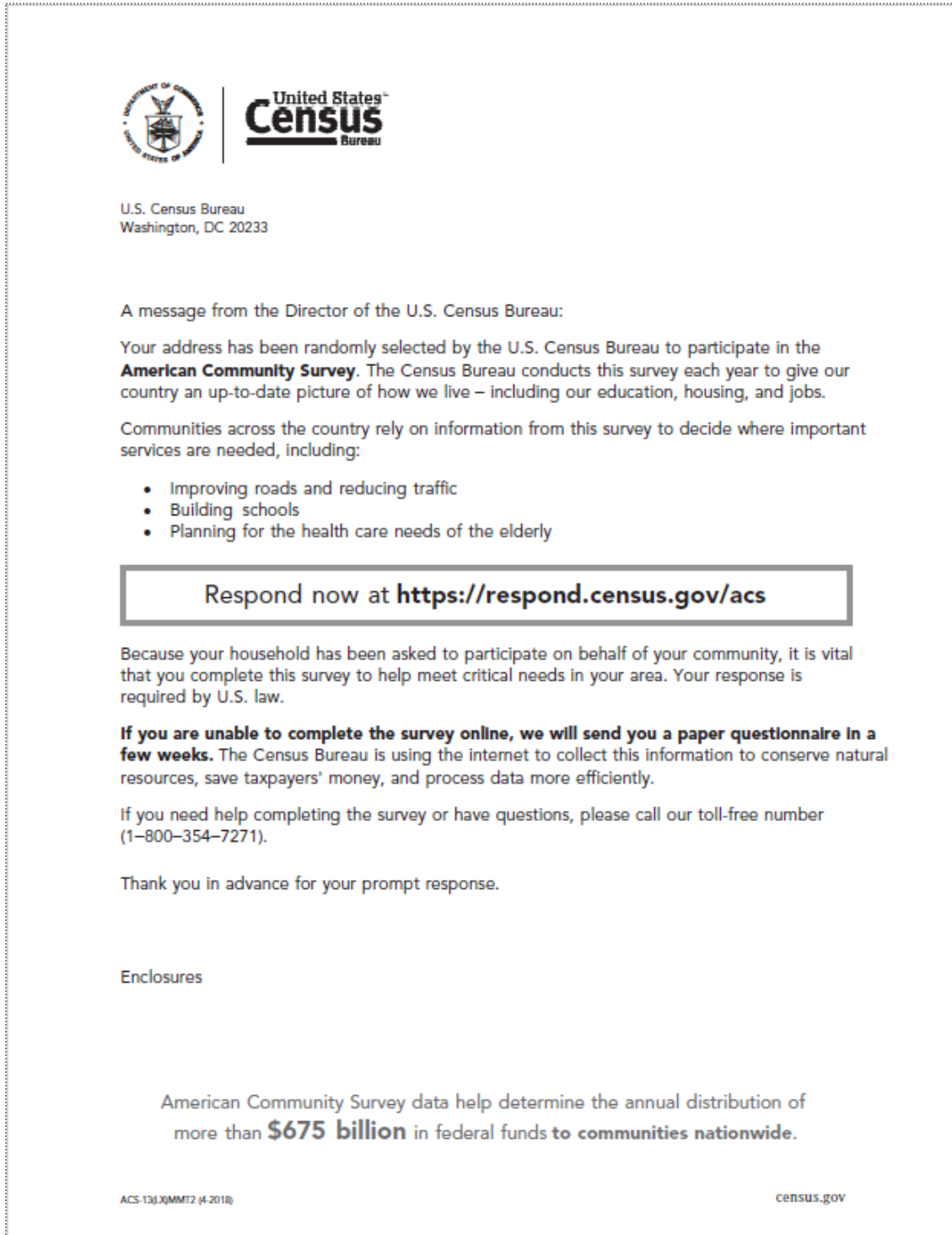
**FINAL NOTICE
RESPOND NOW**

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Appendix F. Treatment 3 Mail Materials

Images of the materials in Treatment 3 that differ from those used in Treatment 2.

Figure 25. Treatment 3 First Mailing – Letter (front and 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?

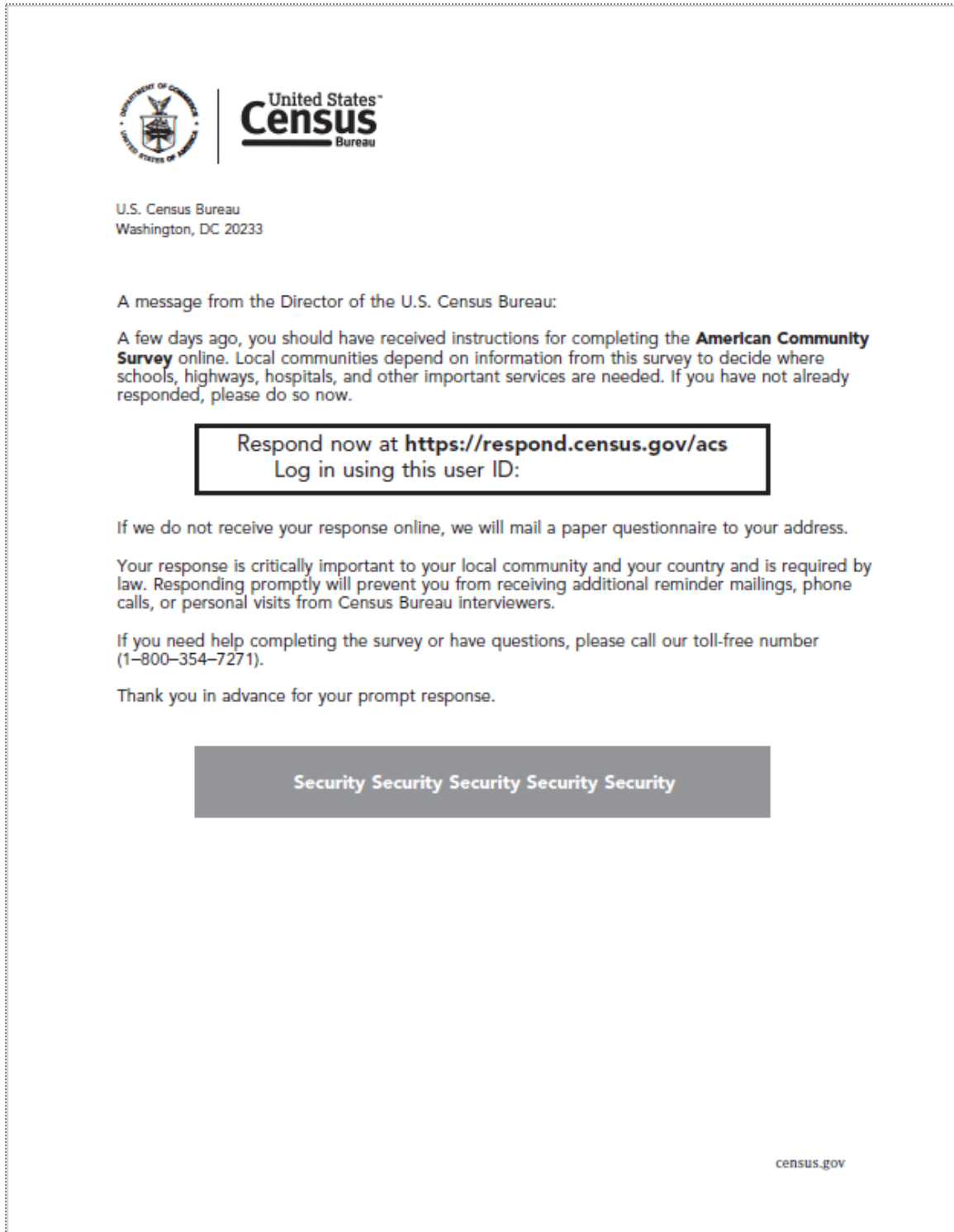
Yes. Your response to this survey is required by law (Title 13, U.S. Code, Sections 141, 193, and 221). Title 13, as changed by Title 18, imposes a penalty for not responding. As a randomly selected representative of your community, you are the voice of your neighbors and peers. To create an accurate 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 26. Treatment 3 Second Mailing – Bi-Fold Pressure Seal Letter (inside and outside)





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Figure 27. Treatment 3 Third Mailing – Questionnaire (Front Cover)

13028014

United States
Census
Bureau


U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

The American Community Survey


Start Here

We wrote to you earlier with a request to respond online. We are sending this paper questionnaire to all households that have not yet responded because we realize not everyone can or wants to respond over the internet.


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.

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 survey, please call toll-free 1-800-354-7271.**

Telephone Device for the Deaf (TDD):
Call toll-free 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: <http://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, 3, and 4 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)MMT** OMB No. 0607-0810
(06-18-2010) OMB No. 0607-0936


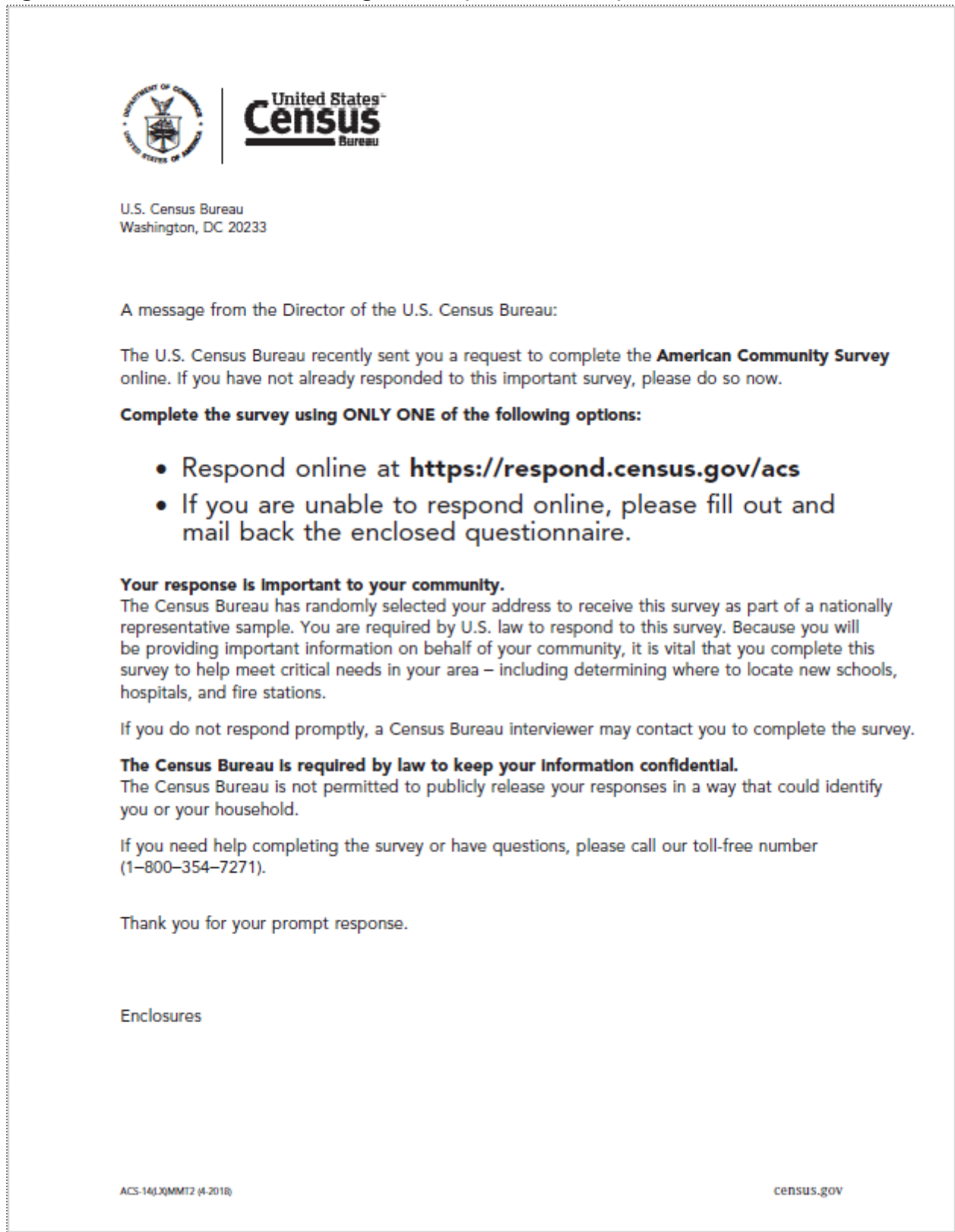


Figure 28. Treatment 3 Third Mailing – Letter (front and back)



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.

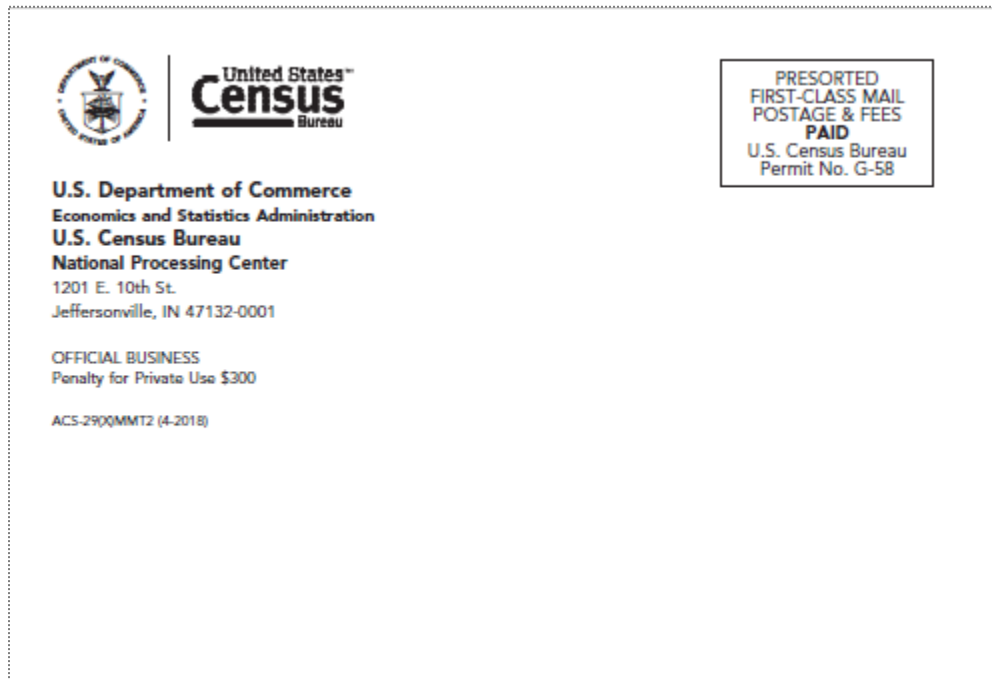
How will the Census Bureau use the information I provide?

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 29. Treatment 3 Fourth Mailing – Postcard

Front:



Back:

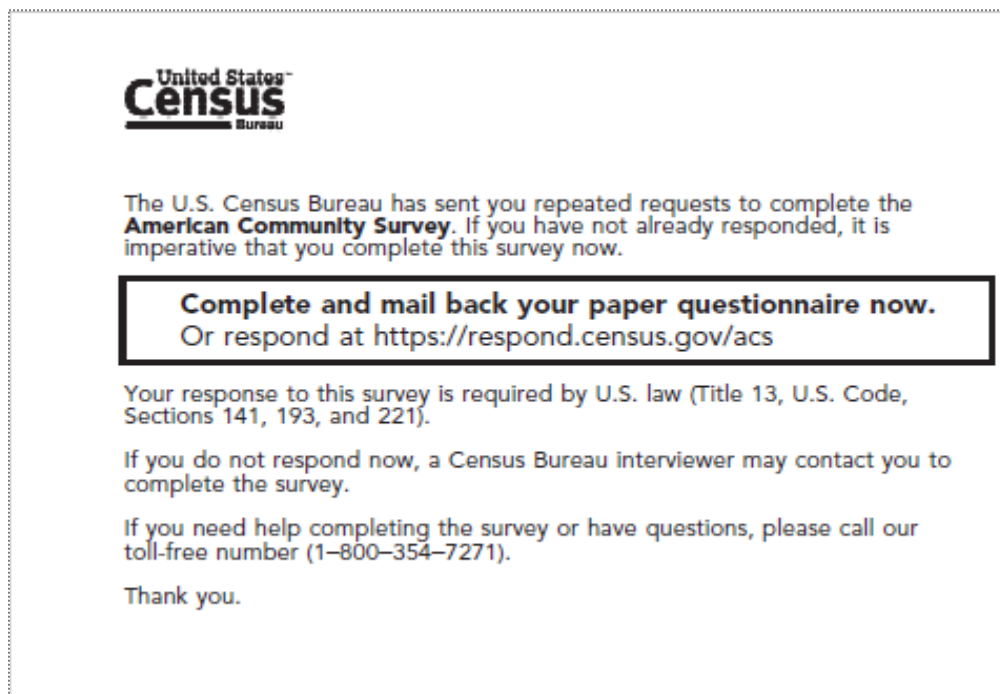
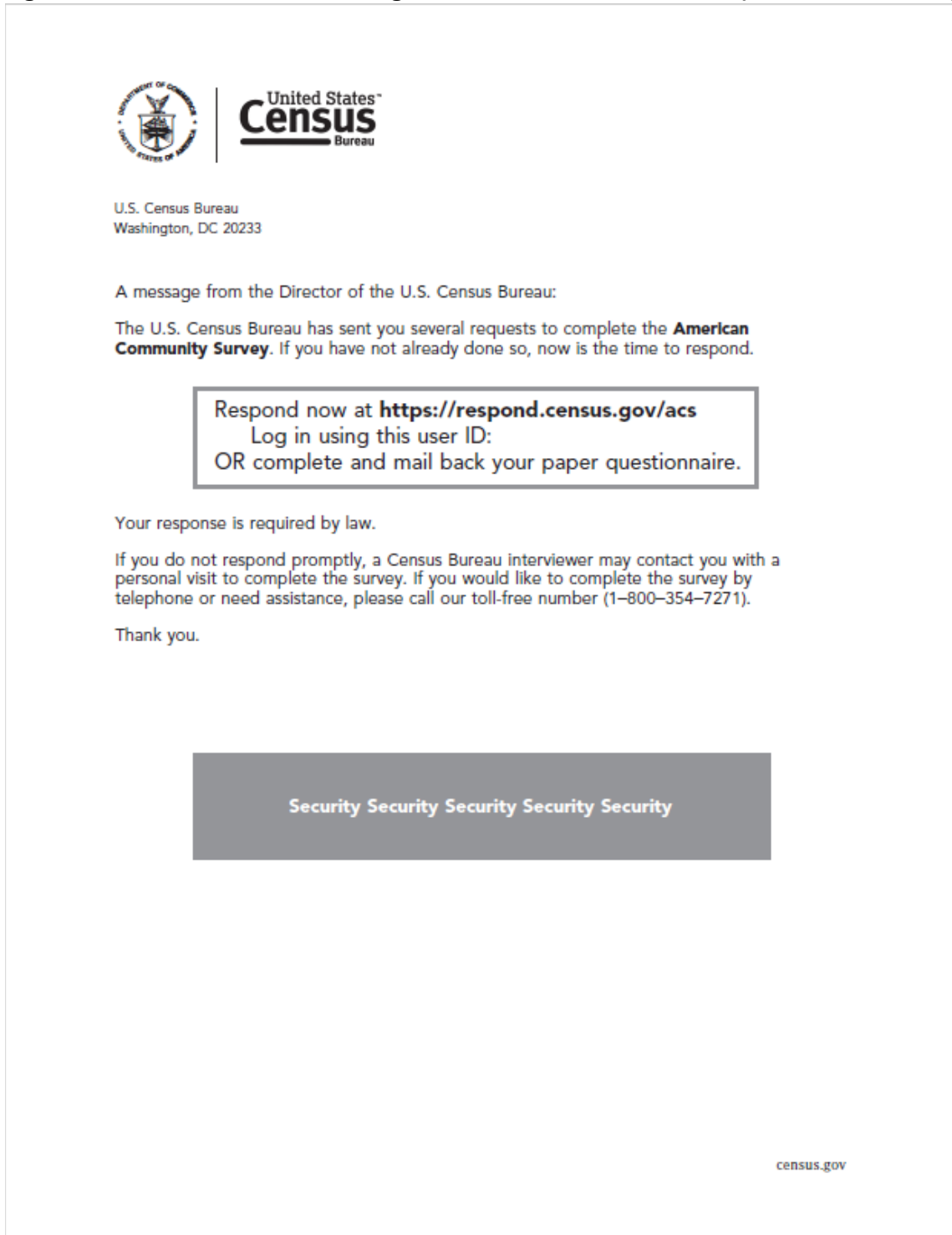


Figure 30. Treatment 3 Fifth Mailing – Bi-Fold Pressure Seal Letter (inside and outside)





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Appendix G. Treatment 4 Mail Materials

Images of the materials in Treatment 4 that differ from those used in Treatment 3.

Figure 31. Treatment 4 First Mailing – Envelope

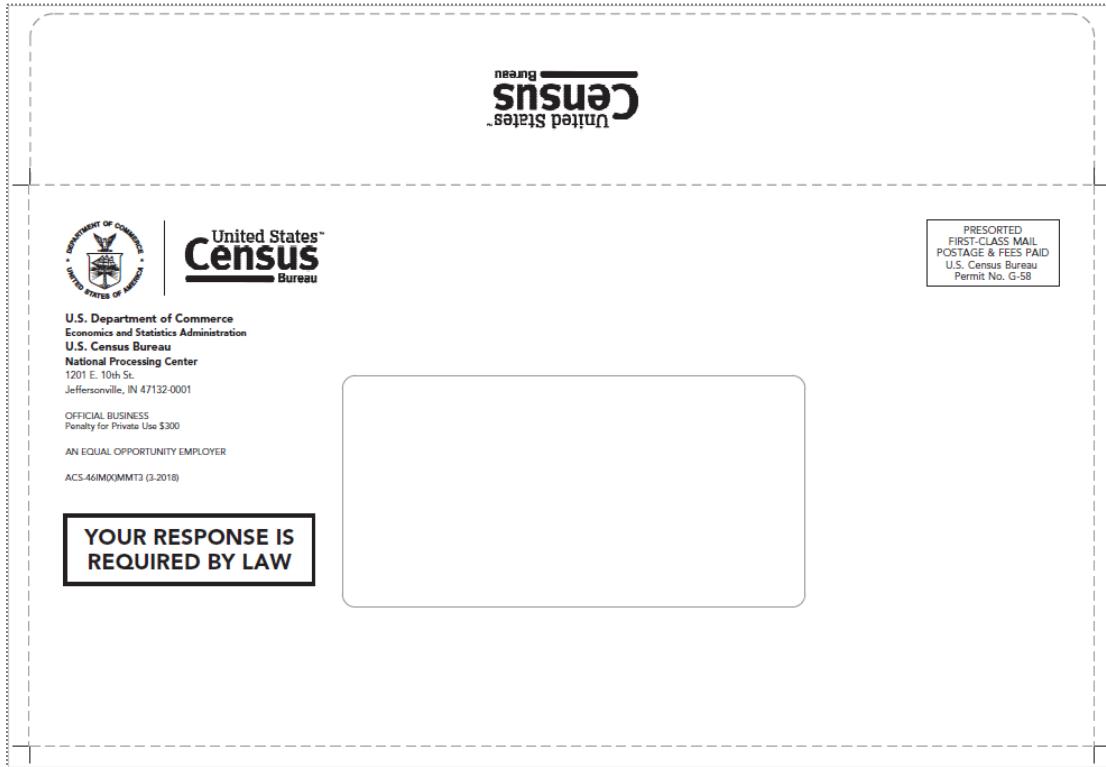
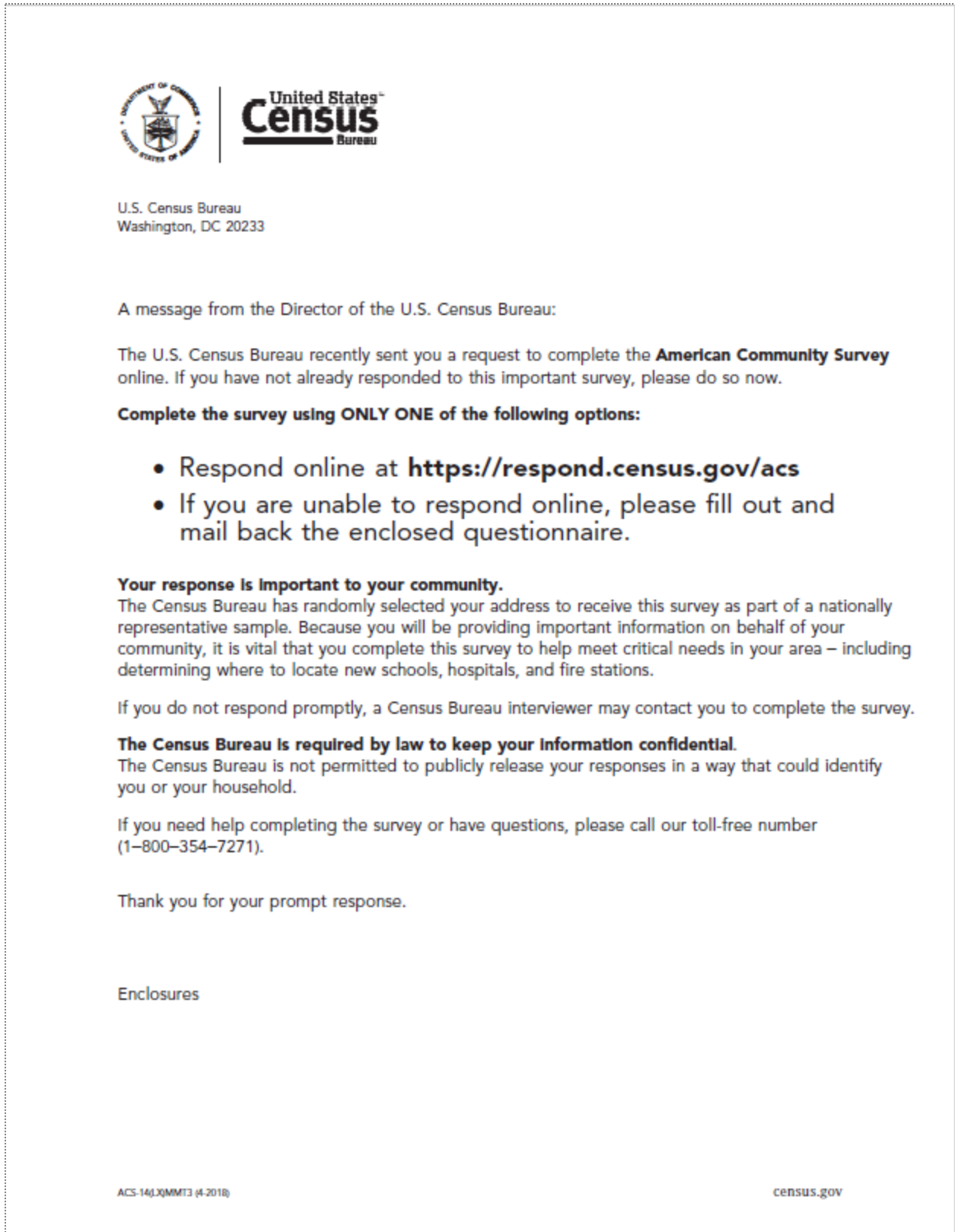


Figure 32. Treatment 4 Third Mailing – Letter (front and back)



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 33. Treatment 4 Third Mailing – Envelope

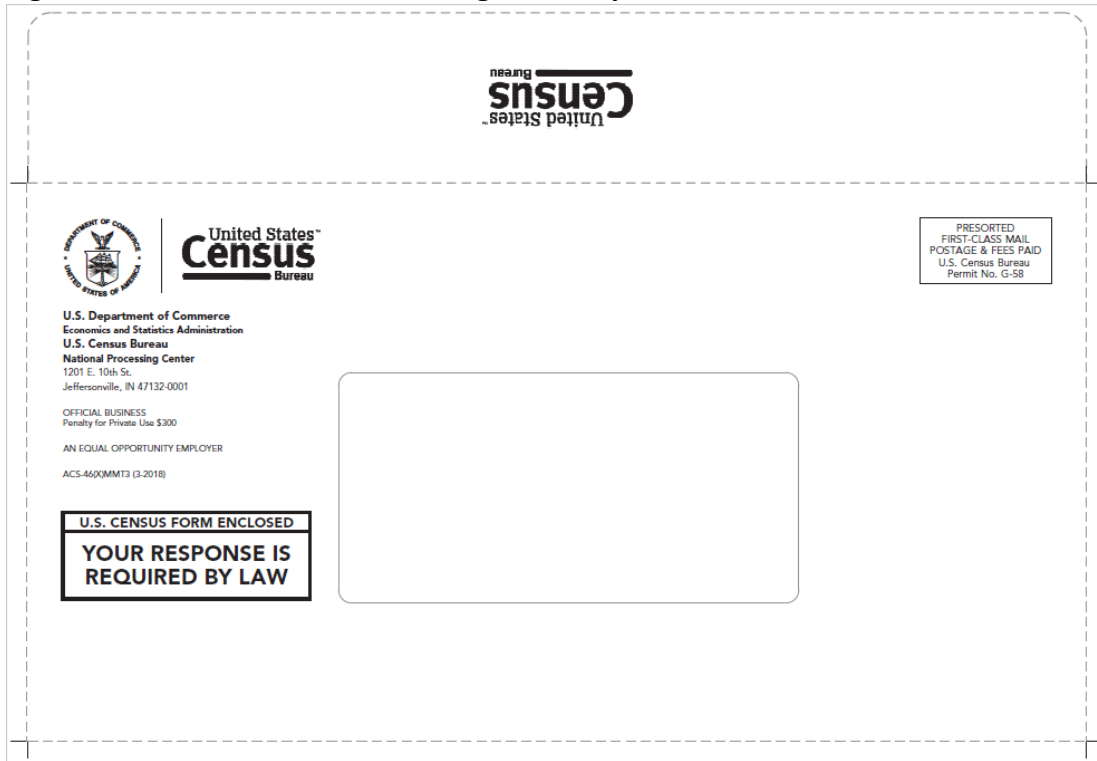
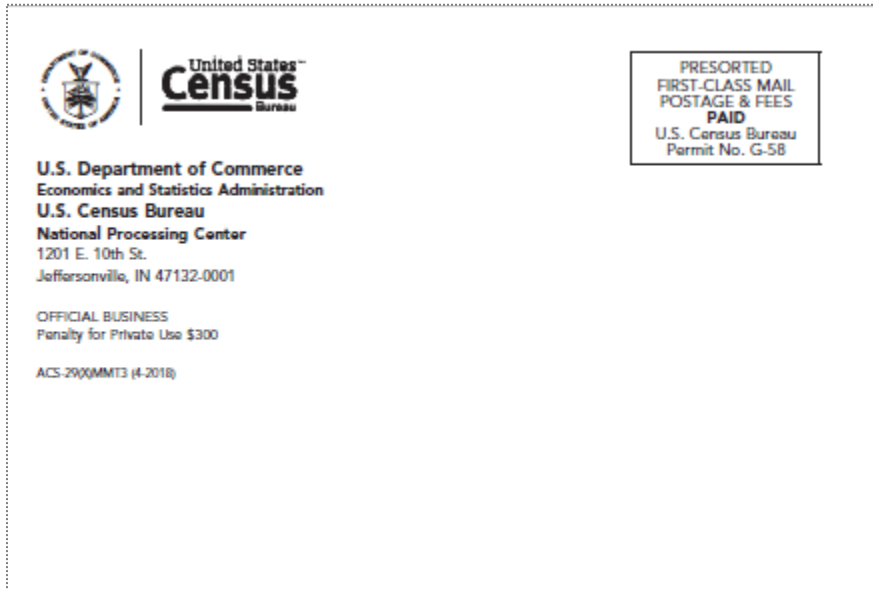


Figure 34. Treatment 4 Fourth Mailing – Postcard

Front:



Back:

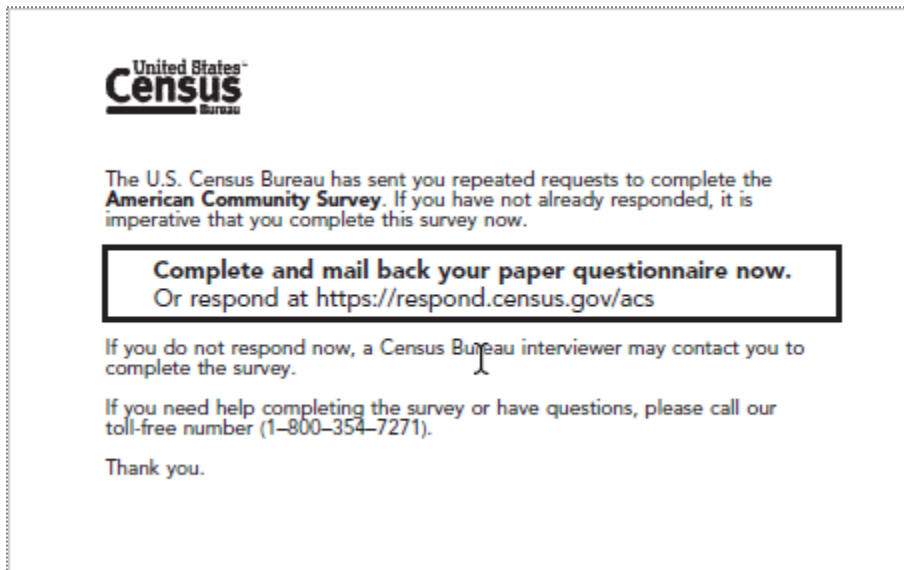
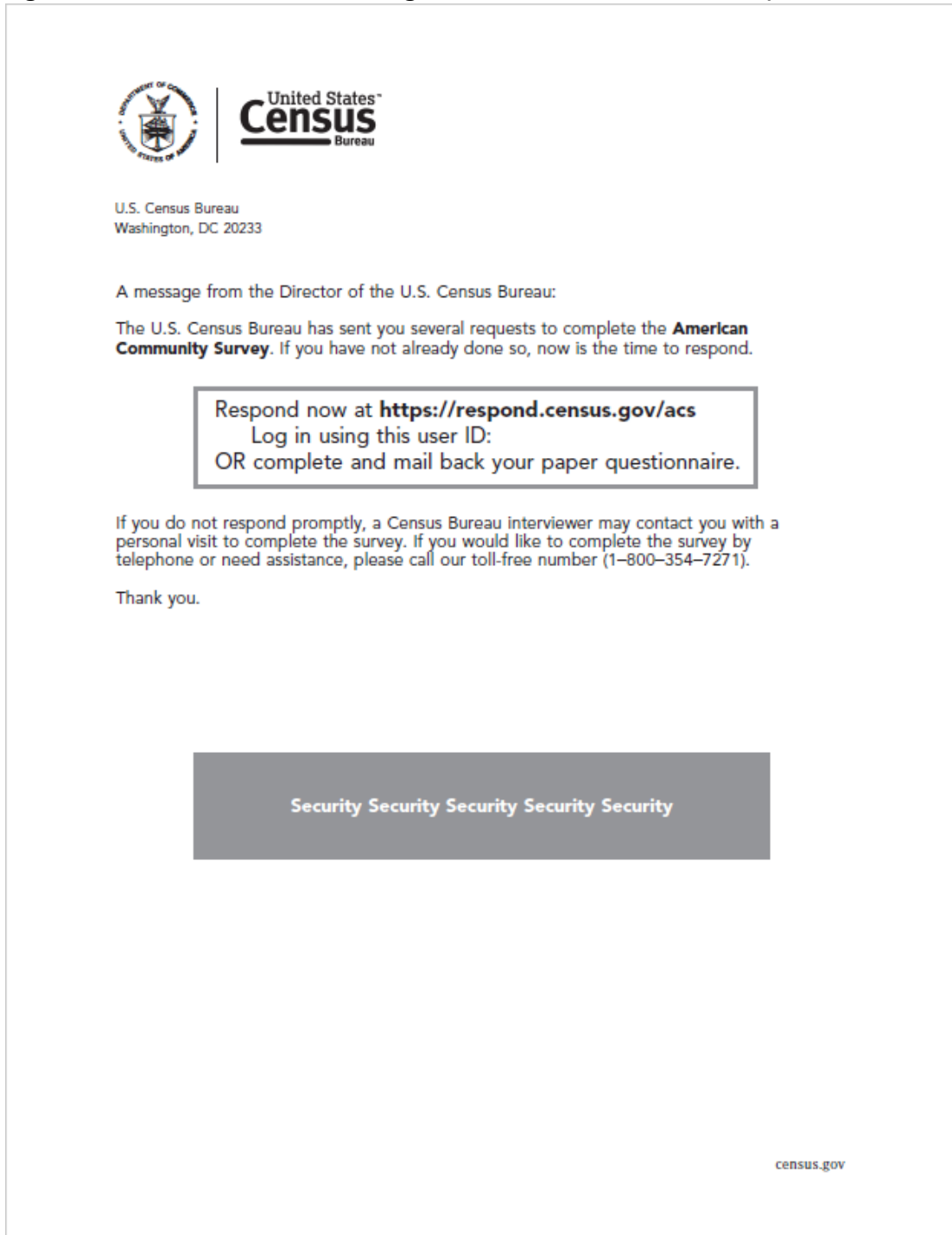


Figure 35. Treatment 4 Fifth Mailing – Bi-Fold Pressure Seal Letter (inside and outside)





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Appendix H. Treatment 5 Mail Materials

Image of the material in Treatment 5 that differ from those used in Treatment 3.

Figure 36. Treatment 5 Third Mailing – Questionnaire (Front Cover)

13197017

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU




THE American Community Survey

Start Here

Respond online today at:
<https://respond.census.gov/acs>
OR
Complete this form and mail it back as soon as possible.

This form asks for information about the people who are living or staying at the address on the mailing label and about the house, apartment, or mobile home located at the address on the mailing label.



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

Telephone Device for the Deaf (TDD):
Call 1-800-582-8330. The telephone call is free.

¿NECESITA AYUDA? Si usted habla español y necesita ayuda para completar su cuestionario, llame sin cargo alguno al **1-877-833-5625**. Usted también puede completar su entrevista por teléfono con un entrevistador que habla español. O puede responder por Internet en: <https://respond.census.gov/acs>

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

➔ **Please print today's date.**

Month	Day	Year
<input type="text"/>	<input type="text"/>	<input type="text"/>

➔ **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, 3, and 4 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(2017)**
(02-14-2016)

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

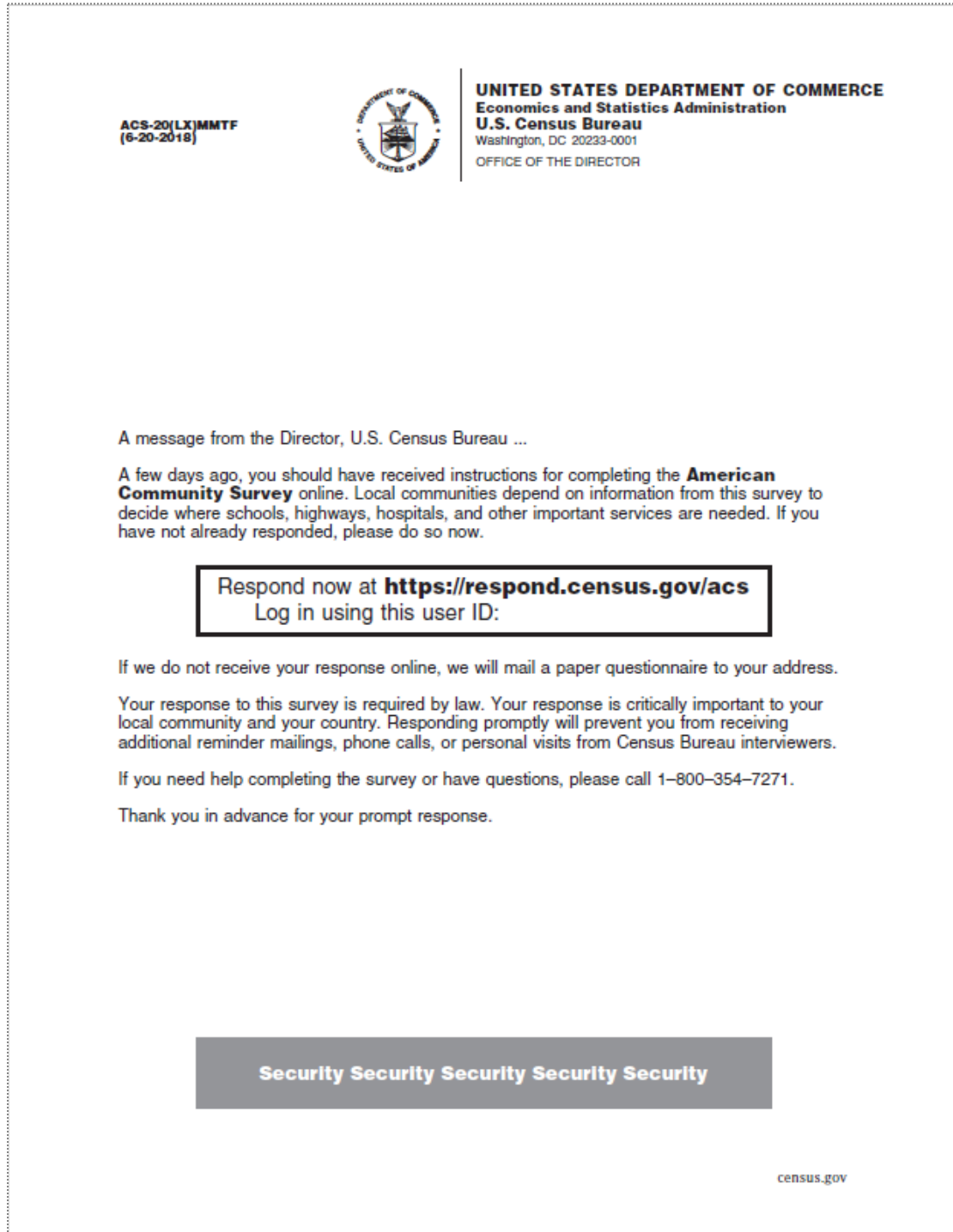


ACS-1(2017), Page 1, Base (Black)ACS-1(2017), Page 1, Green Pantone 354 (18, 100%)

Appendix I. Treatment 6 Mail Materials

Images of the materials in Treatment 2 that differ from those used in Production.

Figure 37. Treatment 6 Second Mailing – Tri-Fold Pressure Seal Letter (inside and outside)



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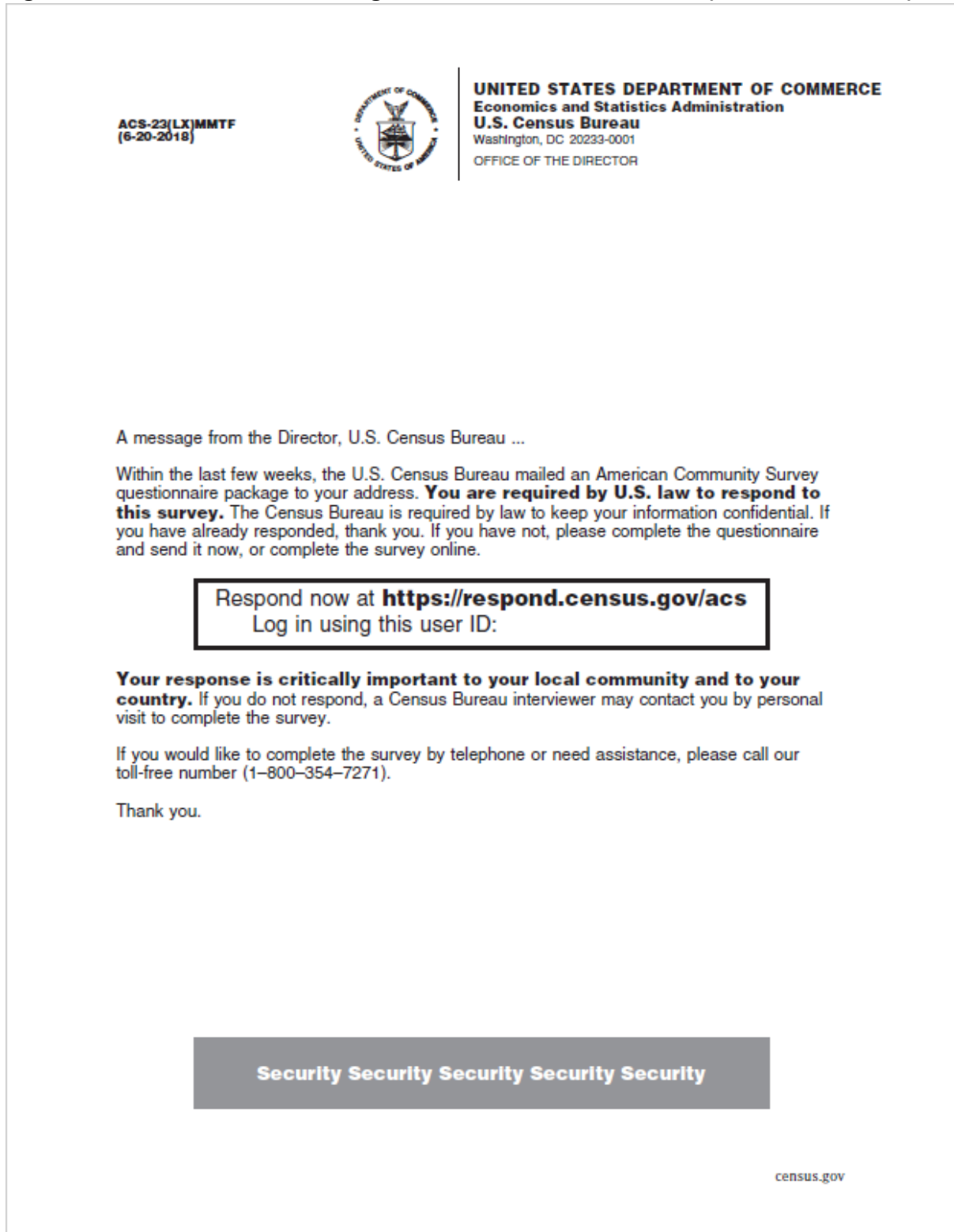
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Figure 38. Treatment 6 Fifth Mailing – Tri-Fold Pressure Seal Letter (inside and outside)



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