

U.S. Department of Justice Office of Legislative Affairs

Office of the Assistant Attarney General

Weshington, D.C. 20530

SEP 2 2 1989

Honorable Jeff Bingaman
Chairman
Subcommittee on Government
Information and Regulation
United States Senate
Washington, D.C. 20510

Dear Senator Bingaman:

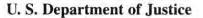
You have requested the views of the Department of Justice Concerning the constitutionality of proposed legislation excluding illegal or deportable aliens from the decennial census count. In the past, the Department of Justice has taken the position that section two of the Fourteenth Amendment which provides for "counting the whole number of persons in each State" and the original Apportionment and Census Clauses of Article I section two of the Constitution require that inhabitants of States who are illegal aliens be included in the census count. In our review of this issue to date, we have found no basis for reversing this position.

The Office of Management and Budget has advised this Department that it has no objection to the submission of this report to Congress.

Sincerely,

Carol T. Crawford

Assistant Attorney General





Justice Management Division

Office of General Counsel

Washington, D.C. 20530

JUN 2 5 2014

Mr. Kelly R. Welsh General Counsel U.S. Department of Commerce Office of the General Counsel 1401 Constitution Ave., NW Washington, DC 20230

Re: Legal Authority for American Community Survey Questions

Dear Mr. Welsh:

I have been asked to respond to your letter of May 9, 2014, to Attorney General Holder, in which you requested a review of the questions asked in the American Community Survey (ACS) on behalf of the Department of Justice (DOJ), as well as an affirmation that the questions remain relevant and the legal authorities supporting DOJ's use of the information are accurate and complete. I apologize for the delay in providing this response, which was due to the decentralization of DOJ's relevant programs. We sincerely appreciate your office's flexibility with respect to the timing of this response.

In undertaking this review, working through DOJ's point of contact for this ACS review, Mr. William Sabol, we asked DOJ component organizations to identify whether they rely on ACS information, and to provide the requested assurances. Ultimately, only two DOJ components indicated that they use ACS information: the Civil Rights Division (CRT) and the Office of Justice Programs (OJP). Within OJP, only the Bureau of Justice Statistics (BJS) uses ACS information. Both CRT and OJP/BJS have described their current needs for relevant ACS information and have provided assurances that the authorities for such uses remain current. I have attached a document describing CRT's numerous uses of ACS information and the relevant current statutory authorities.

With respect to OJP/BJS, that organization has advised me that it is authorized under 42 U.S.C. § 3732 to collect a wide range of data relating to crime and the criminal justice system, and is specifically directed to collect victimization statistics regarding individuals with developmental disabilities under the Crime Victims with Disabilities Awareness Act of 1998, Pub. L. 105-301, Oct. 27 1998; 112 Stat. 2838 as amended; <u>see</u> 42 U.S.C. § 3732 (Note). Further, while there is no specific statute directly referencing use of the ACS, BJS is authorized under 42 U.S.C. § 3732(d) to enter agreements with any federal agency for assistance in data collection and analysis necessary to perform its multi-faceted mission.

Accordingly, please accept this letter as DOJ's affirmation that it continues to need relevant information as described above and in the attachment, and that the legal authorities for the use of such information are accurate, current and complete. Mr. Sabol has transmitted the information about the legal authorities to the ACS Content Review staff at Census.

Please let me know if you have any questions about this letter. I can be reached at (202) 514-3452, or at Arthur.Gary@usdoj.gov.

Sincerely yours,

Arthur E. Gary General Counsel

Attachment

Cc: Jocelyn Samuels, CRT Lee Lofthus, JMD Karol Mason, OJP Ben Mizer, OAG William Sabol, BJS

Statutory R	equirement					
Title	Citations	Classification	Uses	Lowest geography	ACS Characteristics	Frequency
Voting Rights Act of 1965	42 U.S.C. 1973 et seq .; 28 C.F.R. Part 51; Bartlett v. Strickland, 556 U.S. 1 (2009); LULAC v. Perry, 548 U.S. 399 (2006); Johnson v. DeGrandy, 512 U.S. 997 (1994); Thornburg v. Gingles, 478 U.S. 30 (1986)	R	Used in the enforcement responsibilities under the Voting Rights Act to determine eligible voting populations for analysis and for presentation in federal litigation	Census block group	AGE, RACE, HISP,	Annual
Voting Rights Act of 1965	42 U.S.C. 1973 et seq .; 28 C.F.R. Part 51; LULAC v. Perry, 548 U.S. 399 (2006); Johnson v. DeGrandy , 512 U.S. 997 (1994); Thornburg v. Gingles, 478 U.S. 30 (1986)	R	Used in the enforcement responsibilities under the Voting Rights Act to determine disparities in voter participation rates for analysis and for presentation in federal litigation	Census block group American Indian/ Alaskan Native area	AGE, RACE, HISP, CIT, INC, ATT, LAN, AUTO, PHONE, TEN	Annual
Voting Rights Act of 1965, Section 203	42 U.SC. 1973aa-1a; 28 C.F.R. Part 55	М	Used in the enforcement responsibilities under the Voting Rights Act's bilingual requirements	Census tract American Indian/ Alaskan Native area	AGE, RACE, HISP, CIT, ATT, LAN,	Annual

Statutory Red	Statutory Requirement					
Title	Citations	Classification	Uses	Lowest geography	ACS Characteristics	Frequency
Title VI of Civil Rights Act of 1964 (Nondiscrimination in federally assisted programs and activities)	42 USC 2000d to 2000d- 7; Lau v. Nichols, 414 U.S. 563 (1974), 28 CFR 42.101 to 42.112; 28 CFR 42.401 to 42.415; 28 CFR 50.3; 67 Fed. Reg. 41,555 (June 18, 2002)	R	Used by the Department of Justice, other federal agencies that offer federal financial assistance, and recipients of federal financial assistance to comply with and enforce the prohibition against discrimination on the basis of race, color, and national origin in programs and activities receiving federal financial assistance.	Census block group	RACE, ANC, LAN, INC, AGE, HIS	Annual
Executive Order 13166: Improving Access to Services for Persons with Limited English Proficiency	65 Fed. Reg. 50,121 (August 16, 2000)	R	Used by federal agencies and recipients of federal financial assistance to provide, identify any need for services to those with limited English proficiency (LEP) in order to comply with the prohibition against national origin discrimination programs and activities receiving federal financial assistance and federally-conducted programs and activities.	Census block group	ANC, LAN, INC, AGE, HIS	Annual
Fair Housing Act of 1968	42 U.S.C. 3601 <i>et seq.</i> ; 24 C.F.R. 100.500	Р	Used in enforcement efforts to eliminate and remedy unlawful discrimination in housing.	Census block group	SEX, HISP, RACE, ANC, DIS, INC, HHREL, STRUC, YRBUILT, TEN, VAL, RENT	Annual
Equal Credit Opportunity Act	15 U.S.C. 1691 et seq .	P	Used in enforcement efforts to eliminate and remedy unlawful discrimination in lending.	Census block group	SEX, AGE, HISP, RACE, VAL, ANC, MS, INC,TEN	Annual

Statutory Re	equirement			4 1		
Title	Citations	Classification	Uses	Lowest geography	ACS Characteristics	Frequency
Americans with Disabilities Act of 1990 (ADA)	Titles II and III; 42 U.S.C. 12131-12189; 28 C.F.R. Parts 35 and 36	P	Used to assist generally with ADA enforcement responsibilities (including evaluating the impact of discriminatory policies and practices on affected populations of persons with disabilities) and to evaluate the impact of proposed regulatory changes to implement the requirements of titles II and III of the ADA.	Census tract	AGE,SEX, RACE, HISP, ATT, DIS, COW, LF, POW, JTW, OCC, IND, INC, WSLY.	Annual
Civil Rights Act of 1964 (Rights to Public Education and Equal Educational Entitlement)	42 U.S.C. 2000c et seq .	R	Used in the enforcement of nondiscrimination in education by state and local governments, including monitoring desegregation	Place	AGE, SEX, RACE, ANC, HISP, ATT ENR,	Annual
Equal Educational Opportunities Act of 1974	20 U.S.C.1701 et seq .; Castaneda v. Pickard , 648 F.2d 989 (1981)	R	Used in the enforcement of nondiscrimination in education by state and local governments, including ensuring appropriate action to assist English language learners in overcoming language barriers	Tation and the second	AGE, SEX, RACE, ANC, HISP, ATT ENR, LAN	Annual
Title IX of the Education Amendments of 1972	20 U.S.C. 1701 et seq.	R	Used to enforce the prohibition against discrimination on the bias of sex in education programs and activities receiving federal financial assistance	Census block group		Annual

Statutory Red	quirement					_
Title	Citations	Classification	Uses	Lowest geography	ACS Characteristics	Frequency
Title VII of the Civil Rights Act of 1964	42 U.S.C. 2000e <i>et seq</i> .	R	Used to determine compliance with consent decrees entered by federal courts in pattern or practice employment discrimination lawsuits	Place	SEX, AGE, HISP, RACE, CIT, ATT, VET, LF, POW, JTW, IND, OCC	Annual
Title VII of the Civil Rights Act of 1964	42 U.S.C. 2000e et sea.	R	Used to determine whether group is underrepresented in employer's workforce	Place	SEX, AGE, HISP, RACE, CIT, ATT, VET, LF, POW, JTW, IND, OCC	Annual
Section 707 of Title VII of the Civil Rights Act of 1964	42 U.S.C. 2000e-6	Р	Used to plan enforcement of prohibition against pattern or practice employment discrimination	Place	SEX, AGE, HISP, RACE, CIT, ATT, VET, LF, POW, JTW, IND, OCC	Annual
Title VII of the Civil Rights Act of 1964	42 U.S.C. 2000e et seq .; Wards Cove Packing Co. v. Atonio, 490 U.S. 642 (1989)	R	Used, in conjunction with other data, to demonstrate prima facie case of employment discrimination		SEX, AGE, HISP, RACE, CIT, ATT, VET, LF, POW, JTW, IND, OCC	Annual
Title VII of the Civil Rights Act of 1964	42 U.S.C. 2000e-5(g)(1)	Р	Used to calculate classwide wages lost due to pattern or practice of employment discrimination.	Place	SEX, AGE, HISP, RACE, ATT, LF, YRLW, WSLY, IND, OCC, INC	Annual



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How Well Does the American Community Survey Count Naturalized Citizens?

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Abstract

Background—Citizenship status among the foreign born is a crucial indicator of social and political incorporation, yet there are good reasons to suspect that citizenship status is inaccurately reported on U.S. surveys.

Objective—This paper updates research carried out in the mid-1990s by Passel and Clark (1997) on the extent to which foreign-born non-citizen respondents in U.S. government-sponsored surveys misreport as naturalized citizens.

Methods—We compare demographic estimates of the resident naturalized foreign-born population in 2010, based on administrative data, to estimates from the 2010 American Community Survey (ACS).

Results—Similar to previous research, we find that misreporting in the ACS is especially high among immigrants from all countries/regions who report fewer than five years in the U.S. We also find that among longer-term foreign-born residents, misreporting is concentrated only among those originating in Mexico, especially men, a finding that diverges from Passel and Clark in that we find no evidence of over-reporting among immigrants from Central America and the Caribbean. Finally, the estimated magnitude of misreporting, especially among longer-term Mexican-born men, is sensitive to assumptions about the rate of emigration in our administrative-based demographic estimates, and assumptions about coverage error in the ACS, though altering these assumptions does not change the conclusions drawn from the general patterns of the results.

Conclusions—For applications that use citizenship as an indicator of legal status, we recommend that self-reported data on citizenship be accepted at face value for all groups except those with less than five years of U.S. residence and Mexican men.

Introduction

Immigration and immigrant integration continue to be topics of enormous social significance, particularly for countries like the United States where immigrants make up 13% of its population. In the context of anti-immigrant policies and attitudes that treat societal outsiders differently, citizenship status among the foreign born is a crucial indicator of social and political incorporation in the United States (Van Hook, Brown, and Bean 2006) and other immigrant-receiving societies (Bloemraad 2006), and is strongly associated with political participation, access to public assistance, health care, and jobs (Passel, Clark and Fix 1997; DeSipio 2001; Fix and Zimmermann 2001; Van Hook and Balistreri 2006). Citizenship is also a key variable for the production of estimates of the characteristics of the unauthorized foreign-born population (Passel, Van Hook, and Bean 2006). Social scientists and policy analysts therefore rely heavily on survey items on citizenship to answer questions

about immigrants, their well-being, and their impact on host societies (Bloemraad, Korteweg and Yardakul 2008).

Given the importance of citizenship for research on immigrants, it is important to assess the accuracy of citizenship reporting in surveys. In the United States, data on naturalization and citizenship largely come from Census Bureau surveys, such as the Current Population Survey (CPS), the long form of the decennial Census (2000 and earlier), and the American Community Survey (ACS). Prior research, carried out in the mid-1990s by Passel and Clark (1997), suggests that the number of naturalized citizens is over-estimated in Census data, possibly because some non-citizens misreport as citizens. We update and extend this work by comparing demographic estimates of the resident naturalized foreign-born population in 2010, based on administrative data, to estimates from the 2010 American Community Survey (ACS).

Prior Research and Study Contributions

In the United States, immigrants may naturalize after five years of legal permanent residency if they meet the criteria for citizenship (e.g., they must demonstrate English proficiency and pass a civics test), or after three years if they are married to a U.S. citizen or have served in the U.S. military (U.S. Citizenship and Naturalization Services 2012). Because citizenship grants immigrants eligibility for a wide variety of public assistance programs and civic activities (Passel, Clark and Fix 1997; DeSipio 2001; Fix and Zimmermann 2001), and because it serves as an indicator of social inclusion and integration (Van Hook, Brown, and Bean 2006; Bloemraad 2006), researchers interested in immigrant integration and the well-being of immigrants and their children often incorporate citizenship into their analyses. For example, using Canadian and U.S. Census data Bloemraad (2006) finds that rates of naturalization among immigrants in Canada, which has a multiculturalist policy regime, are relatively higher than those for immigrants in the United States, where federal policy with respect to the civic incorporation of immigrants is, by comparison, more laissez-faire. In another example, Van Hook and Balistreri (2006) found that children living in households with noncitizens experienced steeper declines in food support and increases in food insecurity following the enactment of legislation that cut public assistance programs to noncitizens.

Data on citizenship has also been used in research on the characteristics of the unauthorized immigration. Few surveys ask questions about immigrants' legal status. Information on citizenship, which is a common survey question, along with other indicators of legal status, has been used to impute who among the foreign born are legally resident (Passel and Cohn 2009). Citizenship is strongly associated with legal status because naturalized citizens are composed entirely of legally-resident persons, while noncitizens are composed of a mixture of legal statuses, including unauthorized migrants, legal permanent residents, and other legal non-immigrants (Passel, Van Hook, and Bean 2006).

There are good reasons to suspect that citizenship is inaccurately estimated in Census data. During the late 1990s, Passel and Clark (1997) compared the number of persons that are reported as naturalized in the 1990 Census and the 1996 Current Population Survey (CPS) with the number of naturalized citizens based on administrative data from the Immigration and Naturalization Service (INS). They found the Census/CPS estimates to be much higher than the INS-based estimates for two groups. Among new arrivals (those in the U.S. fewer than five years) from all national origins, about 75% of those who were reported as naturalized were probably not. Among longer-resident Mexican and Central American immigrants, about one-third of those who were reported as naturalized were probably not.

Although other possible explanations exist, the discrepancy between administrative records and the Census/CPS has been attributed to false reporting of citizenship among Mexican and Central American immigrants, possibly because many of them are unauthorized and have an incentive to hide their status from interviewers or Census takers, or because they are confused about their citizenship status. This assessment has limited the value of the citizenship variable for research on immigrant naturalization and legal status. For example, skepticism about the accuracy of citizenship reporting has led the Pew Hispanic Center to refrain from using citizenship as an indicator of legal status among most recently-arrived immigrants and all Mexicans and Central Americans (Passel et al. 2006).

For several reasons, we seek to update and extend the research conducted by Passel and Clark (1997). First, Passel and Clark's research was presented at a conference but the details of their methodology were never published in a peer-reviewed outlet. For this reason, it has been difficult to evaluate and replicate their work. Here, we provide a detailed description of the data and methods used to evaluate Census-based estimates of the number of naturalized citizens. While our method is not identical to Passel and Clark's method, it adheres to the same basic logic. Like Passel and Clark, we use administrative data on naturalization to evaluate the number of citizens enumerated in Census data, working under the premise that administrative records of naturalization are less sensitive to error than Census data.

Second, we seek to update the Passel and Clark estimates because no evaluations of citizenship reporting have been done since their study. Reporting error may have increased due to increased DHS enforcement activities both at the U.S.-Mexico border and in the U.S. interior (Haddal 2010). The increased risk of deportation and heightened costs of re-entering the United States if deported may have made migrants less willing to provide accurate responses to questions about citizenship. Thus, at the same time that Federal and state/local policy vis-à-vis immigrants has shifted toward the increasing exclusion of non-citizens (Portes and Rumbaut 2006) - and especially unauthorized migrants - from certain rights, benefits and access to labor markets, the changing policy context may have also encouraged increased misreporting of naturalization among non-citizen immigrants, especially in government-sponsored surveys. Passel and Clark examined citizenship in the 1996 March Current Population Survey and the 1990 Census, data collected over 15 years ago. We evaluate the number of naturalized citizens in the 2010 American Community Survey (ACS). Discussed further below, the ACS was designed as a replacement of the decennial Census long form, and now serves as the major source of information about the size and composition of the foreign born population in the United States.

Third, we go beyond the Passel and Clark estimates by exploring the sensitivity of the results to three sources of uncertainty in the calculations: sampling error, emigration of naturalized citizens, and coverage error of naturalized citizens in Census data. We explain how these factors influence estimates of the number of citizens and identify plausible ranges of emigration and coverage error based on past research. We then use these ranges to produce a range of estimates of the discrepancy between administrative and census estimates of the number of citizens. These ranges help us eliminate some of the most important alternative explanations for discrepancies between administrative and census-based estimates. If a discrepancy is consistently evident across all plausible ranges of sampling error, emigration, and coverage error, this lends support to idea that the discrepancy is due to an actual difference between the number of naturalized citizens represented in Census data and the number of naturalized citizens in the population, rather than the assumptions we make in the process of evaluating census data.

Finally, we stress that our aim is to evaluate the ACS citizenship data as it is produced for public use by the Census Bureau. Therefore, we do not attempt to "correct" the citizenship

status or place of birth data reported in the public-use files of the ACS, such as by recoding what appear to be implausible responses to the citizenship question (e.g., foreign born with fewer than five years of U.S. residence), by adjusting the survey weights to account for insider knowledge of coverage error or other problems with the sampling weights, or by using restricted-use census data. We instead treat the ACS data as a competent non-Census Bureau analyst would.

Data and Methodology

To assess the current level of citizenship reporting error, we estimated the number of naturalized citizens in mid-year 2010 by age group, sex, region of origin, and duration of residence based on the number of Office of Immigration Statistics (OIS) naturalization records. We then compared the OIS-based estimates with the corresponding numbers in the 2010 American Community Survey (ACS) (also a mid-year estimate). The difference between the two provides an indication of over- or under-representation of naturalized citizenship in the ACS.

As mentioned above, the discrepancy can arise from errors other than reporting error. Most importantly, the ACS estimates are also subject to sampling error and coverage error, and the OIS-based estimates may not be accurate because of erroneous assumptions about the extent to which immigrants remain in the United States after naturalizing. We provide ranges of estimates based on plausible ranges of sampling error and coverage error (in the ACS), and emigration among naturalized citizens (for the OIS-based estimates). We are therefore able to assess not only the ACS-OIS difference, but also whether the difference could possibly be explained by sampling error or alternative assumptions about emigration or coverage error.

In what follows, we describe the data, samples, methods, and errors associated with the production of the ACS- and OIS-based estimates. This is then followed by a description of how we compare the two sets of estimates. We conducted all data analyses in Stata 12.1¹. All Stata programs and data files used to produce the ACS and OIS estimates are provided at Ilink here].

Estimates Based on the American Community Survey

Data—The 2010 ACS interviewed approximately 1.9 million U.S. housing units, or 2.4 percent of all occupied U.S. housing units, and 145 thousand persons in group quartersⁱⁱ. We used the one-year public use 2010 ACS, which contains a 1-in-100 sample of the U.S. population (N = 3,061,692 persons), obtained from the *Integrated Public-Use Microdata Series* (IPUMS) (Ruggles et al. 2010)ⁱⁱⁱ. We used the ACS, rather than the decennial Census or the Current Population Survey (as done by Passel and Clark), for several reasons. First, the decennial census no longer asks questions about citizenship. By design, the ACS replaced the decennial long form in the early 2000s and is now the only large U.S. sample with questions about naturalization and citizenship. The CPS would have been a good alternative, but the ACS is better because it includes a question about the year of naturalization, an item that is important for our estimates. Additionally, the ACS has a much larger sample than the CPS, which reduces sampling error. Finally, the ACS is representative of the U.S. resident population while the CPS is representative of a sub-set—the civilian noninstitutionalized population. While we do not expect this to make much

Stata is a general software package for data analysis and statistics (see http://www.stata.com/).

ii http://www.census.gov/acs/www/methodology/sample_size_data/

iii Data were extracted from https://usa.ipums.org/usa/sda/.

difference, the more inclusive ACS population is a closer match to the OIS-based estimates, which capture the entire U.S. resident population of naturalized citizens.

As described in the next section, the OIS estimates are limited to those who arrived in the United States in 1990 or later and naturalized age 18 or older. To match the universe for the OIS estimates, the ACS sample is limited to the same population: foreign-born naturalized citizens who came to the U.S. to stay in 1990 or later and who naturalized age 18 or older (N = 47,842).

The key variables used to produce the ACS estimates include country or region of birth (categorized as Mexico, Central American/Caribbean, Asia, and all other regions), sex, age (18-29, 30-39, and 40+), duration of U.S. residence (categorized <5 and 5+ years; recoded from the year the respondent reported he/she came to live in the U.S.), citizenship status, and age naturalized (18+; recoded from year of naturalization). Citizenship is based on the question: "Is this person a citizen of the United States?" to which respondents would have to answer "Yes, U.S. citizen by naturalization" in order to be counted as a naturalized citizen^{iv}. Persons marking this response are then asked to indicate the specific year of naturalization. Year of entry is ascertained by the question: "When did this person come to live in the United States?" Respondents are further asked to indicate the specific year of immigration.

Errors and Omissions in ACS Data—As discussed above, citizenship status could be mis-reported. This is the type of error we are most interested in evaluating. However, there are several other possible sources of error in the ACS estimates that we wish to account for. While it is impossible to identify and enumerate *every* source of error, we attempt to account for the errors that seem most likely to affect our evaluation.

First, ACS estimates are subject to sampling error. To assess the size of sampling error, standard errors and confidence intervals were calculated using the Successive Differences Replication (SDR) method described in the ACS design and methodology documentation (U.S. Census Bureau 2009). To do so, we employed the ACS replicate weights provided by the Census Bureau. For more details, interested readers should refer to the accompanying stata program for the ACS analyses (available on-line), as well as to the useful description of the method provided at the IPUMS website (https://usa.ipums.org/usa/repwt.shtml#q70).

Second, ACS estimates are subject to imputation error. Item nonresponse on the immigration questions is 4.5% on country of birth, 9.0% on year of entry, 5.2% on citizenship, and 15.1% on year of naturalization. The U.S. Census Bureau uses a "hot-deck" method for imputing missing data on these items, but the details of their methodology are unclear. While missingness varies in magnitude, it is worth noting that some subpopulations such as young adult and elderly Mexicans have relatively high rates of missing data on key variables. To the extent that the Census Bureau's hot deck method does not accurately assign missing values, the naturalized population totals in the ACS will be prone to error.

Third, there may be some reporting error or inconsistencies associated with some of the immigration-related items in the ACS other than citizenship, particularly year of entry and

i¹/The 1990 Census asked the identical question as the 2010 ACS, and the CPS asks a similar question: "Did you become a citizen of the United States through Naturalization?"

VNaturalized citizens, of course, are the only persons who answer the question about year of naturalization. Thus, 15.1 percent of the citizens had missing data on this question, while the other percentages reported are for the entire foreign-born sample.

Vi The average allocation rate for person variables in the 2010 ACS was 5.8 percent. For context, rates for other commonly used ACS

vi The average allocation rate for person variables in the 2010 ACS was 5.8 percent. For context, rates for other commonly used ACS variables are: year last married (11.4%), employer-provided health insurance (6.2%), hours worked per week (7.7%), occupation (8.1%), and income (22.4%).

year of naturalization. Ellis and Wright (1998) showed that there were inconsistencies in responses to questions about year of entry and place of residence one year earlier in the Current Population Survey. Recently-arrived immigrants who are engaged in circular migration may find the year of entry question particularly confusing and could plausibly report the year of their first trip, last trip, or a year in between (Redstone and Massey 2004). This suggests that, at least for temporary migrants, year of entry may understate duration of U.S. residence. In a related vein, and as we discuss in more detail below in relation to the OIS data, differences in the questions used to determine year of immigration between the two data sources also lend uncertainty to the comparative estimates of the naturalized population. Vii

A fourth source of error in the ACS data is coverage error. By coverage error, we refer to discrepancies between the number in a given population represented in the ACS and the actual population that are not due to sampling error or reporting error. Coverage error among the foreign born can arise from inadequate representation of housing units containing foreign born persons in the ACS sample or sampling frame, omissions of individuals from household rosters, or from errors in the sampling weights. If the number of naturalized citizens in the ACS were too low because of coverage error, then this would influence the comparison with OIS based estimates of the number of naturalized citizens independently of reporting error in the ACS.

Many observers suspect that coverage error is higher for the foreign born than the native born population, particularly among the U.S. Mexican-born population. The reason is simply that groups characterized by residential mobility and complex living arrangements, illicit activity, fear of detection, and socio-political marginality are less likely to be picked up in censuses or surveys (Swanson, Siegel and Shryock 2004), A comprehensive review of this work was provided by Van Hook and Bean (1998). During the 2000s, the two leading producers of estimates of the unauthorized foreign-born population, the Office of Immigration Statistics (OIS) and the Pew Hispanic Center (Pew), assumed that coverage error was, respectively, 10 (Hoefer, Rytina and Baker 2011) and 13 percent (Passel and Cohn 2009) for the unauthorized foreign born, and about 2.5% for other foreign born. OIS rested its assumption about coverage error on a survey conducted in Los Angeles that was then compared to Census counts (Marcelli and Ong 2002). Pew based its assumption on the levels of enumeration error estimated for the 2000 Census, which were calculated by incorporating data from the Accuracy and Coverage Evaluation (ACE) post-enumeration survey viii. Recent evidence based on a triangulation of three different methods that examine trends in births, deaths, and net migration, however, suggests slightly higher coverage error among all Mexican born in 2000 than estimated by OIS and Pew (about 15-20% coverage error), but declining rates throughout the 2000 decade (Van Hook et al. 2012)1X.

vii Additionally, responses to the year of entry and year of naturalization questions may suffer from year heaping, in which respondents are more likely to report years ending in 5 or 0. Examination of the data did suggest some digit preference among respondents for these years, but also showed considerable heaping in years ending with digits 8 and 9, reflecting, we believe, actual spikes in both immigration and naturalization during the late 1990s. Because this type of heaping reflects actual trends in immigration and naturalization, we do not smooth the data. We did produce a supplementary set of results (available upon request) based on smoothed year of entry and year of naturalization data (Myers 1940). The results were very similar to those presented here. This makes sense. Year heaping resulting from digit preference would present the greatest concern if year variables were used as continuous measures, but we designed our analyses to minimize our reliance of these variables. We only use year of entry to drop pre-1990 arrivals from the sample, and for some analyses to discern between those arriving in the last five years versus five or more years. Similarly, we only used year of naturalization to classify respondents as naturalizing at age 18 or older. We discuss the limitations of these indicators and possible implications for the results in the conclusions.

viii Like previous post-enumeration surveys, the 2000 ACE re-interviewed a stratified sample of households shortly following the decennial census. Respondents in the post-enumeration survey were matched to Census respondents in order to assess rates of omission, duplication, and net coverage error. Although the ACE did not produce separate estimates for the foreign born, the Pew Hispanic Center used the ACE to arrive at a 13 percent figure by assuming unauthorized rates of coverage error two to three times those for others within the same race/Hispanic origin, age and sex grouping.

This evidence places coverage error in the range of 2.5% (for legal foreign born), to 10% to 13% (for unauthorized foreign born), to 15-20% (for Mexican foreign-born). Considering that coverage error is likely to be even lower among naturalized citizens than all foreign born or the Mexican born (because they are not unauthorized), we assumed a narrow range of coverage error of 0% to 5%. We adjusted for coverage error in selected analyses by dividing the ACS estimate by one minus the assumed coverage error rate (e.g., in the case of 5% coverage error, the adjusted ACS estimate = ACS estimate/95).

Estimates Based on Office of Immigration Statistics (OIS) Naturalization Records

OIS-based estimates of the naturalized citizens in 2010 were derived from the numbers of naturalizations in OIS administrative records. OIS data on naturalizations are historical records of events ("flows") occurring over time, so they need to be converted to a "stock" estimate of the number of naturalized citizens for a given point in time (i.e., July 2010) to be comparable with ACS estimates. Once a person becomes a naturalized citizen, they may remain living in the United States and be represented in the 2010 ACS. Alternatively, they may have died or emigrated from the United States, and therefore could not be represented in the 2010 ACS.

To account for deaths and emigration, we used the cohort-component projection method (Rowland 2003). More specifically, for each naturalization cohort, we estimated the number remaining by the time of the 2010 ACS (July 1, 2010 on average) by subtracting an estimate of deaths (D) and emigrants (E) that likely occurred during the follow-up period, that is, between the year of naturalization and July 1, 2010. For example, for a cohort age 20 that naturalized in 1995 (N_{20, 1995}), the number of naturalized citizens age 35 in 2010 (C_{35, 2010}) is:

More generally, for a given cohort that naturalized at age a in year t,

$$C_{a+(2010-t_i)} = 2010 = N_{a_i} t - D_{t-2010} - E_{t-2010}$$

We describe below how we estimated each component of this equation.

Naturalizations (Na. t)

<u>Data:</u> The OIS routinely compiles data obtained from the administrative records of legal immigrant admissions and naturalizations kept by the U.S. Department of Homeland Security. These files are not available as public use data. The naturalization files include a record for each naturalization event occurring in the United States since the mid 1970s. Attached to each record is the demographic and immigration-related information (e.g., age, sex, country of birth, year of admission to the U.S., year of arrival to the U.S.) for the people who became citizens. Unlike the ACS, missing data do not pose significant problems for the OIS data. Out of the 5.4 million naturalization records used to produce our estimates, only 0.05% were missing on age, 0.03% on sex, 0.11% on country of birth, and 0.40% on year of arrival^x.

ixThe three methods involve (1) comparisons of U.S. births to Mexican born mothers with U.S. born children counted in the ACS; (2) comparisons of estimates of net migration from Mexico to the United States based on Mexican census data and U.S. Census data; and (3) comparisons of deaths to the Mexican born in the United States, and the underlying population that "produced" those deaths, with the number enumerated in the Census and ACS.

Because no public use data are available, the Office of Immigration Statistics generously provided a file to us containing detailed cross-tabulations of the number of naturalizations by year of naturalization, age at naturalization^{xi}, sex, year of arrival, and region of birth (Mexico, Central American/Caribbean, Asia, Other). Combined, the cross-tabulations described the size and characteristics of 122,660 different naturalization cohorts. Together, these cohorts experienced 5.4 million naturalizations between January 1, 1990 and July 1, 2010^{xii}. Of course, we later combined these groups for presentation purposes, but the underlying detail granted us considerable flexibility.

Errors and Omissions in OIS Naturalization Data: Like the ACS data, the OIS data are subject to errors and omissions. First, the OIS data include only those who naturalized as adults age 18 and older. Children ages 0-17 may obtain "derivative" citizenship from their parents when they naturalize, but the U.S. government does not produce easily accessible or interpretable statistics on derivative citizenship among children. We therefore limited our analyses (for both the OIS and ACS estimates) to those who naturalized as adults age 18+.

Second, to be included in the OIS naturalization file, a person must have a matching record in the computerized OIS admission file and these files do not extend back before 1972. Thus pre-1972 arrivals (who contributed about 10% of all naturalizations between 1990 and 2010) are not in the computerized OIS naturalization file. To minimize this error, we limited our naturalization estimates (for both OIS and ACS) to those who arrived in the United States in 1990 or later.

Third, naturalization data were not available for the approximately 100,000 LPR records out of 1.7 million that were not originally included in DHS flow data between 2001 and 2010 due to delayed data entry. For naturalizations occurring between 2001 and 2010, we therefore proportionately adjusted the number of naturalizations upward by a small percentage in order to add back in the 100,000 missing records. Specifically, we weighted the 1,661,815 cases that naturalized after 2000 by the ratio: (1,761,816 / 1,661,816).

Fourth, information in the OIS data on year of arrival may be unreliable because it is based on a variety of sources (i.e., sometimes determined from other documents, sometimes self-reported, etc.). Additionally, self-reported year of arrival is based on a question about the year of the respondents' last trip to the United States, which is different from the census question (year the respondent came to the U.S. to live). In our analyses, we therefore use year of arrival in a limited manner, namely to identify those who arrived in 1990 or later, and to discern recently-arrived immigrants (with less than 5 years of U.S. residence) from longer-resident immigrants.

Deaths (D_{t-2010})—We estimated the likely number of deaths to each naturalization cohort by multiplying the appropriate age-, sex-, and year-specific annual probability of dying (q_x) by the number remaining in the cohort for each year of the follow-up period. No life table for naturalized citizens exists, so we used the life tables produced by the Social Security

^{*}Even though missingness in the OIS data is not high enough to bias estimates of the characteristics of naturalized citizens, we did not want to discard the records with missing data or our estimates of naturalized citizens would be too low. Since the OIS data was given to us in the form of cross tabulations rather than individual records, we could not use standard methods to handle missing data. Instead, we simply distributed the records with missing data proportionately across the categories of each variable (i.e., matching the observed distributions).

xiOIS provided data for five-year age groups. We subdivided the data into single-year age groups for the purpose of performing the projections (which are considerably easier computationally for single years of age), with the numbers of naturalizations equally allocated across single-year age groups. After the projection was done, the age groups were collapsed into very broad age categories (18-29, 30-39, 40+) for the purpose of comparison with the ACS.

XiiOIS did not report month of naturalization, so we estimated the number of naturalizations from January 1, 2010 through July 1,

XIIOIS did not report month of naturalization, so we estimated the number of naturalizations from January 1, 2010 through July 1, 2010 as half the total number occurring in the 2010 calendar year.

Administration (Bell and Miller 2005), which estimate mortality risks for the United States based on NCHS vital statistics for ages 0-64 and Medicare files for ages 65 and older across all years of the projection period. Thus they yield more accurate estimates of old-age mortality (with less age misreporting) and reflect the mortality experiences of those eligible for Medicare, including naturalized immigrants. The Social Security Life Tables are available from the Max Plank Institute's Human Life-Table Database (http://www.lifetable.de/). Mortality is a small component of the OIS-based estimates, and the estimates do not vary much when alternative U.S. life tables are used except for the oldest age groups (not a major concern because over 90% of the naturalized citizens in our sample are younger than 65).

Emigrants (E_{t-2010})—We estimated the number of emigrants for each naturalization cohort by applying a set of race-, age- and duration-specific emigration rates each year of the projection period. Because no official statistics on emigration from the United State have been collected since 1956 (Kraly 1998), emigration among the foreign born has been estimated with a variety of indirect demographic methods, which have yielded a range of estimates. Because of uncertainty about emigration, we apply four different sets of estimates. The first assumes *no* emigration at all, and the other three come from published estimates, which roughly correspond with "low", "moderate", and "high" levels of emigration. For the latter three, we used rates that vary by 5-year age group, sex, race or country of birth (Mexico vs. other), and duration of U.S. residence (0-4, 5-9, and 10+ years).

The "low" estimates are those produced by Ahmed and Robinson (1994). These are based on comparisons of cohorts followed over time between 1980 and 1990 censuses. The Ahmed and Robinson rates are broken down by race/ethnicity: Hispanic, white, black, and Asian. We used the Hispanic rates for Mexicans and Central/South Americas, the white rates for Europeans and Canadians, the Asian rates for all Asians, and the black rates for all other immigrants (mostly Caribbeans and Africans).

The "moderate" estimates are those based on Social Security work history files (Schwabish 2009). These use a three-year discontinuation in U.S.-reported earnings as an indicator of emigration. Because unauthorized immigrants do not qualify for Social Security, the Social Security-based rates may most closely describe the emigration patterns of legal immigrants and (by extension) naturalized citizens. Our rates came from a prediction model provided to us by Schwabish, which permitted us to produce annual emigration rates by age, sex, duration of residence, and Mexican origin^{Xiii}. We used the Mexican rates for Mexicans and Central Americans, and the non-Mexican rates for all other immigrants.

Finally, the "high" estimates are those based on the CPS-matching method (Van Hook, Zhang, Bean, and Passel 2006). These use attrition from the Current Population Survey to estimate emigration. We used this method together with data from the 1996-2009 CPS to produce annual probabilities of emigration for naturalized foreign-born individuals in the CPS. We then estimated a prediction model of the probability of emigration, and used the estimated coefficients to construct predicted emigration rates by age, sex, duration of

xiiiWe gratefully acknowledge the assistance of Jonathon Schwabish for providing the prediction model. The model was discrete-time event history model (logistic regression) predicting the odds of emigrating in a given year. The model was estimated on a person-year file that contains a record for every foreign-born Social Security recipient from the time of entry into the Social Security system until emigration or censorship. We used the coefficients to calculate the log-odds of annual emigration for each demographic group, which we then converted to predicted probabilities (i.e., annual emigration rates).

residence, and Mexican origin^{XiV}. We used the Mexican rates for Mexicans and Central Americans, and the non-Mexican rates for all other immigrants.

Figure 1 illustrates the three sets of emigration rates for male Mexican immigrants with 0-4 years of U.S. residence. Readers will notice that the "low", "moderate", and "high" labels are broadly descriptive but are only partially accurate. Their rank order changes around age 55. At younger ages, the Ahmed/Robinson "low" rates are lowest, the Van Hook "high" rates are highest, and the Schwabish "moderate" rates fall in the middle. However, at older ages (55+), the Van Hook "high" rates fall below the Schwabish "moderate" rates.

Projection Details—We projected forward each naturalization cohort from the year of its naturalization to July 1, 2010 (the ACS estimate date), subtracting deaths and emigrants and adding one year of age to the remaining members of the cohort, for each year of the follow-up period^{XV}. The first and last years of the follow-up period consisted of only six months. In the first year, we assumed naturalizations occurred evenly throughout the year, so the duration of the first year averaged six months. In the last year (2010), the projection period was only six months (from January 1 through July 1). The projections were conducted using Stata for all 122,660 naturalization cohorts. To compare the projected numbers of naturalized citizens for July 1, 2010 with 2010 ACS estimates, we collapsed the surviving cohorts into manageable groupings: by country/region; by country/region, sex, and duration of residence (>5 and 5+ years); and by Mexican origin, age grouping (18-29, 30-39, and 40+), and sex.

Comparing OIS with ACS estimates

We compare each of the OIS- and ACS-based estimates of naturalizations. We report the difference as a raw number (ACS – OIS) and a percentage difference [(ACS – OIS)/OIS × 100]. We take into consideration three criteria for determining the presence of reporting error. First, the difference between the OIS-based estimates of naturalizations for a given sub-population (e.g., Mexican immigrant women) and the corresponding ACS estimate must be significantly different. That is, the OIS estimate must fall outside the bounds of the ACS 95 percent confidence interval. Second, the ACS estimate must fall outside the bounds of OIS-based estimates given a plausible range of assumptions about emigration. Third, the OIS estimate must fall outside the bounds of ACS estimates given a plausible range of assumptions about coverage error. In reporting results, we first focus in Tables 1-3 on the size of the OIS-ACS differences and whether they may be explained by sampling error or by alternative assumptions about emigration. Later, in Tables 4-5, we add in the complexity of making alternative assumptions about coverage error.

Results

In Table 1 we report the number of naturalizations from the OIS tables, components of change, and the resulting estimate of naturalized citizens, as well as the corresponding estimate from the ACS. These figures are reported for the entire foreign-born population and separately for Mexicans, Central Americans/Caribbeans, Asians, and "Other" immigrants, with varying levels of emigration assumed.

XivWe adjusted the estimates for return migration to reduce the influence of circular migration on the emigration rates. Additionally, we use the model to produce estimates rather than simply producing rates for each demographic group separately because of sample size constraints.

XVWe estimated the number of deaths and emigrants simultaneously for each year of the follow-up period. That is, we used mathematical equations developed for multiple decrement life tables, which take into account the size of the cohort at all instances in time that it is at risk for death and emigration (Preston, Heuveline, and Guillot 2001).

The ACS estimates about 5,260,000 foreign-born residents arriving in the U.S. after 1989 and naturalizing as adults. This is nearly identical to the OIS estimate (5,316,000 naturalizations) when we assume zero emigration, an implausible assumption. However, if we account for emigration, we estimate significantly more naturalized citizens in the ACS than the OIS-based estimates. Expressed as a percentage of the OIS estimate, the magnitude of the discrepancy increases from 4, 7, to 10 percent and becomes statistically significant when we apply the "low", "moderate" and "high" emigration rates, respectively.

Table 1 indicates that the OIS-ACS difference is concentrated largely among Mexican immigrants, among whom the discrepancy is significant and ranges from 25 percent (assuming no emigration) to 38 percent (assuming high emigration). Unlike the previous work of Passel and Clark (1997), comparison of ACS and OIS estimates do not suggest significant levels of misreporting among Central Americans/Caribbeans, for whom the ACS estimate is significantly higher than the OIS-based estimate only when assuming "moderate" or "high" levels of emigration. Also, when we assume no emigration among Asians, the ACS estimates significantly fewer naturalizations than are estimated in the OIS data. This is probably because emigration is almost certainly not nonexistent for this group. When we assume low or moderate emigration, the OIS-ACS differences are insignificant, and at high levels of emigration, the ACS-based estimate is only 3 percent higher than the OIS estimate. Finally, naturalizations among immigrants born elsewhere in the world are not significantly higher in the ACS when we assume no emigration. But the OIS-ACS gap increases as the assumed rate of emigration increases, from 5 to 8 to 10 percent, respectively, at "low", "moderate", and "high" levels of emigration.

Table 2 reports the naturalization estimates by sex, region of birth, and duration of U.S. residence. For both men and women from all origin regions, the estimated number of naturalized citizens in the ACS is substantially and significantly higher than the OIS-based estimates among immigrants with fewer than five years in the U.S. For example, the number of naturalized Mexican men with fewer than five years of U.S. residence is nearly 27 times higher (2587%) in the ACS than the OIS estimates. Another way to express this is that among the 16 thousand reporting as citizens in the ACS, only about 600 (or about 4 percent) are likely to actually be naturalized citizens. Among those in the U.S. for five or more years, the OIS-ACS gap is much lower in relative terms, and concentrated among Mexican men. The 2010 ACS estimates about 250,000 naturalizations among Mexican-born men with 5 or more years of U.S. residence (i.e., arrived in 1995 or later), and naturalizing as adults. Even when assuming no emigration among Mexican men with OIS naturalization records, the ACS estimate is significantly higher by 37 percent, and this increases to 41, 43 and 54 percent when "low", "moderate", and "high" rates of emigration, respectively, are assumed. Though ACS estimates are significantly higher among Mexican women as well, the magnitude of estimated over-reporting is substantially lower than among Mexican men, ranging from 7 percent at low levels of emigration to 17 percent at high rates of emigration.

In Table 3, OIS and ACS estimates are presented for Mexican and non-Mexican men and women by age group by varying rates of emigration. We note that the OIS estimates do not always decline as emigration increases from the "low" to the "moderate" to the "high" series because of age crossovers in various emigration estimates. Regardless of assumptions about emigration, ACS estimates are especially high relative to the OIS-based estimates among Mexican men of all age groups and Mexican women aged 40 and older. The same pattern does not hold among non-Mexicans, among whom the discrepancy remains relatively low across all age groups.

Up to this point, our ACS estimates of naturalization have not been adjusted for possible under-coverage of the foreign-born in the ACS. To illustrate the impact of coverage error,

we report in Table 4 percentage differences between the ACS and OIS estimates at three levels of assumed coverage error. For all groups, the OIS-ACS discrepancies increase as rates of assumed emigration and coverage error increase. For example, among Mexican-born men aged 18-29, the gap is about 26 percent if no coverage error is assumed (assuming no emigration). This increases to 29 percent when we assume 2.5 percent coverage error, and to 32 percent when we assume 5 percent coverage error. The same pattern holds for Mexican women 18-29, though the magnitude of over-reporting is substantially lower, ranging from -1 percent to 4 percent (assuming no emigration), and is not significant in any instance. This shows that the naturalization reporting error estimates shown in Tables 1-3 are low-end estimates. They will be higher for groups that are underrepresented in the ACS.

Finally, we summarized the OIS-ACS differences and assessed whether these can be explained by sources other than reporting error in Table 5. In the first column, we present the percentage OIS-ACS difference while assuming moderate emigration and no coverage error. In the next three columns, we designate with a "Y" the differences that are greater than can be explained by (1) sampling error (assuming moderate emigration and no coverage error), (2) alternative plausible assumptions about emigration (assuming no coverage error), and (3) alternative plausible assumptions about coverage error (assuming moderate emigration). Finally, the last column indicates with a "Y" whether the ACS-OIS difference is so large that it cannot be explained by any of these three sources of error and are therefore is very likely to reflect reporting error. For example, the OIS-ACS gap for Mexicans is 31 percent if we assume "moderate" levels of emigration and no coverage error (2nd row). The "Y" in the second column indicates that this gap is statistically significant. The "Y" in the third column indicates that the gap remains no matter what we assume about emigration (with no coverage error). The "Y" in the fourth column indicates that the gap remains no matter what we assume about coverage error (with moderate emigration). Finally, "Y" in the fifth column indicates that the gap remains significant under all combinations of plausible assumptions about sampling error, emigration, and coverage error.

Overall, the results confirm that the OIS-ACS discrepancies for three groups are large enough to suggest reporting error among: (1) all immigrants with less than five years of U.S. residence, (2) Mexican men of all ages and durations of residence, and (3) Mexican women ages 40 and older. Of course, there may be alternative explanations for the discrepancies other than reporting error, but our analyses eliminate three of the major alternative explanations.

Conclusion

Naturalization is an important, though under-examined, indicator of immigrants' social and political integration, and numerous government-sponsored population surveys include questions about citizenship status (Costanzo, Davis and Malone 2002). It is therefore important to gauge the degree to which immigrants may misreport their citizenship status in response to such questions. To the best of our knowledge, estimates of the misreporting of naturalization have not been generated since the mid-1990s (Passel and Clark 1997). Our objective in this paper has been to update this research and provide the first set of estimates of reporting error among immigrants in the American Community Survey (ACS).

Naturalization reporting error was estimated by comparing a demographic estimate based on administrative data from the Department of Homeland Security's (DHS) Office of Immigration Statistics (OIS), with the number of naturalizations reported in the 2010 ACS. Similar to the earlier work of Passel and Clark (1997), we find that the ACS estimates of naturalized citizens are much higher than OIS-based estimates among immigrants from all regions of the world who have lived in the U.S. fewer than five years. Among immigrants

residing in the U.S. for five or more years, the OIS-ACS discrepancy is concentrated among those born in Mexico, especially men of all ages and women age 40 or older. In fact, the discrepancy is particularly large for both men and women age 40+, which is a little surprising given that the unauthorized population is concentrated among young and working-aged adults, and we expected the unauthorized to be most likely to misreport. Nevertheless, these patterns cannot be explained by sampling error, alternative assumptions about emigration, or coverage error.

We can only speculate as to the reasons behind the apparently high rates of over-reporting among Mexican immigrants. There remains the remote possibility that the discrepancies derive from inaccurate assessments of mortalityXVi, or by differences in how duration of residence is measured between the OIS and ACSXVII. However, the results seem more likely to reflect the fact that large portions of Mexicans, particularly young Mexican men, are unauthorized migrants. When compared with the total foreign born population, the 2010 estimates of the unauthorized population (Hoefer, Rytina, and Baker 2011) suggest that 55% of Mexican foreign born are unauthorized compared with 28% of Central Americans/ Caribbeans, 8.5% of Asians, and 10% of all other national origins. Estimates of the Mexican unauthorized population by age and sex are difficult to locate, but one report based on the 2000 Census (Passel, Van Hook, and Bean 2004) suggests that Mexican-born men and women younger than 30 were the most likely to be unauthorized among all age, sex, and national origin groups. For example, 89.4% were estimated to be unauthorized compared with 34.6% of same-aged non-Mexican foreign-born men. Such high prevalence of unauthorized status may help explain the large OIS-ACS discrepancy among young Mexican-born men.

In the case of Mexican immigrants age 40+, the results are more difficult to explain since the proportion unauthorized for this age group is lower than younger Mexican immigrants. Perhaps one clue is that most of these migrants arrived in the United States as older adults (due to the fact that we restricted the sample to immigrants arriving in the U.S. in 1990 or later to be consistent with the population reflected in the OIS data). Among all naturalized Mexican immigrants counted in the 2010 ACS, just 14 percent of those aged 40-64 and 8 percent of those aged 65+ arrived in the U.S. in 1990 or later. We suspect that the distinctive group of older-arriving immigrants in our sample knows little to no English, may well be unauthorized migrants reuniting with adult children who have settled in the U.S., and as such, may live in complex multi-generational households. To the extent that these attributes characterize older-arriving Mexican migrations, these factors may combine to lend difficulty in collecting complete and accurate survey data about them, and thus be in part responsible for their high rates of over-reporting of naturalization. Supplementary analyses further reveal high levels of missing data on immigration items for this group, so missing data and inaccurate missing data allocations may also help explain their high OIS-ACS gap in the number of naturalized citizens.

xvi However, we think this is unlikely. Fewer than 10% of the naturalized citizens in our analyses were age 65 or older. Additionally supplementary analyses show that the OIS-ACS discrepancy is equally high among the older age groups with lower mortality rates (no. 654) and higher mortality rates (no. 654).

⁽age 40-64) and higher mortality rates (age 65+).

XVII We think this is unlikely. To explain, the ACS question, "When did this person come to live in the United States?" lacks specificity and it is possible that respondents who have made multiple trips to the U.S. would report their first, last, or any trip in between (Redstone and Massey 2004). However, the primary source of year of entry information in the OIS data is more specific, asking respondents to indicate their "Date of Last Arrival (mm/dd/yyyy)". Thus, circular migrants would be more likely to answer the ACS question with the year of their first or second trip, while indicating their most recent year of arrival (a later year) on their LPR application form. As an example, imagine a Mexican immigrant who first entered the country as an unauthorized immigrant in 1985 and made annual trips back and forth before legalizing in 1995 and naturalizing by 2000. He/she may plausibly indicate on his/her LPR application 1995 as the year of last arrival, but an earlier year (say 1985) as the year he/she first came to live on the ACS. In our analysis, this person would be excluded from the ACS sample of post-1989 arrivals but included in the OIS data. To the extent that this is the common scenario among circular migrants (and we have no way of confirming that it is), this would lead to fewer naturalized immigrants being counted in the ACS than indicated in the OIS data, not more as we observe.

One difference between our results and those of Passel and Clark is that they find over-reporting of naturalization among longer-term immigrants for both Mexicans and Central Americans. Our results do not suggest substantively significant levels of naturalization over-reporting among immigrants born in countries other than Mexico. We do not have a strong explanation for this difference from Passel and Clark. It may arise from a real change in reporting among Central Americans, or it may arise from methodological differences, such as in how emigration is treated. The OIS-ACS gap for Central Americans could not be explained by sampling error or coverage error, but was significant when we assumed moderate or high levels of emigration. Still another divergence from the Passel and Clark study is that we found little evidence of over-reporting among Mexican women, particularly those younger than 40. This does not necessarily conflict with Passel and Clark's finding concerning Mexicans, but instead builds on it since they did not break down their results by Mexican-origin, age and sex.

Finally, our analyses suggest that our conclusions are robust to alternative assumptions about emigration and coverage error. Even if there were no emigration and no coverage error at all, the ACS estimates would be higher than the OIS estimates for many groups. And, when we assumed higher (non-zero) emigration, this reduced the OIS-based estimates, which then further increased the OIS-ACS discrepancy. Similarly, when we accounted for coverage error of the foreign born in the ACS, this again increased the gap between OIS and ACS estimates. Moreover, it is clear that if coverage error for some groups (such as Mexican male immigrants) were even higher than 5% (which we assumed to be on the "high end"), this would serve to further increase the OIS-ACS gap. Passel and Clark's (1997) evaluation of naturalization reporting error appears to have assumed no coverage error and low emigration rates. Thus their estimates probably represented lower-bound estimates of reporting error.

In conclusion, it is reassuring that the results do not indicate significant naturalization reporting error among non-Mexicans with five or more years of U.S. residence and young Mexican women. On the other hand, the results continue to provide evidence for naturalization over-reporting for all groups of Mexican men, older Mexican women, and all recent arrivals, regardless of assumptions about emigration or coverage error. We therefore recommend that ACS data on citizenship be accepted at face value for all groups except those with less than five years of U.S. residence, Mexican men, and older Mexican women.

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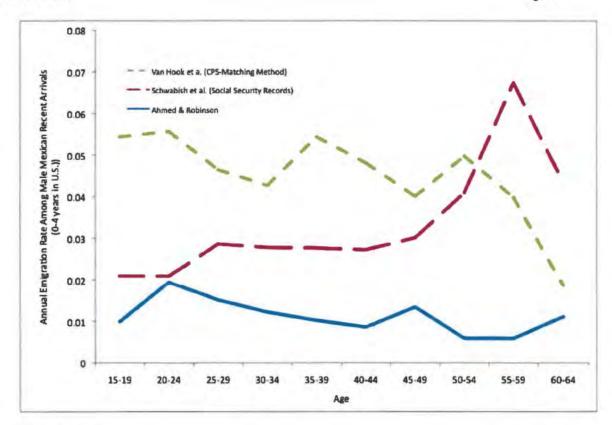


Figure 1. Estimates of Foreign-born Emigration

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Table 1

Estimated Naturalized Citizens (thousands) based on OIS naturalization records and ACS, by Region of Birth, July 2010 (see notes below)

	OIS-based estima	ates (compo	Comparison with 2010 American Community Survey (ACS)				
	Naturalizations 1	Deaths ²	Emigrants ³	Remaining Naturalized Citizens	Nat'ed Citizens, ACS	Diff.	% Diff
All Countries/Regions							
No Emigration 3	5,496	180	0	5,316		-56	-1
A/R "low" Emigration	5,496	173	243	5,079		181	4
SSA "Moderate" Emigration	5,496	166	398	4,932	5,260	328	7*
VH "high" Emigration	5,496	167	531	4,798		462	10
Mexico							2.7
No Emigration ³	470	5	0	465		116	25
A/R "low" Emigration	470	5	11	455		127	28*
SSA "Moderate" Emigration	470	5	21	444	581	137	31
VH "high" Emigration	470	5	43	422		159	38
Central American/Caribbean							36
No Emigration ³	792	19	0	773		2	0
A/R "low" Emigration	792	19	19	754		21	3
SSA "Moderate" Emigration	792	18	45	730	775	46	6*
VH "high" Emigration	792	18	83	691		84	12
Asia							
No Emigration-3	2,466	91	0	2,376		-174	-7*
A/R "low" Emigration	2,466	87	136	2,243		-41	-2
SSA "Moderate" Emigration	2,466	83	197	2,186	2,202	16	1
VH "high" Emigration	2,466	84	244	2,138		64	3*
Other Regions							
No Emigration ³	1,767	65	0	1,702		-1	0
A/R "low" Emigration	1,767	63	77	1,627		74	5*
SSA "Moderate" Emigration	1,767	60	135	1,573	1,701	128	8*
VH "high" Emigration	1,767	61	160	1,546		155	10*

Note: Estimates are for naturalized citizens who naturalized between 1/1/1990 and 7/1/2010

IExcludes naturalizations of immigrants who arrived before 1990 or who naturalized as children aged 0-17.

²Based on Social Security administration lifetable (Bell and Miller 2005)

³A/R = Ahmed & Robinson 1994 ("low"), SSA = Social Security (Schwabish 2009) ("moderate"), VH = Van Hook et al. 2006 ("high")

Diff = (ACS - OIS)

⁵%Diff = (ACS - OIS)/OIS * 100

^{*} Absolute difference between OIS and ACS estimate is greater than twice the standard error of the ACS estimate.

Table 2

Estimated Naturalized Citizens (thousands), by Sex, Duration of Residence, and Region of Birth, July 2010 (see notes below)

	<5 year	ars U.S. K	Residence	5+ Years of U.S. Residence		
	ois^I	ACS ¹	% Diff ²	ois	ACS1	% Diff
Men						
Mexico						
No Emigration ³	.6		2587	183		37*
A/R "low" Emigration	.6	100	2588	178	100	41*
SSA "Moderate" Emigration	,6	16.0	2589 *	175	250	43
VH "high" Emigration	.6		2590	162		54*
Central American/Caribbean						
No Emigration 3	1.2		1366	322		-1
A/R "low" Emigration	1.2		1382	313		2
SSA "Moderate" Emigration	1.1	17.3	1404	305	320	5*
VH "high" Emigration	1.1		1431*	282		13*
Asia						
No Emigration 3	5.0		395	1,029		-9*
A/R "low" Emigration	4.9	9	403	960	935	-3
SSA "Moderate" Emigration	4.9	24.7	403	956		-2
VH "high" Emigration	4.9		404	949		-1
Other Regions						
No Emigration ³	4.5		360 **	767		-4
A/R "low" Emigration	4.4		369	732		0
SSA "Moderate" Emigration	4.4	20.8	369	715	734	3
VH "high" Emigration	4.4		370	711		3
Women						
Mexico						
No Emigration ³	.8		1689	281		7*
A/R "low" Emigration	.8		1700	276		9*
SSA "Moderate" Emigration	.8	13.8	1727*	268	302	13*
VH "high" Emigration	.8		1726	259		17*
Central American/Caribbean						
No Emigration ³	1.2		1097*	449		-6*
A/R "low" Emigration	1.2	14.2	1105*	439	424	-3

	<5 year	ars U.S. H	Residence	5+ Years of U.S. Residence		
	ois^{I}	\mathbf{ACS}^{I}	% Diff ²	ois ¹	ACS ¹	% Diff ²
SSA "Moderate" Emigration	1.2		1128*	423		0
VH "high" Emigration	1.2		1127*	407		4
Asia						
No Emigration 3	113		208*	1,331		_9*
A/R "low" Emigration	11.2	No.	212	1,266	1,207	-5
SSA "Moderate" Emigration	11.1	35.0	214*	1,213		0
VH "high" Emigration	112		216*	1,174		3*
Other Regions						
No Emigration ³	6,3		361	925		-1
A/R "low" Emigration	6.2	70.0	369 *	885	010	4
SSA "Moderate" Emigration	6.1	28,9	371*	847	918	8
VH "high" Emigration	6.1		373*	824		11*

Note: Estimates are for naturalized citizens who naturalized between 1/1/1990 and 7/1/2010

 $I_{\rm Excludes}$ naturalized immigrants who arrived before 1990 or who naturalized as children aged 0-17.

²%Diff = (ACS –OIS)/OIS * 100

³A/R = Ahmed & Robinson 1994 ("low"), SSA = Social Security (Schwabish 2009) ("moderate"), VH = Van Hook et al. 2006 ("high")

^{*}Absolute difference between OIS and ACS estimate is greater than twice the standard error of the ACS estimate.

Table 3

Estimated Naturalized Citizens of all Years of U.S. Residence (thousands), by Age, Sex, and Mexican Origin, July 2010 (see notes below)

	_	N	/len		Women			
	ois^I	ACS ¹	Diff ²	% Diff ³	ois^{I}	ACS ¹	Diff ²	% Diff
Mexicans								
Age 18-29								
No Emigration ⁴	46		12	26*	68		-1	$\neg 1$
A/R "low" Emigration	45	58	13	29 *	66	47	1	1
SSA "Moderate" Emigration	45		13	29*	66	67	1	2
VH "high" Emigration	42		16	37*	63		4	6
Age 30-39								
No Emigration 4	82		19	23*	108		5	5
A/R "low" Emigration	79	101	21	27*	105		8	7
SSA "Moderate" Emigration	78		23	29*	102	113	10	10*
VH "high" Emigration	72		28	39*	99		14	14*
Age 40+								
No Emigration 4	55		52	94	107		29	27
A/R "low" Emigration	54	107	53	99 "	105	136	31	29*
SSA "Moderate" Emigration	52		55	105	101		35	35*
VH "high" Emigration	48		59	122*	97		38	39*
Non-Mexicans								
Age 18-29								
No Emigration 4	282		5	2	345		-13	-4*
A/R "low" Emigration	267	287	20	8	329	222	2	1
SSA "Moderate" Emigration	277	201	-11	4	336	332	-5	-1
VH "high" Emigration	266		21	8*	321		10	3
Age 30-39								
No Emigration 4	587		-25	-4	795		-16	-2
A/R "low" Emigration	548		14	3	754		25	3
SSA "Moderate" Emigration	564	562	-1	0	755	779	23	3*
VH "high" Emigration	542		20	4	717		62	9*
Age 40+								7
No Emigration 4	1258		-56	-4	1583		-67	-4*
A/R "low" Emigration	1201		1	0	1525		-9	-1
SSA "Moderate" Emigration	1147	1202	55	5	1410	1517	107	8

	Men				Women			
	ois ¹	ACS1	Diff ²	% Diff ³	ois1	ACS1	Diff ²	% Diff
VH "high" Emigration	1144		58	5*	1385		131	9*

Note: Estimates are for naturalized citizens who naturalized between 1/1/1990 and 7/1/2010

¹Excludes naturalized immigrants who arrived before 1990 or who naturalized as children aged 0-17.

²Diff = (ACS - OIS)

^{3%}Diff = (ACS - OIS)/OIS * 100

A/R = Ahmed & Robinson 1994 ("low"), SSA = Social Security (Schwabish 2009) ("moderate"), VH = Van Hook et al. 2006 ("high")

Absolute difference between OIS and ACS estimate is greater than twice the standard error of the ACS estimate.

Table 4

Percentage Difference between OIS and ACS estimates While Varying ACS Coverage Error Assumptions, by Mexican Origin, Age, and Sex (see notes below)

		Men		Women				
	0% Coverage Error	2.5% Coverage Error	5% Coverage Error	0% Coverage Error	2.5% Coverage Error	5% Coverage Error		
Mexicans								
Age 18-29								
No Emigration ²	26	29*	32 **	-1	1	4		
A/R "low" Emigration	29*	32	35*	1	4	7		
SSA "Moderate" Emigration	29*	32*	36*	2	5	7		
VH "high" Emigration	37*	41	44	6	8	11		
Age 30-39								
No Emigration ²	23*	27*	30*	5	8*	11		
A/R "low" Emigration	27*	30*	34*	8	10*	13		
SSA "Moderate" Emigration	29*	32*	36*	11	14*	17*		
VH "high" Emigration	39*	43*	47*	15*	18*	21*		
Age 40+								
No Emigration ²	94*	99*	104*	26*	29*	33*		
A/R "low" Emigration	99*	104*	109*	29*	32*	35		
SSA "Moderate" Emigration	105*	110*	116	34*	38*	41*		
VH "high" Emigration	122	127*	133	39*	42*	46*		
Non-Mexicans								
Age 18-29								
No Emigration ²	2	4	7*	4*	-1	1		
A/R "low" Emigration	8*	10*	13*	1	3	6"		
SSA "Moderate" Emigration	4	6*	9*	-1	1	4		

Van Hook and Bachmeier

²A/R = Ahmed & Robinson 1994 ("low"), SSA = Social Security (Schwabish 2009) ("moderate"), VH = Van

(ACS - OIS)/OIS * 1	00
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		Men		-	Women	
	0% Coverage Error	2.5% Coverage Error	5% Coverage Error	0% Coverage Error	2.5% Coverage Error	5% Coverage Error
VH "high" Emigration	8	11.*	14*	3	6*	9*
Age 30-39						
No Emigration ²	-4"	-2	1	-2	0	3
A/R "low" Emigration	2	5*	8	3	6	8
SSA "Moderate" Emigration	0	2	5	3	5	8
VH "high" Emigration	4*	6	9*	8	11.*	14
Age 40+						
No Emigration ²	-4	-2*	1	-4"	-2*	1
A/R "low" Emigration	0	3	5	0	2*	5
SSA "Moderate" Emigration	5*	8	10	8	10*	13
VH "high" Emigration	5*	8	11*	10*	12	15

Table 5

Sensitivity of OIS-ACS difference to sampling error, assumptions about emigration, and assumptions about coverage error (see notes below)

		Difference is greater than can be explained by plausible assumptions about				
	% Difference	Sampling Error	Emigration ^b	Coverage Error ^c	Any of the 3	
All Countries/Regions	7	Y		Y	(4)	
Mexico	31 6	Y Y	Υ	Y Y	Y .	
Central American/Caribbean						
Asia	1			4		
Other Regions	8	Y		Y		
Men, <5 years of U.S. Residence						
Mexico	2589	Y	Y	Y	Y	
Central American/Caribbean	1404	Y	Y Y	Y Y	Y Y	
Asia	403					
Other Regions	369	Y	Y	Y	Y	
Women, <5 years of U.S. Residence						
Mexico	1727	Y	Y	Y	Y	
Central American/Caribbean	1128	Y	Y	Y	Y	
Asia	214	Y	Y	Y	Y	
Other Regions	371	Y	Y	Y	Y	
Men, 5+ years of U.S. Residence						
Mexico	43	Y	Y	Y	Y	
Central American/Caribbean	5	Y	н	Y		
Asia	-2		4	10	-	
Other Regions	3		lu]	3	4	
Women, 5+ years of U.S. Residence						
Mexico	13	Y	Y	Y	Y	
Central American/Caribbean	0	*	ė.	2	*	
Asia	-1	2.			90	
Other Regions	8	Y	19	Y		
Mexican Men						
18-29	29	Y	Y	Y	Y	
30-39	29	Y	Y	Y	Y	
40+	105	Y	Y	Y	Y	
Mexican Women						
18-29	2	Y	.010			
30-39	11	Y		Y		
40+	34	Y	Y	Y	Y	
Non-Mexican Men						
18-29	4	4.0	-	2	7.	
30-39	0		-	2	1	
40+	5	Y	19	Y		

	% Difference	Difference is greater than can be explained by plausible assumptions about:				
		Sampling Error	Emigration ^b	Coverage Error	Any of the 3	
Non-Mexican Women						
18-29	-1		100	001	-	
30-39	3	Y		Y		
40+	8	Y		Y	- 6	

Y = yes

assuming moderate emigration (SSA series) and no coverage error (these estimates come from Table 1, last column for the top panel; Table 2, 3rd and 6th columns for the middle panel; and Table 3, 4th and 8th columns for the bottom panel)

^bACS estimate (assuming no coverage error) falls significantly outside range of OIS estimates while varying emigration assumptions

^cOIS estimate (assuming moderate emigration) falls outside range of ACS estimates while varying coverage error assumptions



U.S. Department of Justice

Justice Management Division

Office of General Counsel

Washington, D.C. 20530

November 4, 2016

John H. Thompson
Director
Economics and Statistics Administration
U.S. Census Bureau
Unites States Department of Commerce
Washington, D.C. 20233-0001

Re: Legal Authority for American Community Survey Ouestions

Dear Mr. Thompson:

This letter supplements my letter of July 1, 2016, in which I advised that, at that time, the Department of Justice had no needs to amend the current content and uses or to request new content in the American Community Survey (ACS) for the 2020 Census. In 2014, the Department affirmed its continuing needs and legal justification for existing subjects and questions in the ACS. I understand your office recently has been in communication with Department officials regarding new uses sought by the Department relating to LGBT populations. Consistent with those communications, this letter formally requests that the Census Bureau consider a new topic in the ACS relating to LGBT populations. The attached spreadsheet accurately reflects the legal authority supporting the necessity for the collection of this information.

Please let me know if you have any questions about this letter or wish to discuss this request. I can be reached at (202) 514-3452, or at Arthur.Gary@usdoj.gov.

Sincerely yours,

Arthur E. Gary General Counsel

Attachment

Cc: Civil Rights Division

Office of the Deputy Attorney General

The following statutes enforced by the Department bar discrimination on the basis of sexual orientation, gender identity, or both.		Frequency	Annuel	Annual	Annual	Annuai	Annuel
		Lowest aeography	Place	Census block group	Place	Census block group	Place
		Uses	Would be used to enforce prohibitions against discrimination in programs or activities receiving financial assistance administered by the Office on Violence Against	Would be used to help administer grants, and plan education about and enforcement of prohibitions against discrimination in programs or activities receiving financial assistance administered by OVW.	Would be used to enforce the prohibition against unlawful employment discrimination.	Would be used to help plan education and enforcement efforts concerning the prohibition against unlawful employment discrimination.	Would be used to enforce the prohibition against unlawful discrimination in education programs and activities receiving federal financial assistance.
		Classification	œ	۵	~	<u>a</u>	Z 2 2 0 0 C 63
	Statutory Requirement	Citations	42 USC 13925(b)(13)	42 USC 3796gg(b)(5), 3796gg(b)(19), 3796gg-7(d), 1042b(c)(1)(B), 13925(a)(39), 13971(b), 13971(d)(4), 13975(a), 13975(g)(3)(C)(ii), 14041(b)(1), 14041(b)(4), 14045(a)(1), 14045(c)-(d),	42 USC 2000e et seq.; 42 USC 2000e-2(k); Wards Cove Packing Co. v. Atonio, 490 U.S. 642 (1989)	42 USC 2000e et seq.	20 USC 1701 et seq.; 34 CFR 106.21(b)(2), 106.23(b), 106.37(b)(1), 106.51(a)(3)-(4), 106.52, 106.53
The following	Statutory R	Title	Violence Against Women Reauthorization Act of 2013	Violence Against Women Act of 1994, as amended, Victims of Trefficking and Violence Protection Act of 2000, Violence Against Women and Department of 2005, Violence Against of 2005, Violence Against Women Reauthorization Act of 2013	Title VII of the Civil Rights Act of 1964	Title VII of the Civil Rights Act of 1964	Title IX of the Education Amendments of 1972

DEPARTMENT OF JUSTICE, CIVIL RIGHT'S DIVISION REQUIREMENTS FOR AMERICAN COMMUNITY SURVEY DATA

	Statutory Requirement				
Inde	Citations	Classification	Uses	Lowest geography	Frequency
Title IX of the Education Amendments of 1972	20 USC 1701 et seq.	a .	Would be used to help plan education and enforcement efforts concerning the prohibition against unlawful discrimination in education programs and activities receiving federal financial assistance.	Census block group	Annual
Fair Housing Act of 1968	42 USC 3601 et seq.; 24 CFR 100.500; Texas Dept. of Housing and Community Affairs v. Inclusive Communities Project, Inc., 135 S. Ct. 2507 (2015).	αc	Would be used to enforce the prohibition against unlawful discrimination in housing.	Place	Annual
Fair Housing Act of 1968	42 USC 3601 et <i>seq.;</i> 24 CFR 100.500,	D.	Would be used to help plan education, testing and enforcement efforts to eliminate unlawful discrimination in housing.	Census block group	Annual
Equal Credit Opportunity Act	15 USC 1691 <i>et seq.;</i> 12 CFR 202.6 n.2	~ ~	Would be used to enforce the prohibition against unlawful discrimination in lending.	Place	Annual
Equal Credit Opportunity Act	15 USC 1691 et seq.	a	Would be used to help plan education and enforcement efforts to eliminate unlawful discrimination in lending.	Census block group	Annal
Omnibus Crime Control and 42 USC 37894(c); Safe Streets Act of 1968 28 CFR 42.203(c),	42 USC 3789d(c); 28 CFR 42.203(c), (e)	~	Would be used to enforce the prohibition against unlawful discrimination in criminal justice programs receiving federal financial assistance.	Place	Annual

DEPARTMENT OF JUSTICE, CIVIL RIGHTS DIVISION REQUIREMENTS FOR AMERICAN COMMUNITY SURVEY DATA

Charles thomas D	dies in the second				
TIHO	Statutory Requirement	Canal Book	-	whose deeme t	
			Would be used to help plan education and enforcement efforts to		
Omnibus Crime Control and Safe Streets Act of 1968	42 USC 3789d(c)	۵	discrimination in criminal justice programs receiving federal financial assistance.	Census block group	Annual
Juvenile Justice and Delinquency Prevention Act of 1974	42 USC 5672(b)	«	Would be used to enforce the prohibition against unlawful discrimination in juvenile justice programs receiving federal financial assistance.	Place	= Annal
			Would be used to help plan education and enforcement efforts to		
Juvenile Justice and Delinquency Prevention Act 42 USC 5672(b) of 1974	42 USC 5672(b)	Δ.	eliminate uniawrul discrimination in juvenile justice programs receiving federal financial assistance.	Census block group	Annual
			Would be used to enforce the prohibition against egregious or flagrant violations of law		
Civil Rights of Institutionalized Persons Act	42 USC 1997 et seq.	œ	for persons residing in or confined to covered institutions.	Census block group	Annual
			Would be used to help plan education and enforcement efforts to eliminate egregious or	×	5 43
Civil Rights of Institutionalized Persons Act	42 USC 1997 et seq.	a.	fiagrant violations of law for persons residing in or confined to covered institutions.	Census block group	Annuai

DEPARTMENT OF JUSTICE, CIVIL RIGHTS DIVISION REQUIREMENTS FOR AMERICAN COMMUNITY SURVEY DATA

Statutory	Statutory Requirement				
Title	Citations	Classification	Uses	Lowest gengraphy	A COCOLIDERAL
			Would be used to enforce the prohibition against patterns or practices of unlawful conduct by law		ri calucato.
Violent Crime Control and Law Enforcement Act of 1994	42 USC 14141	æ	enforcement or by officials in the juvenile justice system.	Place	Annual
Volent Crime Control and			Would be used to help plan education and enforcement efforts to eliminate patterns or practices of unlawful conduct by law		
Law Enforcement Act of	42 USC 14141	a .	officials in the juvenile justice system. Would be used to help	Census block group	Annual
Matthew Shepard and James Byrd, Jr., Hate Crimes Prevention Act of 2009	18 USC 249	۵	plan education and enforcement efforts to prosecute and deter covered hate crimes against LGBT individuals.	Census block group	Annuai
			Would be used to help plan education and enforcement efforts to eliminate unlawful		
Victims of Crime Act of 1984	42 USC 10604(e)	α.	discrimination in crime victim compensation programs receiving federal financial assistance.	Census block group	Annual

To: Wilbur Ross ; Lenihan, Brian (Federal) Cc:

Teramoto, Wendy (Federal)[Herbst, Ellen (Federal)

From: Hernandez, Israel (Federal) Tue 8/8/2017 12:44:15 AM Sent:

Importance: Normal Subject: Census Updates

Received: Tue 8/8/2017 12:44:17 AM



INFORMATIONAL MEMORANDUM

MEMORANDUM FOR THE SECRETARY

SUBJECT: 2020 Census Updates

Audit

We are two weeks from concluding our deep dive audit of the budget, contracts, the technology, and the 2020 schedule. Findings will be gathered and put together on Friday, August 18th. We are scheduled to meet with you and present on Wednesday, August 23rd. Included in the meeting will be the audit teams and Census leadership. Today, on August 7th, the former CTO of IBM and a former Program Manager Executive also from IBM began their technical review of the IT systems and the overall Program Management. They will be present at the meeting and their findings will be included in the report to you on August 23rd. We have set up a daily evening call at 8pm to review the taskers for the final report.

Week of June 28

The Census Bureau continues to work with the team led by the Office of Acquisitions Management to ensure they have the information they need to conduct their assessment of the 2020 Census Lifecycle Cost Estimate, the CEDCaP Program, and the design of the 2020 Census. The Senate Appropriations Committee markup this week funded the 2020 Program at \$24 million above the President's request, and the House Appropriations mark, which will keep 2020 Census operations on track.

2018 End-to-End Test

We are also focused on preparing for the 2018 End-to-End Census Test. The in-field address canvassing operations set to begin on August 28, 2017 in Bluefield-Beckley-Oak Hill, West Virginia; Providence County, Rhode Island; and Pierce County Washington. Recruitment and hiring the address canvasing staff is underway in all three sites. In addition, all systems required for this operation are on schedule and undergoing final integration testing prior to going live for the test.

AT&T Challenge

On July 26, AT&T challenged the Census Bureau decision to override the automatic stay of their protest of the decennial device-asa-service contract, which was awarded in June to CDW-G, in the U.S. Court of Federal Claims.

Depending on the ruling, work on the contract could be stopped for a matter of days or for several months. While the 2018 End-to-End Census Test could still proceed as planned under a short delay, anything longer than a few days will require the peak operations of the 2018 End-to-End Census Test to be re-planned or de-scoped to accommodate lost development time.

Week of August 4

in-field address canvassing operation. Last week's update noted that the systems for this portion of the test are undergoing final testing. Operationally, all three Area Census Offices are now opened for the test, with the office locations in Beckley, West Virginia; Providence, Rhode Island; and Pierce, Washington. Additionally, recruitment, hiring, and onboarding of field staff for address listing continues in all three sites. The Census Field Supervisors are on board, and training began on July 31 as scheduled.

End-To-End Federal Register

Related to the 2018 End-to-End Census Test, the Department of Commerce will soon be asked to clear a draft OMB package of a 30-day Federal Register Notice seeking approval of a recalculation of the number of households requiring in-field address canvassing. The Census Bureau has worked with OMB to receive expedited approval once the package is transmitted from the Department. Timely approval will ensure the Census Bureau can work all addresses existing within the test sites.

2020 Operations

Turning to the operations of the 2020 Census itself, there are several pieces of good news:

- ∀ On July 13, the General Services Administration moved forward on the leasing process for the 40 early Area Census Offices required to support the in-field address canvassing operation for the 2020 Census.
- ∀ The Block Boundary Suggestion Project, Phase 1 of the Redistricting Data Program, is now complete, having received, processed, and fully verified over 960 submissions from states.

To update on the protest on the decennial device-as-a-service contract, as of August 2 the AT&T challenge to the Census Bureau decision to override the automatic stay of their protest in the U.S. Court of Federal Claims is still pending adjudication. If the decision is made to reverse the override, requiring work on the contract to be stopped until the final decision on the protest is made by GAO in October, there will be significant damage to the 2018 End-to-End Census Test peak operations.

Census Questions

Relating to finalizing the questions on the census form, Representative Steve King of Iowa announced on July 28 that he would introduce the "Census Accuracy Act of 2017," which would amend the 2020 Census questionnaire to include questions on citizenship, and legal status. While citizenship is already included on the American Community Survey, the Census Bureau does not ask about legal status in any of its collections.

Additional updates on the 2020 Census Program are included in the attached chart.

HOT TOPICS (2020 Census)

Budget

Securing the resources necessary to conduct a cost effective, high quality decennial census

The Census Bureau is concluding work supporting the team led by the Office of Acquisitions Management in the conduct of their assessment of the 2020 Census Lifecycle Cost Estimate, the CEDCaP Program, and the design of the 2020 Census. The Census Bureau will fully reconcile and explain differences with the independent cost estimate prior to officially updating the 2020 Census lifecycle cost estimate this fall.

Content

Finalizing census questions for an increasingly diverse population

On July 28, Representative Steve King of Iowa announced he would introduce the "Census Accuracy Act of 2017," which would amend the 2020 Census questionnaire to include questions on citizenship and legal status. While citizenship is already included on the American Community Survey, the Census Bureau does not ask about legal status in any of its collections.

- The in-field address canvassing operation for the 2018 End-to-End Census Test is set to begin in August in Bluefield-Beckley-Oak Hill, West Virginia; Providence County, Rhode Island; and Pierce County, Washington:
 - O Recruitment and hiring of the address canvasing field staff is well underway in all three sites.
 - On July 31, training of Census Field Supervisors in all three sites commenced on schedule.
 - O All three Area Census Offices for the 2018 End-to-End Census Test are now opened.
- The Census Bureau has submitted to the Department of Commerce a draft OMB package of a 30-day Federal Register Notice seeking approval of a recalculation of the number of households requiring in-field address canvassing in the 2018 End-to-End Census Test. The Census Bureau has worked with OMB to receive expedited approval once the package is transmitted from the Department. Timely approval will ensure the Census Bureau can work all addresses existing within the test sites.
- A Production Readiness Review was held on July 26 for systems supporting the In-Field Address Canvassing Operation of the 2018 End-to-End Census Test. The systems received approval to move forward in Operational Readiness testing and to be deployed into the production environment.
- A Production Readiness Review was held on July 31 for systems supporting the temporary employee recruiting activities of the peak operations of the 2018 End-to-End Census Test. The systems received approval to move forward in Operational Readiness testing and to be deployed into the production environment.

2020 Census Operational Readiness

Finalizing and Implementing 2020 Census Operations

- On July 13, the General Services Administration moved forward on the leasing process for the 40 early Area Census Offices required to support the in-field address canvassing operation for the 2020 Census. The Census Bureau will be seeking approval from the Department of Commerce in the near future to proceed with the leasing of the remaining 208 Area Census Offices for the 2020 Census.
- The Block Boundary Suggestion Project, Phase 1 of the Redistricting Data Program, is now complete, having received, processed, and fully verified over 960 submissions from states. This nationwide project for the 2020 Census provided states the opportunity to submit their suggestions for the 2020 Census tabulation block inventory. In addition, states had the opportunity to submit suggested legal boundary updates as well as updates to other geographic areas. These actions allowed states to construct some of the small area geography they need for legislative redistricting.

2020 Census Systems Readiness

Finalizing 2020 Census systems

- A Systems Requirements Review was held on July 31 covering the business requirements for seven operations for the 2020 Census, which were approved to move forward into the Systems architecture design.
- A deep dive on systems readiness was presented as a part of the DOC/OMB monthly meeting on the 2020 Census on August 3.

Major Contracts

Updated on key private sector partnerships

• As of August 2, the AT&T challenge to the Census Bureau decision to override the automatic stay of their protest of the decennial device-as-a-service contract in the U.S. Court of Federal Claims is still pending adjudication. If the decision is made to reverse the override, requiring work on the contract to be stopped until the final decision on the protest is made by GAO in October, there will be significant damage to the 2018 End-to-End Census Test peak operations.

Stakeholder Engagement

Providing updates on progress and challenges to key stakeholders and oversight such as GAO, OIG, and Congress epic.org EPIC-18-03-22-Census-Bureau-FOIA-20180611-Production 000319

On July 28, the OIG issued its draft memorandum entitled "2020 Census: Evaluation of Interactive Review Address

Canvassing Operation Revealed Issues with Quality Assurance Controls". The findings and recommendations relate to concerns the OIG has about the design and implementation of the quality assurance portion of this operation, which could lead to a higher error rate by clerks than designed. The Census Bureau is reviewing these concerns and preparing formal agency comments due to OIG by August 25.

- Although DOC has not received formal letter notifications yet, GAO has indicated they likely will be launching two new audits soon:
 - A review of our scheduling methods, practices, and tools.
 - O A review of plans to ensure inclusion of hard-to-count populations in the 2020 Census.

Topic: Advanced Trade release and GDP

Issue: Accuracy of quarterly GDP release

• On 7/27 at 8:30 the Census Bureau released Advanced International Trade and Advanced Business Inventories for June 2017. This release is significant in that these data will feed directly into the Advanced GDP release on Friday 7/28. Prior to the Census Bureau producing this release, BEA would need to estimate these statistics, often leading to significant revisions to later estimates of GDP. By Census producing these advanced release the quality of the GDP has been greatly improved

Topic: Economic Census

Issue:2017 Economic Census Re-planning

- Based on flat line funding in FY 2017 and similar levels anticipated in FY 2018, key aspects of the 2017 Economic Census have been re-planned. These changes will mean delays in mailings, data collection, processing and the dissemination of final data products
- External talking point have been cleared at Census and need DOC approval so we can begin talking to stakeholders about how to best mitigate the impacts of delays and sample reductions.

Topic: Modernizing Economic Statistics

- Completed proof-of-concept effort with The NPD Group's scanner data with positive results on the potential for using data to reduce respondent burden and help with non-response on the Monthly and Annual Retail Trade Survey as well as the Economic Census. Next phase of project will use additional NPD data to 1) Assess impact on MRTS estimates when NPD data is used in place of reported or imputed data 2) Create experimental 2017 Economic Census store and product level estimates for a single NAICS code that NPD has broad coverage of. Research on this project will be presented at both the 2017 American Statistical Association's Joint Statistical Meetings and the United Nations Economic Commission for Europe's Workshop on Statistical Data Collection.
- We are also exploring the use of this data to calculate price and quantity indexes and hope to enter into an agreement between academia, NPD (private sector), and the Census Bureau to compare different methodologies.
- Payment processor data and analysis tool has been received from Palantir. This data consists of credit card receipts from approximately 50% of all credit card transactions. We are currently assessing the quality of the data.
- The Energy Information Agency expressed an interest in the SABLE machine learning tool, developed by the Economic Directorate, and attended several demonstrations in the Census CATLab.

Topic: Trade Statistics Between The United States and Puerto Rico

Issue: Continued collection of these transactions

- Regulations require the collection of transaction information for goods shipments between the United States and Puerto Rico
- The courier organizations and the government of Puerto Rico have requested to eliminate this requirement
- BEA requires these statistics for the calculation of Puerto Rico GDP and the statistics are one of the few pieces of economic information available on Puerto Rico.

- Meeting occurred in May 2017 with the following Puerto Rico representatives: Secretary Manuel Laboy, George Laws García Director of Government Affairs at the Puerto Rico Federal Affairs Administration (PRFAA), Diego Sanchez Gallardo Policy Advisor a
- PRFAA, Aimee Rendón García Special Aide to the Secretary, Edward Calvesbert (tentative) Advisor to the Secretary. Brian Moyer, Director of BEA, also attended. All parties agreed that no alternative source for this data exists and while alternatives are developed and explored, the collection would continue.

Topic: 2020 Census Field Infrastructure First 40 Area Census Offices (ACOs)

- 2020 Census GSA lease procurements are subject to the Procurement Integrity Act so procurement sensitive information (e.g., the number of offers received) must be protected from disclosure;
- After the closing date, GSA will notify Census of specific projects that have not received offers or offers did not pass the pre-screening due diligence;
- Therefore, Census only knows when no offers exist for a given ACO, offering no qualitative or quantitative information for the other ACOs;
- Lack of metrics and detailed information hinder intelligent decision-making over the 3-5 month period (mid-July through October) when should be making solid decisions and identifying contingencies in high risk markets (except markets with NO offers);

Impact: Introduces risk that some ACOs may not be able to open on time. In constant dialogue with GSA and if this first phase ends up failing or having serious delivery issues, Census will elevate as necessary

Topic: Other Field Directorate Information

Topic: Other Field Directorate Information

Issue: Information Only

- Field Division is at an inter-censal peak with the American Housing Survey (AHS) and all other ongoing surveys underway;
- There are 12, 000 employees within Field Division, of which 10,000 are working in the Regions;
- AHS is ahead of schedule and will complete data collection in mid-November 2017.

Topic:Launch of an online Content Hub

• Targeting August 8 launch for a new landing page (we internally call the Content Hub) which includes headlines, bylines, images, graphics and videos in the style of a news website. The goal is to reach a broader audience by offering a more conversational and approachable way to showcase Census data. Multiple presentations to DOC staff (including OPA, Acting ESA Under Secretary, Chief Economist) highlighted the current in-development version of the site.

Topic:Census Information Centers (CIC) Annual Training Conference

• Annual Conference (August 10-11 in Atlanta, GA) for the CIC network - 52 non-profit groups (a mix of national and community-based organizations) that each have an MOA with the Census Bureau. The CICs help underserved populations access Census data. The conference will provide updates on key Census initiatives including the 2020 Census and the 2017 Economic Census.

Topic:Civic Digital Fellowship Demo Day

• Summer 2017 is the first year of a tech student internship program. This year, we have 14 interns as part of a Census Bureau - Harvard University collaboration. Future years will include other federal agencies, helping attract the next generation of public servants in the tech area. "Demo Day" (Tuesday, August 8, 2:30-5 HCHB ITA Conference Room) will highlighten projects.

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Metro Closure

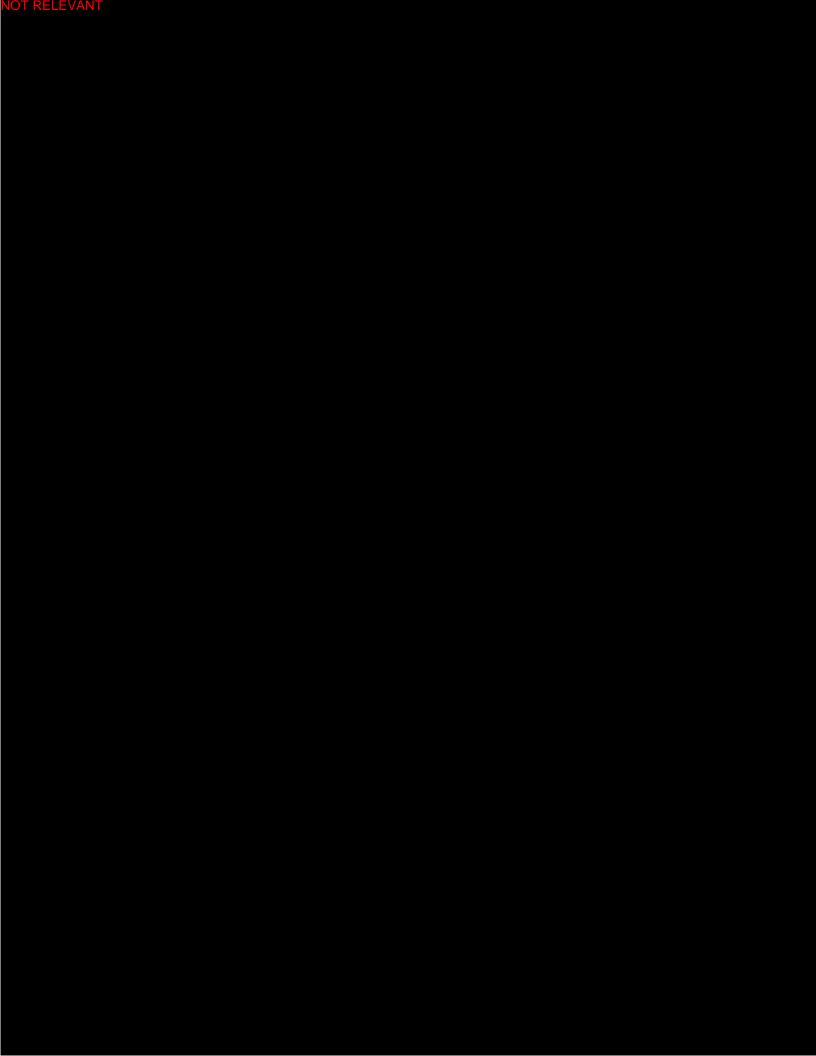
- From August 5 through August 20, the Green Line Metro stations at Suitland (which serves the Census Bureau Headquarters building) and Branch Avenue will be closed due to maintenance work. WMATA will provide a free shuttle bus back and forth between the Naylor Road and Suitland Metro stations.
- Additionally, the Census Bureau is increasing the frequency of its shuttle to and from the Department of Commerce during the Metro station closure. Census has also built in work schedule and telework flexibilities for its employees.

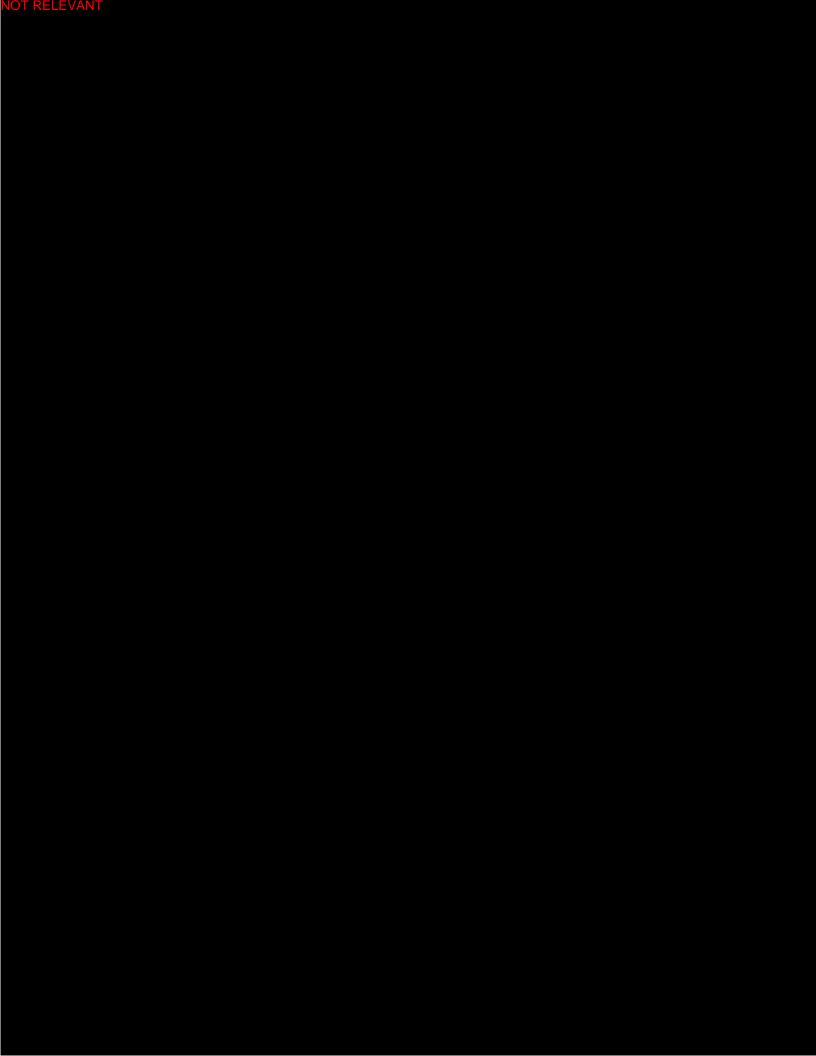
Topic:2020 Communications Plan

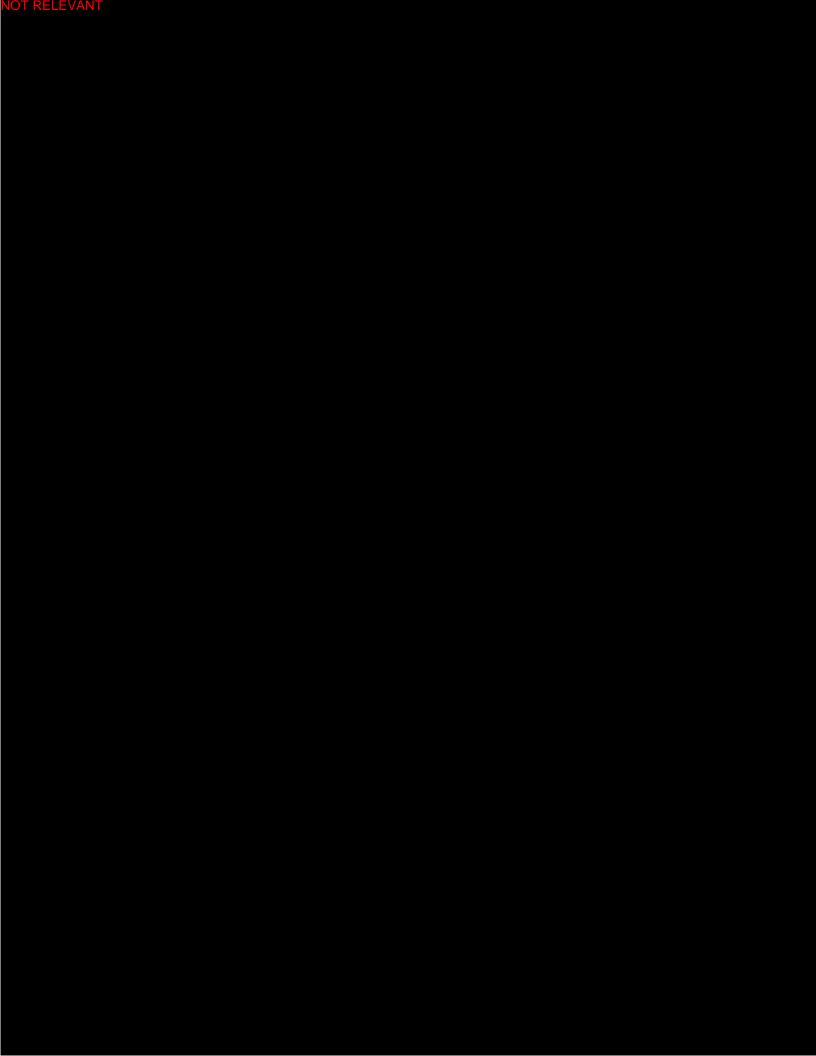
• The 2020 Communications Plan outlines the Census Bureau's approach to planning and executing the 2020 Census Integrated Communications Campaign which will maximize the self-response rate and then conduct outreach to those who do not respond to the census on their own. Two iterations of the plan are envisioned. Version 1.0 is undergoing clearance within the Census Bureau after receiving it from the contractor, Team Y&R. After Census Bureau review is complete, the plan will go to DOC, a briefing on the plan will be provided and DOC comments will be incorporated prior to the plan's public release. A public comment period will be held. Version 2.0 is planned for release in late summer 2018, and will address and/or incorporate all comments received, specifically from our stakeholders.

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NOT RELEVANT











Historical Usage of Administrative Records

- 1890 Creation of the frame of mortgage holders in connection with the 1890 Census
- 1939 Acquisition of Internal Revenue Service (IRS) Form SS-4 business birth data from the Social Security Administration to append industry classification information to economic census records
- 1940 Beginning with the 1940 Census, usage of demographic administrative records to develop separate population estimates to evaluate census coverage
 - The Census Bureau has produced intercensal estimates for the population since this era combining several sources of administrative records to obtain estimates of births, deaths, and migration
- 1970 Enumeration of the population living in institutional quarters through personal interview using institutional records
- 1990 Since the 1990 Census, usage of administrative records to enumerate military and federal civilian workers and their dependents serving overseas
- The use of administrative records is grounded in strong laws that guide how the Census Bureau both accesses and protects administrative records



Utilizing Administrative Records and Third-Party Data

Use information people have already provided to reduce expensive in-person follow-up.

Improve the Quality of the Address List



Update the address list



Validate incoming data from federal, tribal, state, and local governments

Increase Effectiveness of Advertising and Contact Strategies



Support the micro-targeted advertising campaign



Create the contact frame (e.g., email addresses and telephone numbers)

Validate Respondent Submissions



Validate respondent addresses for those without a Census ID and prevent fraudulent submissions

Reduce Field Workload for Followup Activities



Remove vacant and nonresponding occupied housing units from the Nonresponse Followup workload



Optimize the number of contact attempts



2020 Census Contact Strategy

#1 Initial letter



#2 Reminder letter



#3 Reminder postcard



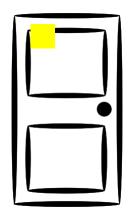
#4 Questionnaire



#5 Not too late postcard



#6 First visit by enumerator and notice of visit



#7 Final postcard about one week after visit



Identifying Vacant and Nonexistent Addresses With No Field Contacts

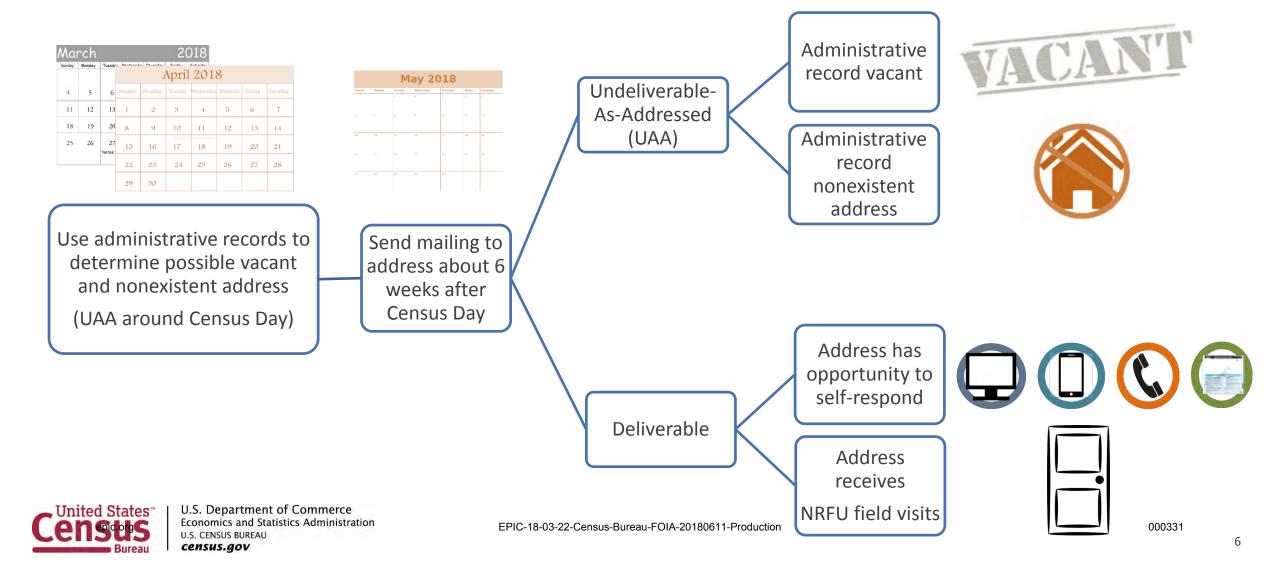
Can we determine if 101 Main Street is vacant or nonexistent (does not meet our definition of a housing unit)?

Example sources:

- United States Postal Service information
 - USPS Undeliverable-as-Addressed (UAA) reasons for census mailings made around April 1
 - Delivery Sequence File information
- Internal Revenue Service (IRS) 1040 filings
- IRS 1099 information returns
- Centers for Medicare and Medicaid Services Medicare Enrollment database
- Indian Health Service Patient database
- Third-party Veterans Service Group of Illinois (VSGI) files
- Census Bureau Master Address File
- ACS Area-level estimates: % vacancy, % poverty, % Hispanic, etc.



Identifying Vacant and Nonexistent Addresses With No Field Contacts



Using Administrative Records to Enumerate NRFU Housing Units

Can we reduce the number of contacts for 101 Main Street?

- Build a roster from most recent administrative record sources
 - Internal Revenue Service Individual Tax Returns 1040
 - Internal Revenue Service Informational Returns
 - Centers for Medicare and Medicaid Services Medicare Enrollment database
 - Indian Health Service Patient Database
 - Census Bureau Kidlink
- 2. Check that multiple sources indicate the family lives at an address
- 3. Evaluate the roster
 - How likely is it that we are counting all of the people rostered in the right place?
 - How likely is it that the household composition of the rostered family matches the Census?
- 4. Decision for 101 Main Street



Using Administrative Records to Enumerate NRFU Housing Units

Two examples of higher and lower confidence for 101 Main Street

Example of higher confidence:

- James and Mary Brown filed IRS 1040 taxes in April at 101 Main Street.
- James and Mary Brown received IRS 1099/W2 information at this address in January.
- Our third party file says James and Mary Brown both live at the 101 Main Street.
- We do not find James or Mary Brown at any other address on our files.
- USPS postal carriers did not indicate the second or third census mailings to 101 Main Street were undeliverable-as-addressed.
- 101 Main Street is in an area with lower mobility.

Example of lower confidence:

- Bill Smith filed IRS 1040 taxes in February at 101 Main Street.
- Our third party file indicates that Bill Smith lives at 5 Broad Street.
- 101 Main Street was undeliverable-as-addressed for the second mailing in March.
- 101 Main Street is in an area with higher vacancy and mobility.



Administrative Records Usage

Administrative Record Enumeration and Characteristic Imputation

Can we reduce the number of contacts for 101 Main Street?

Administrative Records Source Possibilities

Age and Sex

- Past Census Bureau responses to 2010 Census and previous American Community Surveys
- Social Security Administration (SSA) Numeric Identification File (Numident)

Race and Hispanic Origin

- Past Census Bureau responses
- Country of origin from SSA Numident
- State program participation data
- Census Bureau Best Race and Hispanic Origin from federal sources

Relationship to Householder

Census Bureau Kidlink file

Tenure

- Housing and Urban Development program participation
- Tax and Deed Information

U.S. Department of Commerce Economics and Statistics Administration



National Directory of New Hires

U.S. Department of Commerce Economics and Statistics Administration

A potential new administrative records source to enhance quality of the 2020 Census

- The federal Office of Child Support Enforcement (OCSE) operates the National Directory of New Hires (NDNH), a database established by the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) for the purposes of assisting state child support agencies in locating parents and enforcing child support orders. In addition, Congress authorized specific state and federal agencies to receive information from the NDNH for authorized purposes.
- Three Files
 - New Hires File: Contains new employee name, social security number and address information
 - Unemployment Insurance File: contains claimant name, social security number and address information for individuals who received or applied for benefits
 - Wage File: contains for each employee information on wage information and who their employer is
- Possible usages for the 2020 Census of the New Hires file and the Unemployment Insurance files
 - Provide an additional source when building rosters from administrative record sources for Nonresponse Followup eligible addresses
 - Provide a second source of corroborating information that a family found on administrative record sources lives at an address
 - Possible usage of Unemployment Insurance File to identify addresses to receive full contact strategy
- Usages to other programs at the Census Bureau including the Longitudinal Employer Household Dynamics Program



10





Agenda

- Performance Management Approach
- Status Reporting
- Background Risk Management Process

Performance Management Approach

Performance Management Update

The 2020 Census is comprised of

- 35 Operations (24 are in-scope for the 2018 End-to-End Census Test)
- 52 Systems (44 are in-scope for the 2018 End-to-End Census Test)
- Over 25,000 activities with over 42,000 dependencies

Regular Monthly Reporting in 8 Areas

and

Periodic Reporting in 22 Areas

Performance Management Update

Regular Monthly Reporting in 8 Areas

- Hot Topics Albert E. Fontenot, Jr.
- Cyber Security Kevin Smith
- Systems Readiness Atri Kalluri
- Critical Path James B. Treat
- Major Contracts Luis J. Cano
- Budget Joanne Buenzli Crane
- Stakeholders and Oversight Albert E. Fontenot, Jr.

U.S. Department of Commerce

Risks – James B. Treat

Performance Management Update

Periodic Performance Management Reporting in 22 Areas

- Area Census Office Lease Status Slide 30
- Local Update of Census Addresses (LUCA) Slide 31
- PEGA Productivity and Progress Report
- 2018 Systems ATO Risk Report
- Regional Census Center Build-out
- Data Capture Center Lease/Build-out
- Recruiting Data
- Address Canvassing
- Printing
- Self-Response Rates
- Call Center Lease/Build-out
- Census Questionnaire Assistance
- Update Leave
- Nonresponse Followup

- Group Quarters Operations
- Remote Alaska & Update Enumerate
- Data Capture Activities
- Post-Data Collection Processing
- P.L. 94-171 Data and Geographic Products
- Post Enumeration Survey Operations
- OMB Clearance Activities
- Scalability & Performance Testing

Status Reporting

Regular Monthly Reporting

Hot Topics for DOC Awareness: Week of January 15, 2018

Changes to the Race/Ethnicity Question

- The Census Bureau has begun to implement separate questions for race and ethnicity without the Middle Eastern North African (MENA) minimum reporting category for both the 2018 End-to-End Census Test and the 2020 Census.
- The Census Bureau's Decision Memo and supporting communications materials will be finalized by January 19. We expect press inquires and letters from Congress and stakeholders on this issue.
- By law, the actual question wording that will appear on the 2020 Census questionnaire must be submitted to Congress by March 31.

Residence Criteria

• The Residence Criteria FRN is moving through clearance at the Department. It must be cleared by January 19 in order to publish it before the 2020 Census Program Management Review (PMR) on January 26. The Census Bureau's Decision Memo and supporting communications materials will be finalized by January 19.

Citizenship

- The Census Bureau is evaluating a request from the U.S. Department of Justice on adding a question about citizenship status and has a well-established process for considering requests for new guestion to the Decennial Census and the American Community Survey.
- Communications materials and a standard response to the letters we are getting from Congress will be finalized by January 19.
- The Census Bureau has received 2 FOIAs on this issue.

2020 Census Program Management Review

• The Census Bureau will hold its next 2020 Census Program Management Review on Friday, January 26, 2018 at 1:00 PM, in the Census Bureau's Auditorium. The C-SHaRPS system will be demonstrated at 12:00 pm.

2020 Census Life Cycle Cost Estimate (LCCE)

- In support of the 2020 Census LCCE, the Executive Summary of the underlying Basis of Estimate, which has cleared OMB review, will be transmitted to Congress imminently.
- After receiving the Basis of Estimate and its related suite of documentation of the LCCE, GAO resumed its engagement on the cost estimation on January 9.

USPS and Census Bureau Pilot for the 2018 End-to-End Census Test

- While finalizing the Interagency Agreement for the Postal Carriers as Enumerators Pilot, attorneys from the USPS and Commerce Department identified conflicts of law between Titles 18 and 39 (USPS authority) and Title 13 (Census Bureau authority).
- All other USPS Partnership work remains on schedule.

Recruiting for the 2018 End-to-End Census Test

- As of January 16, we have 1,717 qualified candidates. Our goal for entering training is 1,166 employees so that we can have approximately 1,049 trained employees entering the Nonresponse Followup operation.
- The Census Bureau will continue to aggressively recruit candidates and remain concerned about recruiting for the 2020 Census.

National Partnership

• The Census Bureau is building the infrastructure to establish contacts with corporations and national partners.

Census Scientific Advisory Committee (CSAC) and National Advisory Committee on Racial, Ethnic and Other Populations (NAC)

- Refreshing charters for both committees currently routing renewed charters through DOC for signature as the current charters are set to expire in March: CSAC expires March 17 and NAC expires March 24.
- Meetings are scheduled for both committees this spring.
- Refreshing team members for CSAC an executive selection panel will convene to fill nine current and upcoming member vacancies on



CyberSecurity – Summary

The Census Cybersecurity effort is to resolve these risks:

External Risks

- Compromising User Devices (Public)
- Compromising External Network Access
- Impersonating the Census
- Inserting Invalid Responses

Internal Risks

- Disrupting the Internet Self Service Website
- Data Breaches
- Compromising User Devices (Census)

The Census bureau are taking actions to mitigate these risks through coordination with Federal partners by:

Creating a Scalable Secure Network for 2020 Census Respondents:

Working with OMB, DHS, and Cloud Provider to develop scalable and secure network connection in the cloud.

- Federal Working Group with Cloud Provider (OMB, DHS, Cloud Provider, Network Providers)
- Current Solution is Network Provider Based
- Future Solution will be Cloud Provider Based (working towards using during FY18 Test):

Strengthening Our Incident Response Capabilities (DHS FIRE):

Advance ability to continually Identify, Protect, Detect, Respond, and Recover from possible cyber threats.

- Building from DHS assessment that "Census is well positioned to Respond to Incidents"
- Moving forward with creating Insider Threat capability plan with outside expertise
- Improving visibility of cybersecurity issues by implementing tools from private industry and federal government

Improving Our Cybersecurity Posture:

Improve knowledge, processes, procedures, and/or technology.

- Increasing knowledge resources
 - Collaboration with NIST cybersecurity Center of Excellence for recommended practices
 - Regular Cybersecurity briefings with Department of Homeland Security (DHS)
 - Develop approach across federal intelligence community to engage and utilize their resources during cyber threat response
- Testing Technology
 - Publically facing Internet Self Response system security tested for 2nd time by Private Industry; Federal Government (DHS) test in Feb '18



Cybersecurity - Authority to Operate (ATO) Status

2018 End to End Test – 44 Systems

No Level of Effort (54%) (Green)

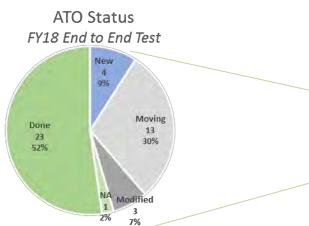
- 52% have obtained ATOs (done)
- 2% (1 system) does not require an ATO (NA)

Small Level of Effort (37%) (Grey)

- 30% have ATOs and are moving to 2020 Infrastructure. These systems are moving from servers in the Census data center to the technical integrator
- 7% have ATOs and are being modified. These systems are already housed in the infrastructure and are developing additional capabilities.

High Level of Effort (9%) (Blue)

• 9% are new; Getting ATO before FY18 Test



<u>2020 Census – 52 Systems</u>

No Level of Effort (88%) (Green)

- 86% will have obtained ATOs from the FY18 End to End Test (done)
 - · These systems will be maintained annually
- 2% (1 system) does not require an ATO (NA)

High Level of Effort (TBD) (Blue)

- 12% are new;
 - Post Enumeration Survey
 - Customer Relationship Management and Experience
 - Decennial Device as a Service



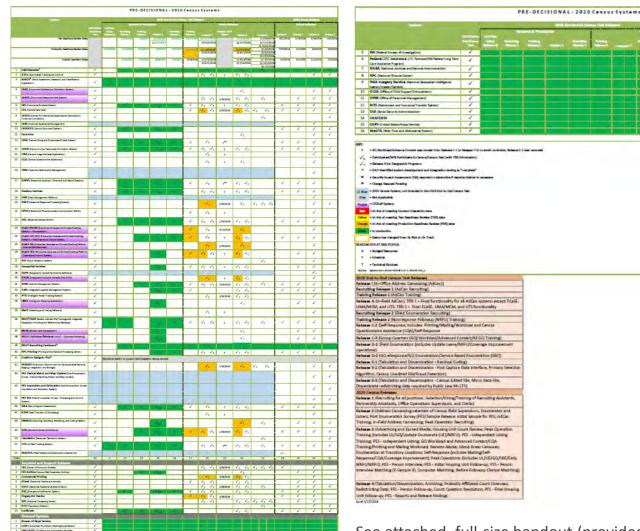


+13% (+5)

Since Dec -17

Done

Systems Readiness



See attached, full-size handout (provided at briefing).



U.S. Department of Commerce Economics and Statistics Administration

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Critical Path Report

THIS IS A PROTOTYPE – The report goes live in February.

	Activity ID	Activity Name	Baseline Start	Start	Start Alert	Baseline Finish	Finish	Finish Alert	Statusing Notes
	2020 Census								
?	20PCS-18770	Deliver 2020 Census Questions to Congress (Title 13)				03/30/18	03/30/18*	0	
3	20SLM-20620	Open Wave 1 Area Census Offices (ACOs)	01/07/19	01/07/19	0	04/01/19	04/01/19	0	
	20SLM-20680	Open Wave 2 Area Census Offices (ACOs)	07/01/19	07/01/19	0	09/30/19	09/30/19	0	
i	20IPC-14820	Conduct 2020 Paid Cooperation Phase Campaign	01/08/20	01/08/20	0	06/10/20	06/10/20	0	
3	20SLM-20380	Open Regional Census Centers (RCCs)							
,	20SLM-20450	Open Puerto Rico Area Office (PRAO)							
3	20ADC-15015	Conduct In-Office LUCA Address Validation (MAY18)							
)	20ADC-15115	Conduct In-Office LUCA Address Validation (MAR19)							
0	20ADC-15275	Conduct In-Field Address Canvassing							
1	20NPC-61680	Ready for Use - Paper Data Capture (PDC) West Facility - TBD							
2	20MTS-22230	Create MAF/TIGER Benchmark for Enumeration Universe Products and Services							



Major Contracts

*Census Schedule A Human Resources and Recruiting, Payroll System (C-SHaRPS) - Recruiting & Assessment (R&A)

Awarded: November 10, 2016

Awardee: CSRA

Life Cycle Cost Estimate: \$125.0M

Total obligated as of December 2017: \$7.4M

FY2018 obligations/commitments as of December 2017: \$0.6M

Contractor met with Secretary: December 12, 2017

• Contract in production supporting recruitment and assessment for the 2018 End-to-End Census Test peak operations.

 Contractor continues to resolve any defects encountered during the 2018 End-to-End Census Test.

 Please Note: The Census Bureau has confirmed with the CSRA Contractor that the 2020 R&A scalable requirement was and is understood. Census Schedule A Human Resources and Recruiting, Payroll System (C-SHaRPS) – Fingerprinting

Awarded: November 21, 2017

Awardee: IndraSoft, Inc

Life Cycle Cost Estimate:\$94.3M

Total obligated as of December 2017: \$3.7M

FY2018 obligations/commitments as of December 2017: \$3.7M

- Gunnison Consulting Group filed a protest on December 1.
- Protest resolved and IndraSoft Inc. resumed performance on December 23.
- C-SHaRPS worked with IndraSoft to determine the scope of work feasible for the 2018 End-to End Census Test given the late award from the Supply Chain Risk Assessment and protest.
- Note: Key fingerprinting dates
 - Census Field Supervisors: February 7 February 26, 2018
 - Enumerators: February 20 March 18, 2018
- Fingerprint plan for the 2018 End-to-End Census Test:
 - IndraSoft solution will not be used to support the background clearance process for the Census Field Supervisors. Current Census Bureau fingerprint process will be used for the supervisors.
 - The plan is to use a hybrid approach to fingerprint enumerators for peak operations using IndraSoft processes and Census Bureau equipment/sites.

*Contractor met with Secretary



Major Contracts

Integrated Communications Contract

Awarded: August 24, 2016

Awardee: Young & Rubicam (Y&R) Life Cycle Cost Estimate: \$520.0M

Total obligated as of December 2017: \$17.9M

FY2018 obligations/commitments as of December 2017: \$17.2M

OMB approved the 2020 Census Barriers, Attitudes, and

Motivators Survey (CBAMS).

*Census Questionnaire Assistance (CQA)

Awarded: July 11, 2016

Awardee: General Dynamics Information Technology (GDIT)

Life Cycle Cost Estimate: \$681.4M

Total obligated as of December 2017: \$73.1M

 ${\bf FY2018\ obligations/commitments\ as\ of\ December\ 2017:\ $30.2M}$

Contractor met with Secretary: October 26, 2017

- CQA achieved ATO for all systems and facilities on January 11.
- Continue Contractor recruitment at both call centers (Jacksonville, FL and Sandy, UT) focusing on customer service representatives to meet staffing needs for the 2018 End-to-End Census Test.

2020 Census Printing and Mailing

Awarded: October 16, 2017

Awardee: Cenveo

Life Cycle Cost Estimate: \$142.6M

Total obligated as of December 2017: \$0.9M

FY2018 obligations/commitments as of December 2017: \$0.9M

- 2018 End-to-End Census Test print orders issued.
- Obtain security authorization for Print Vendor's solution by February 11.

*Decennial Device as a Service (dDaaS)

Awarded: June 29, 2017

Awardee: Computer Discount Warehouse – Government (CDW-G)

Life Cycle Cost Estimate: \$423.2M

Total obligated as of December 2017: \$8.5M

FY2018 obligations/commitments as of December 2017: \$0.9M

Contractor met with Secretary: December 18, 2017

• CDW-G prepared to provide the devices for the 2018 End-to-End Census Test Nonresponse Followup operation.





Major Contracts

*2020 Enterprise Census and Survey Enabling (ECaSE) Platform

Awarded: June 19, 2017 Awardee: immixGroup, Inc. Life Cycle Cost Estimate: \$167.3M

Total obligated as of December 2017: \$46.5M

FY2018 obligations/commitments as of December 2017: \$13.2M Contractor met with Secretary: October 26, 2017

- Delivered Nonresponse Followup and Update Leave functionality for integration testing by the TI for the 2018 End-to-End Census Test. This included the enumeration application, the Field OCS and the Survey OCS.
- Identified performance measures to track productivity and cost and corrective actions needed to address cost growth issue.

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

Field IT Deployment (FITd)

Awarded: TBD Awardee: TBD

Life Cycle Cost Estimate: \$422.7M

Total obligations/commitments as of December 2017: \$0

FY2018 obligated as of December 2017: \$0 • Request for Proposal (RFP) released January 11.

*Technical Integrator (TI)

Awarded: August 26, 2016 Awardee: T-Rex Solutions, LLC Life Cycle Cost Estimate: \$1,278.1M

Total obligated as of December 2017: \$228.6M

FY2018 obligations/commitments as of December 2017: \$41.6M

Contractor met with Secretary: October 26, 2017

- Obtain ATO for Release C 2020 On-Premise environment by January 19.
- TI continues integration and testing for Releases C and D.

*Contractor met with Secretary



2020 Census Spend Plan, Obligations/Commitments, & Variance

As of December 31, 2017

(Cumulative \$ Millions)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2020 Census Total												
2020 Census Total Spend Plan	\$62.1	\$241.6	\$362.9	\$487.2	\$544.8	\$588.6	\$703.6	\$740.2	\$842.2	\$926.8	\$964.0	\$987.2
2020 Census Total Obligations/Commitments	\$33.0	\$202.8	\$294.0									
2020 Census Total Variance	\$29.1	\$38.8	\$68.9									
2020 Operations (Non IT)												
2020 Operations Spend Plan	\$29.6	\$81.1	\$171.3	\$208.4	\$232.2	\$256.4	\$283.4	\$309.4	\$335.0	\$356.8	\$383.4	\$402.9
2020 Operations Obligations/Commitments	\$22.6	\$64.2	\$129.0									
2020 Operations Variance	\$7.0	\$16.9	\$42.3									
2020 IT												
2020 IT Spend Plan	\$26.3	\$134.5	\$156.7	\$238.1	\$263.2	\$272.9	\$348.2	\$351.3	\$422.0	\$477.4	\$485.7	\$488.6
2020 IT Obligations/Commitments	\$9.7	\$119.4	\$137.0									
2020 IT Variance	\$16.6	\$15.1	\$19.7									
2020 CEDCaP												
2020 CEDCaP Spend Plan	\$6.1	\$25.8	\$34.8	\$40.6	\$49.4	\$59.3	\$72.0	\$79.6	\$85.1	\$92.3	\$94.6	\$95.4
2020 CEDCaP Obligations/Commitments	\$0.8	\$19.3	\$28.2									
2020 CEDCaP Total Variance	\$5.3	\$6.5	\$6.6									

The 2020 Census Program has committed or obligated nearly 30 percent of the total plan of \$987 million in the first quarter. However, there is a 19 percent variance against planned spending.

The variance of \$42.3 million in 2020 Census operations is made up of \$10.1 million in salary lapse and \$32.2 million in contracts and other objects mostly due to delays.

The variance in 2020 Census IT systems and operations is \$19.7 million is made up of \$0.9 million in salary lapse and \$18.8 million in contract delays.

The \$6.6 million variance in CEDCaP is made up of \$1.2 million in salary lapse and \$5.4 million in contracts.

Totals may not add due to rounding







Major Contracts Spend Plan, Obligations, & Commitments

As of December 31, 2017

(\$ Millions)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
T-Rex - Technical Integrator												
Spend Plan	\$0.0	\$30.6	\$42.2	\$52.8	\$63.4	\$78.4	\$123.8	\$123.8	\$128.2	\$159.2	\$166.0	\$166.0
Obligations/Commitments	\$0.0	\$30.0	\$41.6									
Variance	\$0.0	(\$0.6)	(\$0.6)									
GDIT - Census Questionnaire Asst.												
Spend Plan	\$0.0	\$30.2	\$30.2	\$30.2	\$48.5	\$48.5	\$48.5	\$48.5	\$73.3	\$73.3	\$73.3	\$73.3
Obligations/Commitments	\$0.0	\$30.2	\$30.2									
Variance	\$0.0	\$0.0	\$0.0									
IMMIX/PEGA - CEDCaP												
Spend Plan	\$0.0	\$10.4	\$16.3	\$18.2	\$24.2	\$30.1	\$36.0	\$40.8	\$43.9	\$44.9	\$45.0	\$45.0
Obligations/Commitments	\$0.0	\$7.9	\$13.2									
Variance	\$0.0	\$2.5	\$3.1									
Communications - Y&R												
Spend Plan	\$5.3	\$17.8	\$17.8	\$17.8	\$17.8	\$17.8	\$17.8	\$17.8	\$17.8	\$17.8	\$17.8	\$17.8
Obligations/Commitments	\$7.5	\$14.2	\$17.2									
Variance	(\$2.2)	\$3.6	\$0.6									





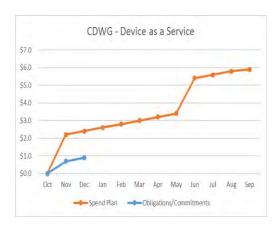




Major Contracts Spend Plan, Obligations, & Commitments

As of December 31, 2017 (Continued)

(\$ Millions)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
CDWG - Device as a Service												
Spend Plan	\$0.0	\$2.2	\$2.4	\$2.6	\$2.8	\$3.0	\$3.2	\$3.4	\$5.4	\$5.6	\$5.8	\$5.9
Obligations/Commitments	\$0.0	\$0.7	\$0.9									
Variance	\$0.0	\$1.5	\$1.5									
CSRA - C-SHARPS												
Spend Plan	\$0.0	\$0.5	\$0.6	\$3.3	\$3.3	\$3.3	\$3.3	\$3.3	\$3.3	\$3.3	\$3.3	\$3.3
Obligations/Commitments	\$0.0	\$0.5	\$0.6									
Variance	\$0.0	\$0.0	\$0.0									
Indrasoft - Fingerprinting												
Spend Plan	\$0.0	\$3.7	\$3.7	\$5.1	\$5.1	\$5.1	\$6.5	\$6.5	\$6.5	\$16.0	\$16.0	\$16.0
Obligations/Commitments	\$0.0	\$3.7	\$3.7									
Variance	\$0.0	\$0.0	\$0.0		·	·	·	·	·	·		·







As of January 2018

Budget Impacts for 20	20 Census Risks as of January 20)18			
Risk Trigger	2020 Census Risk	Status	Budget Year Impacted	Cost Impact of the Risk Trigger	Trend
Corrective Action for	Acquisition Lead Time (IF	The supply chain risk was	Life Cycle	Vendor 2 was awarded	
the protest for the	2020 Census design decision	reassessed and the results		the contract with a Life	
Fingerprinting	milestones do not allow the	reviewed by OGC. The		Cycle estimate of \$94	
Contract	requisite lead times for	protesting vendor was		million. The 2020	
	acquisition processes and	briefed on the revised supply		Census Life Cycle Cost	_
	reviews, THEN the Census	chain risk assessment. The		Estimate (LCCE)	
	Bureau may not be able	protesting vendor withdrew		included \$146 million	
	procure the necessary	their protest. Work has		for fingerprint.	
	products and services in	resumed with the vendor			
	sufficient time to align with	who was awarded the		LCCE impact: adds \$52	
	the 2020 Census Life Cycle.)	contract, Indrasoft.		million to contingency	
		Components of their solution		associated with	
		will be used in the 2018 End-		clearance of employees	
		to-End Census Test.			



As of January 2018 (Continued)

Risk Trigger	2020 Census Risk	Status	Budget Year Impacted	Cost Impact of the Risk Trigger	Trend
Allocation to Integrated Communications	Funding Requests Not Realized (IF the funding appropriated during each	The vendor for our Integrated Communications contract, Y&R, has elevated	FY 2018	\$5.3 million - \$14.5 million	
Contract (Young & Rubicam [Y&R])	fiscal year of the 2020 Census life cycle is less than	concerns associated with funding availability for		LCCE: \$520 million	
	requested, THEN the ability to implement the critical systems and operations supporting the 2020 Census will be adversely affected.)	advance planning in FY 2018. The is no contingency funding in FY 2018. The Census Bureau is working to identify options to fund this advance planning work and minimize risk if the funding cannot be provided until FY 2019.		Impact to the LCCE: \$0 There is funding available for these activities in FY 2019.	1
		Updates on mitigation were provided in January.			



As of January 2018 (Continued)

Risk Trigger	2020 Census Risk	Status	Budget Year Impacted	Cost Impact of the Risk Trigger	Trend
Evaluation of CEDCaP – ECaSE (Pega Systems) Backlog	Funding Requests Not Realized (IF the funding appropriated during each fiscal year of the 2020 Census life cycle is less than requested, THEN the ability to implement the critical systems and operations supporting the 2020 Census will be adversely affected.)	The CEDCaP program manager has identified sources of funds in other CEDCaP projects to cover more than \$6 million of the \$11 million projected shortfall in ECaSE for FY 2018. The remaining shortfall will be covered with a combination of contractor efficiencies and development team reductions.	Life Cycle	LCCE: \$965 million Impact to the LCCE current risk analysis projection could add: \$100 million	
		Requirements were further reduced at the end of December. A new projected cost is pending, but is anticipated to lower the cost risk.			
		Updates on mitigation were provided in January .			



As of January 2018 (Continued)

Budget Impacts for 2020 Census Risks as of January 2018								
Risk Trigger	2020 Census Risk	Status	Budget Year Impacted	Cost Impact of the Risk Trigger	Trend			
Separate Race and Ethnicity Questions	Late Design Change (IF late in the decade either external factors or policies prevent the Census Bureau from implementing the integrated design as planned, THEN the Census Bureau will have to change the design which will increase the cost or reduce the quality of the 2020 Census.)	The Census Bureau made operations and systems modifications to accommodate OMB's decision to maintain the current race and ethnicity standard. There were manageable impacts to budget, schedule (systems integration testing), and risk.	FY 2018	FY 2018: \$1.5 million (covered by salary lapse) Impact to the LCCE: none	\			



Stakeholders and Oversight

GAO

The next quarterly meeting with GAO to discuss the open recommendations, strategies, and priorities will be on January 30.

- Life Cycle Cost Estimate (LCCE) Audit
 - The LCCE audit resumed with an entrance conference on January 10, where GAO met with the Chief Financial Officer and the Decennial Census Programs Budget Team.
 - Their questions and topics of interest are based on their examining of the revised Basis of Estimation documentation submitted to them on December 11.
- Systems Audit
 - The GAO systems audit continues.
 - There is no feedback from GAO at this time.
- Plans for Hard-to-Count Populations Audit
 - GAO is beginning this work pursuant to its authority under 31 U.S.C. 717 after receiving a request from the House Committee on Oversight and Government Reform.
 - The entrance meeting with GAO was held on December 6.
 - Research Questions and Scope:
 - What socio-demographic groups are considered "hard to count" and why?
 - What is the status of the Census Bureau's efforts to enumerate the "hard to count" in 2020?
 - To what extent is the Bureau's current plans for enumerating the "hard to count" in 2020 addressing the nation's changing demographics and key design changes introduced for the 2020 Census; and leveraging earlier lessons learned (e.g., prior recommendations from GAO, NAS, DOC advisory committees, the Bureau's own evaluations and experiments, and others)?
 - GAO is conducting meetings with various Census Bureau experts and documents are being provided to GAO, as requested.

Economics and Statistics Administration

OIG

- Background Check Audit
 - The Census Bureau received the OIG Background Check draft report on December 18.
 - · These are the tentative findings, which OIG discussed during an exit conference:
 - Escalating costs and inadequate quality assurance practices pose risks to 2020 Census background check activities.
 - The Census Bureau is not adequately monitoring contractor activities.
 - · Program officials are not always allocating background check costs to the correct fund.
 - The Census Bureau is developing a response and will provide comments by late January.
- Area Census Office (ACO) Locations Audit
 - The Census Bureau held an informal exit meeting for the OIG audit on ACO locations and expects to receive a draft report by late January/early February.
 - The audit included a close look at the delineation criteria. and model, as well as the Life Cycle Cost Estimate associated with field infrastructure innovation.

Congress

- The Census Bureau resumed the quarterly briefings with the Appropriations Staff (House and Senate Minority and Majority). The latest briefing was held on December 8.
- The Census Bureau briefed Senate staff on December 29 (about 50% of the Senate staff attended).



GAO Recommendations

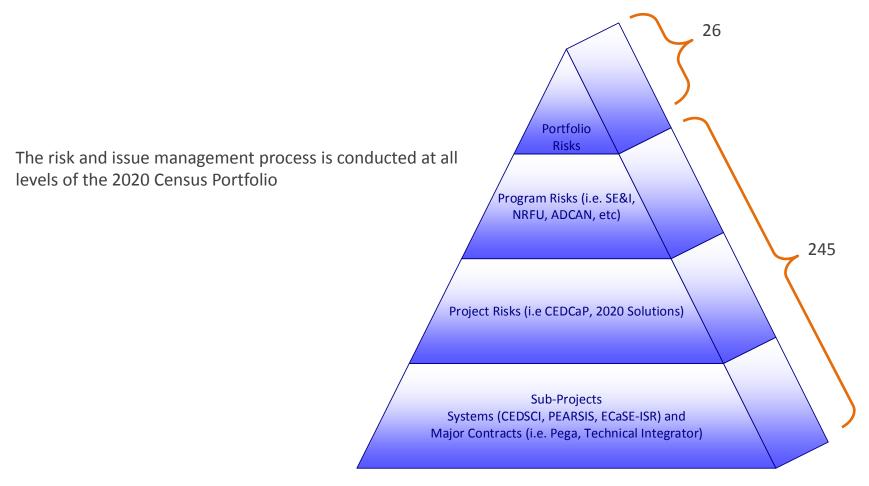
Topics	Total Recs	Closed Recs	Open Recs	Recs with Action Plan Due Date in Future	Documents Submitted: Awaiting GAO Decision to Close
Life Cycle Cost Estimate	14	10	4	-	4
Schedule	12	5	7	-	7
IT	19	14	5	-	5
IT Security	4	-	4	-	4
Address Canvassing	2	-	2	2	-
Field/Training Procedures	6	1	5	4	1
Administrative Records	1	1	-	-	-
Project Management	3	3	-	-	-
Oversight	1	-	1	-	1
Workforce/Recruitment	6	4	2	-	2
United States Postal Service	2	2	-	-	-
Nonresponse Followup	5	5	-	-	-
Integrated Partnerships and Communications	6	-	6	1	5
Census Coverage Measurement	3	3	-	-	-
TOTAL	84	48	36	7	29



OIG Recommendations

Topics	Total Recs	Closed Recs	Open Recs	Recs with Action Plan Due Date in Future	Documents Submitted: Awaiting OIG Decision to Close
Address Canvassing Test	6	0	6	1	3
Administrative Records	4	2	2	2	
Life Cycle Cost Estimate	5	1	4	4	
2015 Test Design	4	3	1		1
2020 Census Planning	35	33	2		2
Master Address List	7	6	1		1
TOTAL	61	45	16	7	7

Risk & Issue Management – Structure



2020 Census Portfolio Risk Management Process



Enterprise Risk & Issue Management – Risk Register

Quadrant	Total Risks	%
RED	2	8%
YELLOW	22	84%
GREEN	2	8%
TOTAL	26	100%

Probability

5	0	0	0	0	0
4	0	0	1	0	0
3	0	0	3	7	2
2	0	0	2	7	3
1	0	0	0	0	1
	1	2	3	4	5

Impact

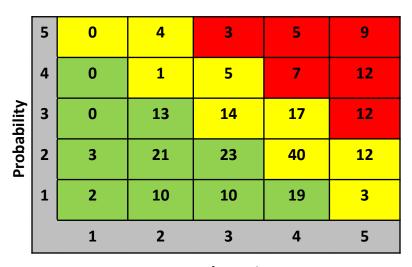
The selected risks that follow represent the major concerns that could affect the design or the successful implementation of the 2020 Census.

- Public Perception of ability to Safeguard Response Data (Probability 3, Impact 5) RED
- Cybersecurity Incidents (Probability 3, Impact 5) RED

Yellow risks with Probability and Impact equal to or great than 3, see background slides

Program Risk & Issue Management – Summary of Risks

Quadrant	Total Risks	%
RED	48	19.6%
YELLOW	96	39.2%
GREEN	101	41.2%
TOTAL	245	100%



Impact

There are currently 245 open program/operations risks in the 2020 Census Portfolio. These program risk registers contain risks pertaining to the project and sub-projects covered by the program. Some of the common concerns covered by these risks include:

- System and Application Development/Readiness
- Hiring and Staffing Problems

U.S. Department of Commerce Economics and Statistics Administration

- Funding
- Contracts and Acquisition
- Scope Changes



Status Reporting

Periodic Reporting

Periodic Performance Management Reports

Area Census Office Lease Status – Wave 1

Executive Report | Week of January 15, 2018

Wave 1 Area Census Office Lease Status

Status:

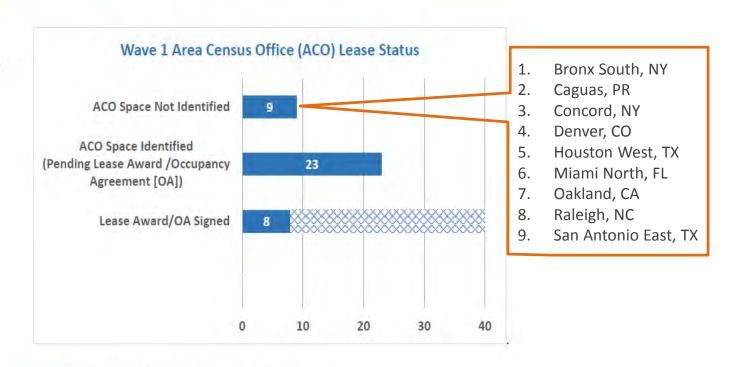


Data current as of:

January 11, 2018

Completion Date:

March 31, 2018



Source: Weekly Field Division Report, January 11, 2018



Periodic Performance Management Reports

Local Update of Census Addresses

Executive Report | Week of January 15, 2018

2020 Local Update of Census Addresses (LUCA)

Status:

On Track

Data current as of:

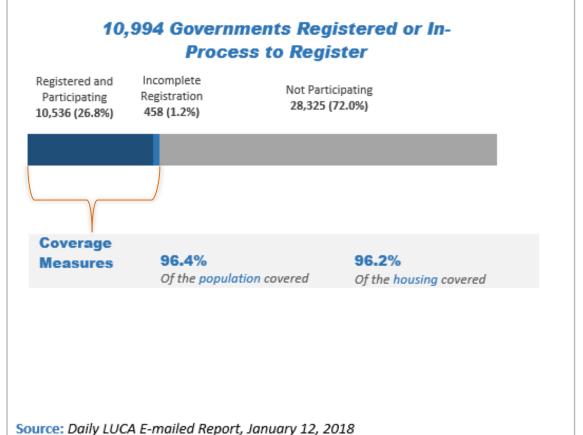
January 12, 2018

Completion Date:

January 31, 2018

Notes:

- Extended the registration deadline for natural disaster areas until January 31, 2018
- 42 states are registered to participate, up from 28 states in 2010 LUCA





Background – 2020 Census Risk Management Process

Portfolio Management Structure

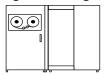
The 2020 Census Portfolio is comprised of 35 Operations/Programs.

Each Operation/Program includes a number of projects. For example the SE&I Program includes CEDCaP, 2020 Developed and Enterprise Enabling Systems. These systems are supported by IT development and integration contracts.

2020 Census Portfolio



Systems Enginneering & Integration Program



System of Systems

<u>CEDCaP</u> <u>Projects</u> Examples

ECASE-AUM
ECASE-ISR
ECASE-ENUM
ICADE
ECASE-OCS, MOJO
ECASE-QDM
eCorrespondence
SOA
CARDS

2020 Solution Projects <u>Examples</u>

DRPS
CDL
CEDSCI
CQA
IPTS
PEARSIS
Tabulation

Enterprise Enabling Projects

Projects Examples

CBS CENDOC CHEC CHRIS CIRA

Commercial Printing DSC Desktop Services



Pega

=













DdaaS

Technical Integrator

al CQA

C-SHaRPS

ILMS Learning Mgt. System



Risk & Issue Management – Process

Portfolio risks are defined as risks that span the 2020 Census life cycle and could jeopardize achieving the 2020 Census goals and objectives. The broadly defined portfolio risks represent threats to the success of the portfolio rather than to individual programs or projects.

- Have the potential to be realized more than once during the life cycle.
- Span several years with many potential risk events over that period. Thus, these risks remain open on the
 2020 Census Portfolio risk register until the latest possible date the risk event could occur.
- May elevate from the program, project and sub-project level because of the potential to impact portfolio goals.
- Risks at this level can spin-off multiple issues, however the risk may remain if it still has the potential to occur again.

Risk & Issue Management – Governance

The 2020 Census Risk Review Board (RRB) is the overall governing body presiding over the 2020 Census Portfolio, program and project level risk and issue management processes. All processes follow industry best practices and are in alignment with the Enterprise Office of Risk Management and Program Evaluation (ORMPE) Risk Review Board (RRB) includes representatives across all programs.

Responsibilities include:

- Regular review and update of the portfolio risk register and issue register.
- Regular review of program risk registers and issue registers.
- Regular review of system development and major contracts project risk registers and issue registers.
- Escalation of risks and issues to the Enterprise Risk Review Board as appropriate.

Risk & Issue Management – Reporting

U.S. Department of Commerce

atistics Administration



Program Risk & Issue Management – Process and Governance

- Program risks and issues are defined as risks that could jeopardize the success of an individual program/operation. They relate to achieving program-specific objectives and specifically address potential impacts to program elements: cost, schedule, technical, customer expectations, and public trust.
- Program/operations own and manage these risks and issues. Each of the 35 operations supporting the 2020 Census, plus each census test, has their own risk register and issue log.
- Program risks and issues, which have potential to impact portfolio goals and objectives, may be identified for escalation to the portfolio level for increased visibility and analysis.
- The Risk & Issue Management Process at the program and project levels is nearly identical to the process at the portfolio level, but governed and managed within the program or project. The Portfolio Level Risk and Issue Process Manager regularly reviews for quality and completeness.

Program Risk & Issue Management – Red Risks

Risk ID	Title	Description	Exposure Level and Color	Probability	Impact	Mitigation Plan
LC-039	Public Perception of Ability to Safeguard Response Data	The accuracy and usefulness of the data collected for the 2020 Census are dependent upon the ability to obtain information from the public, which is influenced partly by the public's perception of how well their privacy and confidentiality concerns are being addressed. The public's perception of the Census Bureau's ability to safeguard their response data may be affected by security breaches or the mishandling of data at other government agencies or in the private sector. IF a substantial segment of the public is not convinced that the Census Bureau can safeguard their response data against data breaches and unauthorized use, THEN response rates may be lower than projected, leading to an increase in cases for follow-up and cost increases.		3	5	1. Develop a strategy to build and maintain the public's confidence in the Census Bureau's ability to keep their data safe. (Ongoing) 2. Research other Census Bureau divisions, other government agencies, other countries, and the public sector to gain insight into how they have effectively mitigated the issue of public trust and IT security. (Ongoing) 3. Continually monitor the public's confidence in data security in order to gauge their probable acceptance of the Census Bureau's methods for enumeration. (Ongoing)
LC-041	Cybersecurity Incidents	Cybersecurity incidents (e.g., breach, denial of service attack) could happen to the Census Bureau's authorized IT systems, such as the Internet self-response instrument, mobile devices used for fieldwork, and data processing and storage systems. IT security controls will be put in place to protect the confidentiality, integrity, and availability of the IT systems and data. IF a cybersecurity incident occurs to the systems supporting the 2020 Census, THEN additional technological efforts will be required to repair or replace the systems affected in order to maintain secure services and data.		3	5	1. Monitor system development efforts to ensure the proper Census Bureau IT security guidelines are followed during the system development phase. (Ongoing) 2. Research other Census Bureau programs, other government agencies, other countries, and the private sector to understand how they effectively mitigate cybersecurity incidents. (Ongoing) 3. Audit systems and check logs to help in detecting and tracing an outside infiltration. (Ongoing) 4. Perform threat and vulnerability analysis through testing. (Ongoing) 5. Prepare for rapid response to address any detected cybersecurity incidents. (Ongoing)



Risk ID	Title	Description	Exposure Level and Color	Probability	Impact	Mitigation Plan
LC-045	Major Disasters	Major disasters (e.g., earthquake, flood, tornado, epidemic, and terrorist attack) can affect the populations of a geographic area (e.g., town, county, state) and prevent people from self-responding to the 2020 Census or being contacted by field staff. Major disasters can disrupt operations at key facilities (e.g., Headquarters, National Processing Center, Regional Census Centers, and Area Census Offices) and supporting infrastructure (e.g., Post Offices and telecommunications). IF a major disaster occurs during the final preparations for or the implementation of the 2020 Census (October 2017 – September 2023), THEN operations may not be able to be executed as planned, leading to increased costs, schedule delays, and lower quality data.	Medium - Yellow	4	3	1. Plan for a rapid response team to access the disaster and recommend a course of action to senior managers. (Ongoing) 2. Where feasible, the Census Bureau will develop secondary operations facilities, implement regular backup of automated systems and data, and provide uninterruptible power. (Ongoing) 3. Develop Continuity of Operations (COOP) plans for all key facilities (HQ, NPC, RCCs, ACOs, etc.). (Ongoing) 4. Develop Continuity of Operations (COOP) plans for all operations. (Ongoing) 5. Ensure there is contingency funding in the budget to cover Continuity of Operations (COOP) plans. (Ongoing) 6. Consult with other government agencies on best ways to continue operations in areas affected by a major disaster. (Ongoing)
LC-010		The Census Bureau, wherever feasible, will leverage cross-program IT solutions and has begun the work necessary to ensure this is achieved. However, enterprise solutions (i.e., CEDCaP, CEDSCI, and C-SHaRPS) may not address all of the 2020 Census Program requirements. In these cases, impacts must be identified and proper actions taken to resolve the situation. IF enterprise IT solutions cannot meet the 2020 Census Program requirements, THEN existing systems may require substantial modifications or entirely new systems may have to be developed, adding complexity and increasing risk for a timely and successful 2020 Census.		3	4	1. Engage with enterprise efforts to ensure that solutions architectures align and provide continued support for 2020 Census requirements development and management. (Ongoing) 2. Participate in agency-wide solution development (i.e., avoid custom solutions where enterprise or off-the-shelf solutions will suffice) and ensure that contingencies (i.e., off-ramps) are developed early and exercised when necessary. (Ongoing) 3. Determine the extent existing systems from the 2010 Census can be modified and reused if necessary. (Complete) 4. Design IT solutions that are flexible enough to incorporate design changes. (Ongoing) 5. Establish a change control management process to assess impacts of change requests to facilitate decision-making. (Complete) 6. Prepare for rapid response to implement change based on the results of the change control process. (Ongoing)



	0.0	isk & issue Mariagement				
Risk ID	Titlo	Description	Exposure Level and Color	Probability	Impact	Mitigation Plan
	Administrative Records and Third-Party Data	The Census Bureau is planning the use of administrative records and third-party data to reduce the need to followup with nonrespondents through the identification of vacant and deleted housing units (those that do not meet the Census Bureau's definition of a housing unit), the enumeration of nonresponding housing units, and the improvement of the quality of imputation for demographic characteristics that are missing for person and housing unit records. Administrative records will also be used to update the Master Address File, predict the best times to contact nonresponding households, and verify the information provided by respondents and enumerators. IF external factors or policies prevent the Census Bureau from utilizing administrative records and third-party data as planned, THEN the Census Bureau may not be able to fully meet the strategic goal of containing the overall cost of the 2020 Census or to fully utilize the data quality benefits of using administrative records in characteristic imputation.	Medium - Yellow	3		1. Identify external stakeholders that have an interest in Census Bureau policies regarding administrative records and third-party data usage. (Ongoing) 2. Develop a stakeholder communication plan for identified external stakeholders. (Ongoing) 3. Regularly communicate to and seek feedback from identified external stakeholders on design decisions and research and testing results related to the use of administrative records and third-party data for the 2020 Census. (Ongoing) 4. Assess impacts of any changes to the design based on feedback from external stakeholders and update plans accordingly. (Ongoing) 5. Monitor external factors and policies that may impact the Census Bureau's planned use of administrative records and third-party data for the 2020 Census. (Ongoing)
	Operations and Systems Integration	Due to the critical timing of census operations and the potential impact of systems not being ready to support them, the 2020 Census Program must have an accurate gauge of the progress made towards integrating the various operations and systems that support the program, including enterprise solutions (i.e., CEDCaP, CEDSCI, and C-SHaRPS). The monitoring of the progress towards integration must take place throughout the planning, development, and testing stages of the operations and systems. IF the 2020 Census Program does not monitor the various operations and systems to ensure that integration is successful prior to implementation, THEN the strategic goals and objectives of the program may not be met.		3		Leverage DITD's Systems Engineering and Integration (SE&I) System Development Life Cycle system readiness/phase gate review process, the SE&I program metrics dashboard, and various 2020 Census Program's governance forums to provide a current sense of where all solutions providers are in the system development process and to raise issues quickly for corrective action. (Ongoing) 2. Conduct regularly scheduled reviews of the 2020 Census operations. (Complete) 3. Ensure all operational areas and their associated IPTs have adequate resources assigned to integration efforts and required project artifacts are developed and approved. (Ongoing) 4. Ensure each planned census test has an approved GOSC (Goals, Objectives, and Success Criteria), adequate resources to plan and conduct are identified and assigned, a detailed test plan is developed and approved (including key milestones and roles and responsibilities), and deadlines are being met through a regular management review with the test team. (Ongoing) 5. Ensure adequate technical review sessions are planned and conducted in conjunction with Systems Engineering and Integration staff (including the systems engineers responsible for developing the solutions). (Ongoing) 6. Create an operational integration design team to support the 2020 Census through creation and distribution of artifacts, which depict integration between



Risk ID	Title	Description	Exposure Level		Impact	Mitigation Plan
	Testing of Field Operations	Most 2020 Census field operations include quality control procedures to ensure that the collected data meet the acceptable levels of quality. However, the field quality control procedures have gone through only limited testing as of 2016 due to reassessment and prioritization within the 2020 Census Program. IF the 2020 Census field operations do not adequately test their respective quality control procedures prior to implementation, THEN the quality control methods may not be effective, requiring additional funding and effort to meet the established levels of quality for the 2020 Census data.	Medium - Yellow	3		 Communicate the necessity of testing and implementing quality control procedures as part of the field operations and tests. (Ongoing) Document the quality control procedures for each field operation supporting the 2020 Census Program. (Ongoing) Devise alternate testing plans for QC procedures. (Complete)
LC-042	Late Operational	After key planning and development milestones are completed, stakeholders may disagree with the planned innovations behind the 2020 Census and decide to modify the design, resulting in late operational design changes. IF operational design changes are required following the completion of key planning and development milestones, THEN the 2020 Census Program may have to implement costly design changes, increasing the risk for a timely and successful 2020 Census.	Medium - Yellow	3	4	1. Identify internal and external stakeholders that have an interest in the 2020 Census operational design. (Ongoing) 2. Develop a stakeholder communications plan for identified internal and external stakeholders. (Ongoing) 3. Regularly communicate with and seek feedback from identified external stakeholders on design decisions and research and testing results. (Ongoing) 4. Monitor external factors and policies that may impact the Census Bureau's planned innovations for the 2020 Census operational design. (Ongoing) 5. Establish a change control management process to assess impacts of change requests to facilitate decision-making. (Complete) 6. Prepare for rapid response to address potential changes and make decisions based on the results of the change control process. (Ongoing)



			Exposure Level			
Risk ID	Title	Description	and Color		Impact	Mitigation Plan
		The 2020 Census Program consists of a portfolio of projects	3.10.00.01	·······································		
		that requires subject matter skillsets to complete the work.				
		The potential of not having the necessary staffing levels and				
		staff with the appropriate competencies to satisfy program				
		objectives is a current reality. This is a result of both hiring				
		freezes and the budgetary constraints experienced by the				
		2020 Census Program. In addition, with increasing numbers				
		of staff eligible for retirement before 2020, there is also the				
		potential of losing valuable institutional knowledge, as				
		employees in key positions may not be accessible to share				
		their knowledge and participate in succession planning.				
		IF the 2020 Census Program does not hire and retain staff				1. Identify high priority competencies and staffing positions needed for the
	Insufficient	with the necessary subject matter skillsets at the levels				work of the 2020 Census. (Ongoing)
	Levels of Staff	required by the projects, THEN the 2020 Census Program				2. DDSSO will continue to collaborate with managers and the Human
	with Subject	will face staffing shortages, making it difficult to meet the	Medium -			Resources Division (HRD) to facilitate hiring. (Ongoing)
LC-046	Matter Skillsets	goals and objectives of the program.	Yellow	3	4	3. Employ various strategies to facilitate staff retention. (Ongoing)
		Many of the operations supporting the 2020 Census require				
		contracts to assist them with system development, testing, and production activities. The acquisition process requires				
		lead time and involves review and approval milestones,				
		both at the agency and department levels. Once awarded,				
		the implementation of the contract may be delayed for a				
		number of reasons, including protests or lack of funding.				
		Any delay with the awarding or implementation of these				
		contracts means the operations may have to shorten the				
		timeframe for some activities or possibly cancel certain				
		activities.				
		IF there are difficulties in the awarding or implementation				
		of the contracts that are supporting the 2020 Census, THEN				
		delays may occur in the system development, testing, or				
		production stages, which may force the operations				
	2020 Census	supporting the 2020 Census to shorten the timeframe for	Medium -			
LC-050	Contract Support	completing some activities or cancel certain activities.	Yellow	3	4	In development.



Risk ID	Title	Description	Exposure Level and Color		Impact	Mitigation Plan
	Cloud	Some systems supporting the 2020 Census Program plan to mitigate the surging demand on the systems by utilizing the Cloud as part of the architecture. IF the Cloud, and the migration to it, is not evaluated, designed, and tested thoroughly, THEN any implementation of the Cloud may introduce system failures or process gaps with downstream implications. All systems supporting the 2020 Census Program must be able to handle the large, dynamic demands of the		3		1. Develop plans for alternate deployments of each 2020 Census system that is targeted to be hosted on the Cloud. (Ongoing) 2. Assign 2020 Census Technical Integrator to develop a physical architecture for the 2020 Census System of Systems, including the assessment and design of a cloud architecture for the 2020 Census. (Ongoing) 3. Assign the 2020 Census Technical Integrator to assess every system of the 2020 Census System of Systems, including the systems suitability for the Cloud and the migration strategy if the system is determined to be suitable for the Cloud. (Ongoing)
LC-044	Systems Scalability	operations and support the system of systems. IF systems are not properly designed, tested, and implemented with the ability to scale, THEN critical issues may arise when the need to scale up (or down) any system in the environment occurs, potentially eliminating the ability to scale during the production window of operations, and thereby limiting the capacity to support the operations or leading to failure of the system.	Medium - Yellow	3	3	Under direction of SE&I Chief Architect, conduct scalability assessment with the Technical Integrator (TI) team. (Ongoing) Provide accurate demand models to the systems to ensure proper system of systems design. (Ongoing)



Risk ID	Title	Description	Exposure Level and Color		Impact	Mitigation Plan
		Internet, telephony, and paper demand models are				4) Por the form the 2010 Seed to End Grove Tests (III be end to enforce the
		developed based on historical and test data. Development teams use those data to make predictions regarding system scalability. Changes to operations can have impacts to these				1) Results from the 2018 End-to-End Census Test will be used to refine the external demand model, in order to improve its accuracy. (Ongoing) 2) Compare model output with census data from other countries. (Ongoing)
		models, and if changes continue to occur, the accuracy of the models will be reduced pending updates.				3) Incorporate operational changes as soon as possible. (Ongoing) 4) Include impacts of advertising campaigns and partnership events on
		IF operational changes occur that affect the workloads, THEN all systems could be adversely impacted if the				demand models. (Ongoing) 5) Include maximum system capacity on models to readily identify system
LC-047	Demand Model Accuracy	updates are not made in time to inform the system developers of the proper demand.	Medium - Yellow	3		constraints. (Ongoing) 6) Include sixth mailing in demand models (as a what-if scenario). (Ongoing)



2020 Census Update

Oversight Committee Meeting
Briefing for Secretary Wilbur Ross

February 26, 2018

Albert E. Fontenot, Jr., Associate Director
Decennial Census Programs Directorate



Agenda

- Hot Topics Albert E. Fontenot, Jr.
- Budget Ben Taylor
- Major Contracts Luis J. Cano
- Cybersecurity Kevin Smith
- Systems Readiness Atri Kalluri
- Stakeholders and Oversight Albert E. Fontenot, Jr.
- Risks James B. Treat
- Critical Path James B. Treat
- Periodic Performance Management Reports James B. Treat

Hot Topics for DOC Awareness: February 21, 2018

2020 Census Printing and Mailing Contract

- On October 16, 2017, the U.S. Government Publishing Office (GPO) awarded contract to Cenveo, Inc. on Census' behalf.
- On February 2, Cenveo, Inc., and its affiliates, filed for Reorganization in the Southern District of New York under Chapter 11 of the U.S. Bankruptcy Code. Cenveo notified GPO and Census of its filing that day.
- Production printing for the 2018 End-to-End Census Test began on February 14. They have completed printing of the questionnaires, letters, inserts and envelopes. All that remains is the postcards.
- Attorneys from DOC, the Government Publishing Office, and the US Attorney's Office are coordinating efforts to seek additional information and assurances of future performance from Cenveo and intend to take all appropriate steps consistent with the contract and applicable law to protect the government's interests.
- The USAO will send a letter to Cenveo's bankruptcy counsel in order to gather information geared towards determining whether Cenveo will have the financial ability to perform the contract. Based upon the terms of the Restructuring Support Agreement, the debtors' bankruptcy is on a "fast-track" with a plan to be filed by early April and for confirmation and consummation of that plan to be complete before the end of July.

Residence Criteria

- A Federal Register Notice published on February 8 outlined the final Residence Criteria for the 2020 Census.
 - Press activity and Congressional inquiries have been minimal.

2018 End-to-End Test Readiness

- We have 2,566 qualified candidates (as of February 15) for the Nonresponse Followup operation. Our goal for entering training is 1,166 so that we can have about 1,049 trained entering NRFU.
 - The Census Bureau will continue to aggressively recruit candidates and remains concerned about recruiting for the 2020 Census.
- Due to legal obstacles identified by attorneys at the USPS and the Department of Commerce we have decided not to pursue the pilot test of Postal Carriers as Census Enumerators.

2020 Census Operational Readiness

- 12 of the 40 Wave 1 area census offices have a lease award/signed occupancy agreement, as of February 15. Space has been identified for 20 of the 208 Wave 2 area census offices, as of February 15.
 - We have concerns, which the General Services Administration (GSA) shares, that the leasing process is not moving forward as quickly as it needs to in some areas. GSA is bringing in their national team to address this
- Space for five of the six regional census centers has been accepted as of February 13.

2020 Census Questionnaire

- Systems have been adjusted to handle the 2 question format for the Race/Ethnicity Question.
- We are prepared to deliver the questions to Congress by March 31 pending resolution of the Department of Justice's request for the addition of a question on citizenship to the 2020 Census Short Form.

Integrated Partnership and Communications

• The mail out of questionnaires for the Census Barriers, Attitudes and Motivators Survey (CBAMS) for the qualitative survey is scheduled for February 20, with the focus planned for March 14 to April 19. The focus groups will provide critical data on small population groups and EPIC-18-03-22-Census-Bureau-FOIA-20180611-Production languages other than English.



Refer to Budget and Contract Slides



Cybersecurity



Cybersecurity – Summary

Further Detail **Follows**

The Census Cybersecurity effort is to resolve these risks:

External Risks

- Compromising User Devices (Public)
- **Compromising External Network Access**
- Impersonating the Census
- **Inserting Invalid Responses**

Internal Risks

- Disrupting the Internet Self Service Website
- **Data Breaches**
- Compromising User Devices (Census)

The Census Bureau are taking actions to mitigate these risks through coordination with Federal partners by:



Treating a Scalable Secure Network for 2020 Census Respondents:

Working with OMB, DHS, and Cloud Provider to develop scalable and secure network connection in the cloud.

- Federal Working Group with Cloud Provider (OMB, DHS, Cloud Provider, Network Providers)
- Current Solution is Network Provider Based; Future Solution will be Cloud Provider Based
- Federal CIO formalized approval for our approach for Future Solution* (working towards using during 2018 End-to-End Census Test)

Strengthening Our Incident Response Capabilities (DHS FIRE):

Advance ability to continually Identify, Protect, Detect, Respond, and Recover from possible cyber threats.

- Moving forward with creating Insider Threat capability plan with outside expertise
- Started Federal Monitoring "Continuous Diagnostics and Mitigation" (DHS CDM) Implementation with DOC
- Improving visibility of cybersecurity issues by implementing tools from private industry and federal government

Improving Our Cybersecurity Posture:

Improve knowledge, processes, procedures, and/or technology.

- Increasing knowledge resources
 - Collaboration with NIST Cybersecurity Center of Excellence (NCCoE) in Feb '18
 - Regular Cybersecurity briefings with Department of Homeland Security (DHS)
 - Cybersecurity Unified Coordination Group (Federal Intelligence Community) simulation for major incident in Summer '18 (table top)
- **Testing Technology**



Authorities to Operate (ATOs) for 2020 Systems are 75% Done for FY 18 End to End Test and On Schedule. Many Actions Remain.

- Internet Self Response system security tested by Private Industry (Done Jan '18), Federal DHS (Done in Feb '18; report in Mar '18)
- Engaging "Red Teams" from Industry and Federal (DHS) to conduct "slow and under the radar" cybersecurity attacks



Cybersecurity – Scalable Secure Network for 2020 Census Respondents

Working with OMB, DHS, and Cloud Provider to develop scalable and secure network connection in the cloud to improve the User Experience for 2020 Respondents for Internet Self Response.

Background

Federal Government entities must use Federal Secure Network Connectivity provided by Industry with Department of Homeland Security visibility

- Secure Federal Network Connectivity through Trusted Internet Connection (TIC)
 - DHS Einstein (Classified Monitoring of Network), Other Technologies/Configurations
- Current Implementations through Internet Service Provider to Federal Locations
 - Census has 2 TICs (1 Suitland, MD Office; 1 Bowie, MD Data Center)

Problem

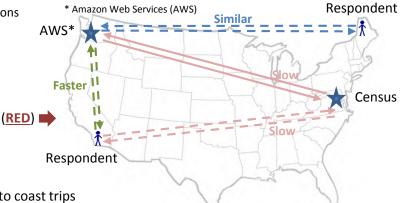
Current Federal Secure Network Connection will be slower internet respondents.

- Current Solution is Network Provider Based (AT&T, Verizon, CenturyLink, ..)
- Current Solution makes all respondents travel through Washington DC
 - Census has all current network through Metro DC
 - Cloud for Data Collection in Washington State (AWS)
- Internet Self Response website slower based on some users with multiple coast to coast trips
 - User Experience depends on System & Network Latency (time)
 - The more Latency (time) adds up to the dramatically worse it gets at peak loads

Proposed Resolution

Create scalable and secure network connection in the cloud that reduces unnecessary "travel times"

- Future Solution will be Cloud Provider Based (Amazon Web Services, *Microsoft*, ...)
- Reduce "travel time" to website by connecting directly to West Coast cloud. No cross country layovers
- Initiated, Established, and Working with Federal/Industry Partners (OMB, DHS, Cloud Provider, Network Providers)
- Federal CIO (OMB) formalized support in February '18 for Census to "continue outside of existing TIC policies"



(BLUE & GREEN)

Network (Speed of Light) and Distance

DC – Seattle, WA = 2,700 miles

DC - Ecuador = 2,700 miles

DC – Moscow, Russia = 4,900 miles

DC – Buenos Aires, Argentina = 5,300 miles

San Francisco to Bejing, China = 5,900 miles



Cybersecurity – Authority to Operate (ATO) Status

2018 End to End Test – 44 Systems

No Level of Effort (75%) (Green)

- 73% have obtained ATOs (done)
- 2% (1 system) does not require an ATO (NA)

Small Level of Effort (18%) (Grey)

- 16% have ATOs and are moving to 2020 Infrastructure. These systems are moving from servers in the Census data center to the technical integrator
- 2% have ATOs and are being modified. These systems are already housed in the infrastructure and are developing additional capabilities.

High Level of Effort (7%) (Blue)

• 7% are new; Getting ATO before FY18 Test

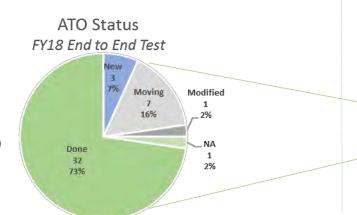
2020 Census – 52 Systems

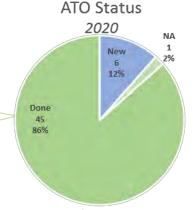
No Level of Effort (88%) (Green)

- 86% will have obtained ATOs from the FY18 End to End Test (done)
 - · These systems will be maintained annually
- 2% (1 system) does not require an ATO (NA)

High Level of Effort (TBD) (Blue)

- 12% are new;
 - Post Enumeration Survey
 - Customer Relationship Management and Experience
 - Decennial Device as a Service





Since Jan 18

+21% (+9) Done -2% (-1) New

Modified -5% (-2)

Moving -14% (-6)

U.S. Department of Commerce Economics and Statistics Administration

The Authority to Operate (ATO) process is quality control for Cybersecurity done for all systems to continually reduce information technology security risks to an acceptable level. 8

Cybersecurity – Actions Remain- Plan of Action and Milestones (POA&Ms)

After ATOs are Granted, POA&Ms are recorded and continuously managed for the life of the system.

Continually identifying and tracking POA&Ms are healthy in Cybersecurity. Not fixing them as planned is unhealthy

Census has completed a large number of new ATOs for 2020 which naturally have POA&Ms recorded.

Census chooses to have more POA&Ms being tracked at a detailed level to show progress and increased visibility for ourselves and oversight (Our "Punch List" is 10+ times more than other Federal entities; 1,000's instead of 100's)

Focus on the progress to reduce POA&Ms. The number of POA&Ms themselves is the Census' choice for visibility.





Summarize – Subjectively Record Issue with No Occurrences

- Majority of Federal Government uses this level
- Process Evaluate security controls at the Top Level
- Oversight Continually asks questions for more data
- Example
 - Technology: "Is Accesses Controlled?" "Yes; the infrastructure is protected"
 - House: "Is your house insulated?" "Yes; the house is insulated"
- Gaps Subjective Risk Acceptance; Hard to Show Progress

Detail – Objectively Record Issues and Occurrences

- Census Bureau built to this level based on numerous recommendations of Oversight (GAO, OIG)
- Process Evaluate security controls within the Top Level; document all the parts
- Oversight Has the data they need to understand risks more fully
- Example
 - Technology: "Where is Accesses Controlled?" "Many different areas with different controls"
 - House: "Where is your house insulated?" "In exterior walls, front door has weather stripping, less inside"
- Gaps Objective Risk Acceptance; Able to Show Progress; "Punch List" to be done and/or accepted





Refer to Systems Readiness Document



Stakeholders and Oversight

OIG

- 2020 Census Area Census Office (ACO) Locations Audit
 - Formal exit meeting will be held on February 23 to learn about preliminary findings and draft report expected date.
 - The audit included a close look at the delineation criteria and model, as well as the Life Cycle Cost Estimate associated with field infrastructure innovation.
- · Background Check Audit
 - Census comments on draft report received on Background Check Audit were delivered to OIG on February 5. Final report is expected by late February.
 - These are the tentative findings, which OIG discussed during an exit conference:
 - Escalating costs and inadequate quality assurance practices pose risks to 2020 Census background check activities.
 - The Census Bureau is not adequately monitoring contractor activities.
 - Program officials are not always allocating background check costs to the correct fund.
 - The Census Bureau is developing a response and will provide comments by late January.
- CEDCaP Audit
 - The objectives are to determine whether (1) the Census Bureau is prepared to test its 2020 Census Security Architecture during the 2018 End-to-End Census Test; and (2) there are cost issues that will affect the readiness of the security architecture, or any other relevant systems.

GAO

- Life Cycle Cost Estimate (LCCE) Audit
 - The LCCE audit continues.
 - Their questions and topics of interest are based on their examining of the revised Basis of Estimation documentation submitted to them on December 11.
- Systems Readiness Audit
 - Informed by GAO on February 5 that the Systems Readiness Audit will not have a formal report issued but that GAO would continue regular briefings with congressional oversight and release congressional testimony as appropriate.
- Plans for Hard-to-Count Populations Audit
 - GAO is beginning this work after receiving a request from the House Committee on Oversight and Government Reform.
 - The entrance meeting with GAO was held on December 6.
 - Research Questions and Scope:
 - What socio-demographic groups are considered "hard to count" and why?
 - What is the status of the Census Bureau's efforts to enumerate the "hard to count" in 2020?
 - To what extent is the Bureau's current plans for enumerating the "hard to count" in 2020 addressing the nation's changing demographics and key design changes introduced for the 2020 Census; and leveraging earlier lessons learned (e.g., prior recommendations from GAO, NAS, DOC advisory committees, the Census Bureau's own evaluations and experiments, and others)?
 - GAO is conducting meetings with various Census Bureau experts and documents are being provided to GAO, as requested.

OIG Recommendations

Topics	Total Recs	Closed Recs	Open Recs	Recs with Action Plan Due Date in Future	Documents Submitted: Awaiting OIG Decision to Close
Address Canvassing Test	6	1	5	1	4
Administrative Records	4	2	2	1	1
Life Cycle Cost Estimate	5	1	4	3	1
2015 Test Design	4	3	1		1
2020 Census Planning	35	33	2		2
Master Address List	7	6	1		1
TOTAL	61	46	15	5	10



GAO Recommendations

Topics	Total Recommendations	Closed Recommendations	Open Recommendations	Recommendations with Action Plan Due Date in Future	Documents Submitted: Awaiting GAO Decision to Close
Life Cycle Cost Estimate	14	10	4	-	4
Schedule	12	5	7	-	7
IT & IT Security	23	16	7	-	7
Field Training, Workforce & Recruitment/ Integrated Partnership and Communications	18	5	13	4	8
Other*	17	14	3	1**	3
TOTAL	84	51	33	5	28

^{*}Other includes the following topics: Project Management, Oversight, United States Postal Service, Nonresponse Follow-up, Address Canvassing, and Census Coverage Measurement.

GAO has made 84 recommendations since 2007 about the 2020 Census. Action plans are in place for all recommendations.

- **51** Have been closed by GAO.
- 5 Have due dates in the future (4 in 2018 and 1 for the 2030 Census).
- 14 Relate to ongoing audits on the Lifecycle Cost Estimate, the Schedule and our efforts to enumerate Hard-to-Count populations. GAO will not close these until the ongoing audits are complete.
- 11 Artifacts have been provided to GAO, and we are working with GAO to identify the additional documentation they need to close these out. We expect progress on these in the near future.
- 3 These are recommendations that GAO is likely to close as "Not Fully Implemented" because, while artifacts have been provided, discussions with GAO clearly indicate our efforts to date, or planned, will not fulfil the recommendation.



^{**}This recommendation, related to Address Canvassing, is for 2030.

Risk Management



Risk Management – Structure



2020 Census Portfolio Risk Management Process



Portfolio Risk and Issue Management – Risk Register

Quadrant	Total Risks	%
RED	3	10.7%
YELLOW	24	85.7%
GREEN	1	3.6%
TOTAL	28	100%

Probability

5	0	0	0	0	0
4	0	0	1	0	0
3	0	0	3	7	3
2	0	0	1	8	4
1	0	0	0	0	1
	1	2	3	4	5

Impact

The selected risks that follow represent the major concerns that could affect the design or the successful implementation of the 2020 Census.

- Cost Impacts of Late Changes (Probability 3, Impact 5) RED
- Public Perception of ability to Safeguard Response Data (Probability 3, Impact 5) RED
- Cybersecurity Incidents (Probability 3, Impact 5) RED

Yellow risks with Probability and Impact equal to or great than 3, see background slides

Critical Path Report



Critical Path Report – 2020 Integrated Master Schedule

- Schedule contains
 - Over 25,000 activities
 - Over 42,000 interdependencies
 - 35 Operations and 52 Systems
- Baselined the schedule on December 14, 2017
- Started reporting status weekly on December 15, 2017
- Conducting a chronological review for integration of activities
 - Operations for Releases 1 & 2 Completed January 26, 2018
 - Systems for Releases 1 & 2 In process, planned finish on March 16, 2018
 - Early Data Collection Operations for Release 3 Planned finish on April 20, 2018
 - Remaining Data Collection Operations for Release 3 Planned finish on June 1, 2018
 - Remaining Operations, Release 4 Planned finish on July 13, 2018

Refer to Handout

Status Reporting

Periodic Performance Management Reports

Complete Listing of Reports

Status	Report Title	Slide Number
	Area Census Office Lease Status – Wave 1	18
	Area Census Office Lease Status – Wave 2	19
	Regional Census Center Space Acceptance & Opening Status	20
	2020 Local Update of Census Addresses (LUCA)	21
	Recruiting for 2018 Peak Operations	22

Legend

On Track

Management Focus

Requires Attention



Area Census Office Lease Status – Wave 1

Wave 1
Area Census Office
(ACO) Lease Status

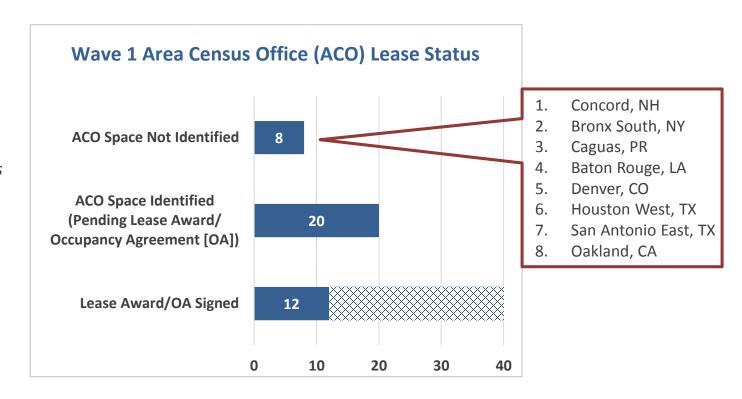
Status:

Management Focus

Data current as of: February 15, 2018

Completion Date:

March 31, 2018



Source: Weekly Field Division Report, February 15, 2018



Area Census Office Lease Status – Wave 2

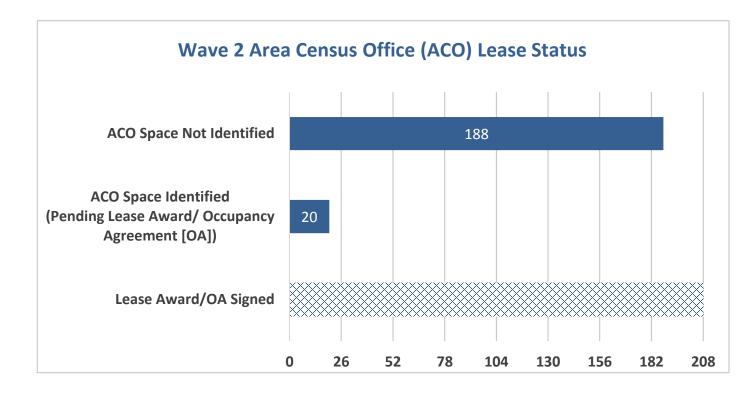
Wave 2
Area Census Office
(ACO) Lease Status

Status:

On Track

Data current as of: February 15, 2018

Completion Date: *September 30, 2018*



Source: Weekly Field Division Report, February 15, 2018



Regional Census Center Space Acceptance & Opening Status

Regional Census Center (RCC) Status		Buildout/ Space Accepted	Furniture/ Supplies/ IT Equipment Deployed	RCC Open
Status: On Track	Philadelphia RCC			0
Data current as of:	Chicago RCC		0	0
February 13, 2018	Dallas RCC			0
Upcoming RCC Space Acceptance Dates:	Atlanta RCC			0
Atlanta RCC, accepted February 12, 2018	Los Angeles RCC			0
New York RCC, projected	New York RCC			
RCC Open Dates: April 1, 2018	Not Started	Completed	Legend On Track Management Focus	Requires

Source: Reported via John Donnelly email February 13, 2018



27, 2018)

(New York RCC to open April

Attention

Focus

2020 Local Update of Census Addresses (LUCA)

2020 Local Update of Census Addresses (LUCA)

Status:

On Track

Data current as of:

February 15, 2018

Completion Date:

January 31, 2018

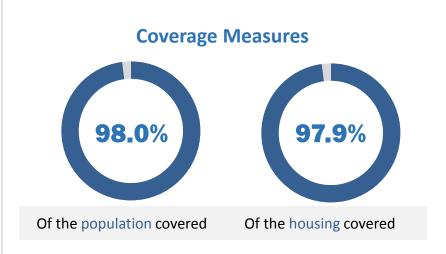
Notes:

- Extended the registration deadline for natural disaster areas until January 31, 2018
- 45 States are registered to participate, up from 28 states in 2010 LUCA

Registration



Governments Registered or In-Process to Register



Source: Daily LUCA E-mailed Report, February 15, 2018



Recruiting for 2018 Peak Operations

Recruiting for 2018 Peak Operations

Status:

Management Focus

Data current as of:

February 15, 2018

Completion Date:

March 5, 2018

Notes:

 We plan to hire 5 Census Field Managers and 45 Census Field Supervisors.



Source: Regional Disposition Summary (D-424F) Report, February 15, 2018

Background on Risk Management

Portfolio Risk & Issue Management – Red Risks

Risk ID	Title	Description	Exposure Level and Color	Probability	Impact	Mitigation Plan
LC-003	Cost Impacts of Late Changes	The budget process requires the 2020 Census Portfolio to produce estimates for out-year budgets before the cost of the final design has been identified and estimated. IF later in the 2020 Census life cycle, it is discovered that certain cost projections cannot be met, THEN the design will have to be changed, potentially impacting quality, forcing the implementation of an inadequately tested design, and having to request additional funds which might put the 2020 Census over the cost goal.	High - Red	3		1. Develop strong budget justifications that show negative impact of insufficient funds. (Ongoing) 2. Develop a strong communications package for stakeholders to use in defense of 2020 Census budget requests. (Ongoing) 3. Perform continuous reviews of the cost assumptions and the feasibility in meeting the targeted goals. (Ongoing) 4. Ensure there is sufficient contingency funding to address late changes. (Ongoing)
LC-039	Public Perception of	The accuracy and usefulness of the data collected for the 2020 Census are dependent upon the ability to obtain information from the public, which is influenced partly by the public's perception of how well their privacy and confidentiality concerns are being addressed. The public's perception of the Census Bureau's ability to safeguard their response data may be affected by security breaches or the mishandling of data at other government agencies or in the private sector. IF a substantial segment of the public is not convinced that the Census Bureau can safeguard their response data against data breaches and unauthorized use, THEN response rates may be lower than projected, leading to an increase in cases for follow-up and cost increases.		3		1. Develop a strategy to build and maintain the public's confidence in the Census Bureau's ability to keep their data safe. (Ongoing) 2. Research other Census Bureau divisions, other government agencies, other countries, and the public sector to gain insight into how they have effectively mitigated the issue of public trust and IT security. (Ongoing) 3. Continually monitor the public's confidence in data security in order to gauge their probable acceptance of the Census Bureau's methods for enumeration. (Ongoing)
LC-041		Cybersecurity incidents (e.g., breach, denial of service attack) could happen to the Census Bureau's authorized IT systems, such as the Internet self-response instrument, mobile devices used for fieldwork, and data processing and storage systems. IT security controls will be put in place to protect the confidentiality, integrity, and availability of the IT systems and data. IF a cybersecurity incident occurs to the systems supporting the 2020 Census, THEN additional technological efforts will be required to repair or replace the systems affected in order to maintain secure services and data.	High - Red	3		1. Monitor system development efforts to ensure the proper Census Bureau IT security guidelines are followed during the system development phase. (Ongoing) 2. Research other Census Bureau programs, other government agencies, other countries, and the private sector to understand how they effectively mitigate cybersecurity incidents. (Ongoing) 3. Audit systems and check logs to help in detecting and tracing an outside infiltration. (Ongoing) 4. Perform threat and vulnerability analysis through testing. (Ongoing) 5. Prepare for rapid response to address any detected cybersecurity incidents. (Ongoing)



Risk ID	Title	Description	Exposure Level and Color	Probability	Impact	Mitigation Plan
LC-045		Major disasters (e.g., earthquake, flood, tornado, epidemic, and terrorist attack) can affect the populations of a geographic area (e.g., town, county, state) and prevent people from self-responding to the 2020 Census or being contacted by field staff. Major disasters can disrupt operations at key facilities (e.g., Headquarters, National Processing Center, Regional Census Centers, and Area Census Offices) and supporting infrastructure (e.g., Post Offices and telecommunications). IF a major disaster occurs during the final preparations for or the implementation of the 2020 Census (October 2017 – September 2023), THEN operations may not be able to be executed as planned, leading to increased costs, schedule delays, and lower quality data.	Medium - Yellow	4	3	 Plan for a rapid response team to access the disaster and recommend a course of action to senior managers. (Ongoing) Where feasible, the Census Bureau will develop secondary operations facilities, implement regular backup of automated systems and data, and provide uninterruptible power. (Ongoing) Develop Continuity of Operations (COOP) plans for all key facilities (HQ, NPC, RCCs, ACOs, etc.). (Ongoing) Develop Continuity of Operations (COOP) plans for all operations. (Ongoing) Ensure there is contingency funding in the budget to cover Continuity of Operations (COOP) plans. (Ongoing) Consult with other government agencies on best ways to continue operations in areas affected by a major disaster. (Ongoing)
LC-010		The Census Bureau, wherever feasible, will leverage cross-program IT solutions and has begun the work necessary to ensure this is achieved. However, enterprise solutions (i.e., CEDCaP, CEDSCI, and C-SHaRPS) may not address all of the 2020 Census Portfolio requirements. In these cases, impacts must be identified and proper actions taken to resolve the situation. IF enterprise IT solutions cannot meet the 2020 Census Portfolio requirements, THEN existing systems may require substantial modifications or entirely new systems may have to be developed, adding complexity and increasing risk for a timely and successful 2020 Census.	Medium - Yellow	3	4	1. Engage with enterprise efforts to ensure that solutions architectures align and provide continued support for 2020 Census requirements development and management. (Ongoing) 2. Participate in agency-wide solution development (i.e., avoid custom solutions where enterprise or off-the-shelf solutions will suffice) and ensure that contingencies (i.e., off-ramps) are developed early and exercised when necessary. (Ongoing) 3. Determine the extent existing systems from the 2010 Census can be modified and reused if necessary. (Complete) 4. Design IT solutions that are flexible enough to incorporate design changes. (Ongoing) 5. Establish a change control management process to assess impacts of change requests to facilitate decision-making. (Complete) 6. Prepare for rapid response to implement change based on the results of the change control process. (Ongoing)



	0.4	isk & issue Mariageriterit		101111		
			Exposure Level and			
Risk ID	Title	Description	Color	Probability	Impact	Mitigation Plan
LC-033	Records and Third-Party Data	The Census Bureau is planning the use of administrative records and third-party data to reduce the need to followup with nonrespondents through the identification of vacant and deleted housing units (those that do not meet the Census Bureau's definition of a housing unit), the enumeration of nonresponding housing units, and the improvement of the quality of imputation for demographic characteristics that are missing for person and housing unit records. Administrative records will also be used to update the Master Address File, predict the best times to contact nonresponding households, and verify the information provided by respondents and enumerators. IF external factors or policies prevent the Census Bureau from utilizing administrative records and third-party data as planned, THEN the Census Bureau may not be able to fully meet the strategic goal of containing the overall cost of the 2020 Census or to fully utilize the data quality benefits of using administrative records in characteristic imputation.	Medium - Yellow	3		1. Identify external stakeholders that have an interest in Census Bureau policies regarding administrative records and third-party data usage. (Ongoing) 2. Develop a stakeholder communication plan for identified external stakeholders. (Ongoing) 3. Regularly communicate to and seek feedback from identified external stakeholders on design decisions and research and testing results related to the use of administrative records and third-party data for the 2020 Census. (Ongoing) 4. Assess impacts of any changes to the design based on feedback from external stakeholders and update plans accordingly. (Ongoing) 5. Monitor external factors and policies that may impact the Census Bureau's planned use of administrative records and third-party data for the 2020 Census. (Ongoing)
	Operations and Systems Integration	Due to the critical timing of census operations and the potential impact of systems not being ready to support them, managers must have an accurate gauge of the progress made towards integrating the various operations and systems that support the 2020 Census, including enterprise solutions (i.e., CEDCaP, CEDSCI, and C-SHaRPS). The monitoring of the progress towards integration must take place throughout the planning, development, and testing stages of the operations and systems. IF the various operations and systems are not monitored properly to ensure that integration is successful prior to implementation, THEN the strategic goals and objectives of the 2020 Census may not be met.		3		Leverage DITD's Systems Engineering and Integration (SE&I) System Development Life Cycle system readiness/phase gate review process, the SE&I program metrics dashboard, and various 2020 Census Program's governance forums to provide a current sense of where all solutions providers are in the system development process and to raise issues quickly for corrective action. (Ongoing) 2. Conduct regularly scheduled reviews of the 2020 Census operations. (Complete) 3. Ensure all operational areas and their associated IPTs have adequate resources assigned to integration efforts and required project artifacts are developed and approved. (Ongoing) 4. Ensure each planned census test has an approved GOSC (Goals, Objectives, and Success Criteria), adequate resources to plan and conduct are identified and assigned, a detailed test plan is developed and approved (including key milestones and roles and responsibilities), and deadlines are being met through a regular management review with the test team. (Ongoing) 5. Ensure adequate technical review sessions are planned and conducted in conjunction with Systems Engineering and Integration staff (including the systems engineers responsible for developing the solutions). (Ongoing) 6. Create an operational integration design team to support the 2020 Census through creation and distribution of artifacts, which depict integration between the operations. (Complete)



Risk ID	Title	Description	Exposure Level		Impact	Mitigation Plan
	Testing of Field Operations Quality Control Procedures	Most 2020 Census field operations include quality control procedures to ensure that the collected data meet the acceptable levels of quality. However, the field quality control procedures have gone through only limited testing since 2016 due to reassessment and prioritization within the 2020 Census Portfolio. IF the 2020 Census field operations do not adequately test their respective quality control procedures prior to implementation, THEN the quality control methods may not be effective, requiring additional funding and effort to meet the established levels of quality for the 2020 Census data.	Medium - Yellow	3	4	1. Communicate the necessity of testing and implementing quality control procedures as part of the field operations and tests. (Ongoing) 2. Document the quality control procedures for each field operation supporting the 2020 Census. (Ongoing) 3. Devise alternate testing plans for QC procedures. (Complete)
LC-042	•	After key planning and development milestones are completed, stakeholders may disagree with the planned innovations behind the 2020 Census and decide to modify the design, resulting in late operational design changes. IF operational design changes are required following the completion of key planning and development milestones, THEN costly design changes may have to be implemented, increasing the risk for a timely and successful 2020 Census.	Medium - Yellow	3	4	1. Identify internal and external stakeholders that have an interest in the 2020 Census operational design. (Ongoing) 2. Develop a stakeholder communications plan for identified internal and external stakeholders. (Ongoing) 3. Regularly communicate with and seek feedback from identified external stakeholders on design decisions and research and testing results. (Ongoing) 4. Monitor external factors and policies that may impact the Census Bureau's planned innovations for the 2020 Census operational design. (Ongoing) 5. Establish a change control management process to assess impacts of change requests to facilitate decision-making. (Complete) 6. Prepare for rapid response to address potential changes and make decisions based on the results of the change control process. (Ongoing)

			Exposure Level			
Risk ID	Title	Description	•		Impact	Mitigation Plan
		The 2020 Census Portfolio consists of programs and	and color			
		projects that requires subject matter skillsets to complete				
		the work. The potential of not having the necessary staffing				
		levels and staff with the appropriate competencies to				
		satisfy portfolio objectives is a current reality. This is a				
		result of both hiring freezes and the budgetary constraints				
		experienced by the 2020 Census Portfolio. In addition, with				
		increasing numbers of staff eligible for retirement before				
		2020, there is also the potential of losing valuable				
		institutional knowledge, as employees in key positions may				
		not be accessible to share their knowledge and participate				
		in succession planning.				1. Identify high priority competencies and staffing positions needed for the
	Insufficient	IF the 2020 Census Portfolio does not hire and retain staff				work of the 2020 Census. (Ongoing)
	Levels of Staff	with the necessary subject matter skillsets at the levels				2. DDSSO will continue to collaborate with managers and the Human
	with Subject	required, THEN the staffing shortages may occur, making it	Medium -	_		Resources Division (HRD) to facilitate hiring. (Ongoing)
LC-046	Matter Skillsets	difficult to meet the goals and objectives of the portfolio.	Yellow	3	4	3. Employ various strategies to facilitate staff retention. (Ongoing)
		Many of the operations supporting the 2020 Census require				
		contracts to assist them with system development, testing,				
		and production activities. The acquisition process requires				
		lead time and involves review and approval milestones,				
		both at the agency and department levels. Once awarded, the implementation of the contract may be delayed for a				
		number of reasons, including protests or lack of funding.				
		Any delay with the awarding or implementation of these				
		contracts means the operations may have to shorten the				
		timeframe for some activities or possibly cancel certain				
		activities.				
		IF there are difficulties in the awarding or implementation				
		of the contracts that are supporting the 2020 Census, THEN				
		delays may occur in the system development, testing, or				
		production stages, which may force the operations				
	2020 Census	supporting the 2020 Census to shorten the timeframe for	Medium -			
LC-050	Contract Support	completing some activities or cancel certain activities.	Yellow	3	4	In development.

Risk ID	Title	Description	Exposure Level and Color		Impact	Mitigation Plan
	Cloud	Some systems supporting the 2020 Census plan to mitigate the surging demand on the systems by utilizing the Cloud as part of the architecture. IF the Cloud, and the migration to it, is not evaluated, designed, and tested thoroughly, THEN any implementation of the Cloud may introduce system failures or process gaps with downstream implications.	Medium - Yellow	3		1. Develop plans for alternate deployments of each 2020 Census system that is targeted to be hosted on the Cloud. (Ongoing) 2. Assign 2020 Census Technical Integrator to develop a physical architecture for the 2020 Census System of Systems, including the assessment and design of a cloud architecture for the 2020 Census. (Ongoing) 3. Assign the 2020 Census Technical Integrator to assess every system of the 2020 Census System of Systems, including the systems suitability for the Cloud and the migration strategy if the system is determined to be suitable for the Cloud. (Ongoing)
LC-044	Systems Scalability	All systems supporting the 2020 Census must be able to handle the large, dynamic demands of the operations and support the system of systems. IF systems are not properly designed, tested, and implemented with the ability to scale, THEN critical issues may arise when the need to scale up (or down) any system in the environment occurs, potentially eliminating the ability to scale during the production window of operations, and thereby limiting the capacity to support the operations or leading to failure of the system.	Medium - Yellow	3		1. Under direction of SE&I Chief Architect, conduct scalability assessment with the Technical Integrator (TI) team. (Ongoing) 2. Provide accurate demand models to the systems to ensure proper system of systems design. (Ongoing)

Risk ID	Title	Description	Exposure Level and Color		Impact	Mitigation Plan
		Internet, telephony, and paper demand models are developed based on historical and test data. Development				1) Results from the 2018 End-to-End Census Test will be used to refine the
		teams use those data to make predictions regarding system scalability. Changes to operations can have impacts to these models, and if changes continue to occur, the accuracy of				external demand model, in order to improve its accuracy. (Ongoing) 2) Compare model output with census data from other countries. (Ongoing) 3) Incorporate operational changes as soon as possible. (Ongoing)
		the models will be reduced pending updates. IF operational changes occur that affect the workloads,				4) Include impacts of advertising campaigns and partnership events on demand models. (Ongoing)
	Demand Model	THEN all systems could be adversely impacted if the updates are not made in time to inform the system	Medium -			5) Include maximum system capacity on models to readily identify system constraints. (Ongoing)
LC-047	Accuracy	developers of the proper demand.	Yellow	3	3	6) Include sixth mailing in demand models (as a what-if scenario). (Ongoing)



Submission of the 2020 Census and American Community Survey Questions to Congress

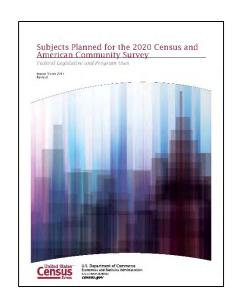
Briefing for the Department of Commerce

March 5, 2018



2020 Census and American Community Survey Subjects and Questions Requirements

- Section 141(f) of the Census Act requires that the subjects included in the next census be submitted to Congress no later than 3 years before the census date.
 - ✓ This document was issued on March 28, 2017.
- The Census Act also requires that the questions included in the next census be submitted to Congress no later than 2 years before the census date.
 - ➤ A document that meets this requirement for the 2020 Census and the ACS will be submitted to Congress by **March 31, 2018**.



How a Question Becomes Part of the Census (short form)

Steps in the Process

Authority

• The discretionary authority for defining the questions on the Decennial Census Short Form resides with the Secretary of Commerce.

Review of Request

 Requests undergo legal, technical, and policy review to determine whether the question should be included on the short form.

Notification

- Upon determining a new question is warranted, the Census Bureau must notify Congress of its intent to add the question.
- The Census Bureau will publish a Federal Register Notice.

Testing

• If the question is not currently used in an ongoing survey, the Census Bureau must test the wording of the new question.

Operational Adjustments

• The Census Bureau must make operational adjustments to all data collection and processing systems to include the approved, new question.

How a Question Becomes Part of the American Community Survey

Steps in the Process

Proposal

- A federal agency proposes a new or changed question.
- Request specifies frequency, geographic precision needed, and consideration of other sources.
- OMB and Census Bureau decide whether the change has merit.

Testing

- Wording options are created and tested.
- Question performance is evaluated in a field test.

Evaluation

- Test results are reviewed by the Census Bureau and requesting federal agency.
- The Census Bureau solicits public comment through a Federal Register Notice.

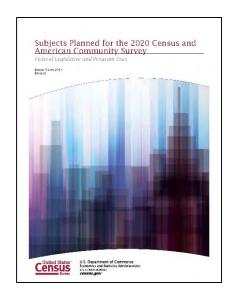
Decision

- A final decision is made in consultation with the OMB and Interagency Council on Statistical Policy Subcommittee on the ACS.
- If approved, the Census Bureau implements the change.

Subjects Planned for the 2020 Census

As submitted in March 2017

- No changes to the 2020 Census subjects
 - Same subjects included on the 2010 Census and Census 2000 short form
- 2020 Subjects
 - **Operational** (number of people) asked since 1790
 - Age asked since 1790
 - **Gender** asked since 1790
 - **Hispanic origin** asked since 1970
 - Race asked since 1790
 - Relationship asked since 1880
 - **Tenure** (owner/renter) asked since 1890



Subjects Planned for the 2020 American Community Survey

As submitted in March 2017

No changes to the ACS subjects.

(Year first asked in the Decennial Census Program)

2020 Subjects	Social Subjects	Economic Subjects	Housing Subjects
Operational	Ancestry (1980)	Journey to Work/Commuting (1960)	Acreage & Agricultural Sales (1960)
Age	Disability (1830)	Health Insurance (2008)	Computer & Internet Use (2013)
Gender	Fertility (1890)	Income (1940)	Home Heating Fuel (1940)
Race/Ethnicity	Grandparent Caregivers (2000)	Industry of Worker (1820)	Home Value & Rent (1940)
Relationship	Language Spoken at Home (1890)	Occupation of Worker (1850)	Plumbing Facilities (1940)
Tenure	Marital Status (1880)	Class of Worker (1910)	Kitchen Facilities (1940)
	Marital History (1850)	Labor Force Status (1890)	Telephone Service (1960)
	Migration/Residence One Year Ago	Work Status Last Year (1880)	Selected Monthly Owner Costs (1940-1990)
	(1930)		Utilities, mortgage, etc.
	Place of Birth (1850)		SNAP (2005)
			Food Stamps
	Citizenship (1820)		Units in Structure (1940)
	Year of Entry (1890)		Rooms (1940)
	School Enrollment (1850)		Bedrooms (1960)
	Educational Attainment (1940)		Vehicles Available (1960)
	Undergraduate Field of Degree (2009)		Year Built (1940)
	Veteran Status (1890)		Year Moved In (1960)
	Veteran Period of Service and VA		
	Service-Connected Disability (2008)		



Subjects Planned for the 2020 Island Areas Censuses

As submitted in March 2017

		I	l.,
2020 Subjects	Social Subjects	Economic Subjects	Housing Subjects
Operational	Ancestry	Commuting	Acreage & Agricultural Sales
Age	Disability	Health Insurance	Computer & Internet Use
Gender	Fertility	Income	Home Heating Fuel
Race/Ethnicity	Grandparent Caregivers	Industry, Occupation,	Home Value & Rent
		& Class of Worker	
Relationship	Language Spoken at Home	Labor Force Status	Plumbing Facilities, Kitchen Facilities,
			& Telephone Service**
Tenure	Marital Status & Marital History*	Work Status Last Year	Selected Monthly Owner Costs
	Migration/Residence Five Years Ago		Sewage Disposal
	Parent's Place of Birth		SNAP*
	Place of Birth, Citizenship, & Year of Entry		Source of Water
	Reason for Migration		Units in Structure, Rooms, & Bedrooms
	School Enrollment,		Vehicles Available
	Educational Attainment		
	& Undergraduate Field of Degree***		
	Veteran Status, Period of Service,		Year Built & Year Moved In
	& VA Service-Connected Disability Rating		
*New for Island	d Areas Censuses, but an established subject	in the ACS.	
	uding flush toilet availability.		
***Propose inc	luding completion of a vocational program, v	which was a subject for	the 2010 Census.
Island Areas Ce	nsuses Only		





Questions Planned for the 2020 Census and American Community Survey

Document Outline

Contents:

- Introduction
- Questions Planned for the 2020 Census
- Questions Planned for the ACS
- Year First Included in a Decennial Census or on the ACS

Structure:

- Question image (paper form)
- Statement about why the question is asked (relationship to published data)
- Paragraph summarizing federal government use of data derived from the question
- Select summaries of types of community-level uses

Questions Planned for the 2020 Census

Question Images

- Age
- Gender
- Hispanic origin
- Race
- Relationship
- Tenure (owner/renter)
- Operational (number of people)

Age

Asked since 1790

Answers to the age and date of birth question provide the data that help us understand the size of different age groups and how other characteristics may vary by age.

What is Person 1's a birth? For babies less months. Write 0 as the	than 1 year	is Person old, do not	1's date of write the age in
	Print num	bers in boxe	S.
Age on April 1, 2020	Month	Day	Year of birth
years			

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Gender

Asked since 1790

A question about the gender of each person is used to create statistics about males and females and to present other data by gender.

What is Person 1's sex? Mark X ONE box.				
	Male		Female	

Hispanic Origin*

Asked since 1970

A question about whether a person is of Hispanic, Latino, or Spanish origin is used to create statistics about this ethnic group.

erson 1 of Hispanic, Latino, or Spanish origin? k 🗴 one or more boxes AND print origins.				
No, not of Hispanic, Latino, or Spanish origin				
Yes, Mexican, Mexican Am., Chicano				
Yes, Puerto Rican				
Yes, Cuban				
Yes, another Hispanic, Latino, or Spanish origin – <i>Print, for example, Salvadoran, Dominican, Colombian, Guatemalan, Spaniard, Ecuadorian, etc.</i>				

* This Hispanic origin question will be implemented on the ACS in 2020.



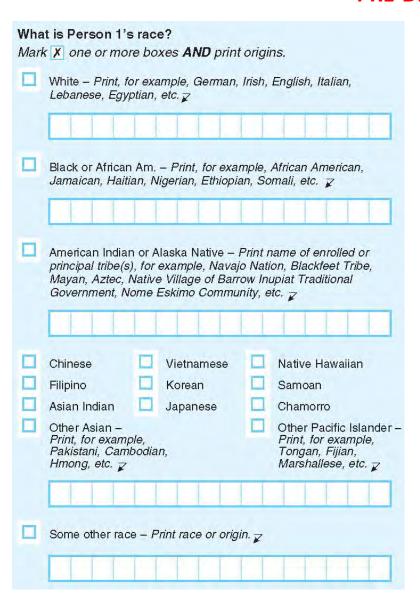
Race*

Asked since 1790

A question about a person's race to create statistics about race and to present other estimates by race groups.

* This race question will be implemented on the ACS in 2020.





Note: Hispanic origin and race are asked separately EPIM & CCO Colange with the 1997 OMB standards on race and ethnicity.

Relationship*

Asked since 1880

A question about the relationship of each person in a household to one central person is used to create estimates about families, households, and other groups, and to present other data at a household level.

How	is this person related to Person 1? Mark X ONE box.
П	Opposite-sex husband/wife/spouse
П	Opposite-sex unmarried partner
П	Same-sex husband/wife/spouse
П	Same-sex unmarried partner
П	Biological son or daughter
	Adopted son or daughter
П	Stepson or stepdaughter
П	Brother or sister
	Father or mother
	Grandchild
П	Parent-in-law
	Son-in-law or daughter-in-law
	Other relative
	Roommate or housemate
	Foster child
	Other nonrelative

Tenure (owner/renter)

Asked since 1890

A question about whether a home is owned or rented is used to create data about tenure, renters, and home ownership.

Is this house, apartment, or mobile home — Mark 🗷 ONE box.					
	Owned by you or someone in this household with a mortgage or loan? Include home equity loans.				
	Owned by you or someone in this household free and clear (without a mortgage or loan)?				
П	Rented?				
	Occupied without payment of rent?				

Operational (number of people)

Asked since 1790

Some operational questions are asked to better administer the data collection process and to ensure greater accuracy of the data collected. Contact information is not part of published estimates and is carefully protected, as mandated by federal law, to respect the personal information of respondents.

How many people were living or staying in this house, apartment, or mobile home on April 1, 2020? Number of people =		
Were there any <u>additional</u> people staying here on April 1, 2020 that you <u>did not include</u> in Question 1? Mark X all that apply		
Mark X all that apply. Children, related or unrelated, such as newborn babies, grandchildren, or foster children Relatives, such as adult children, cousins, or in-laws Nonrelatives, such as roommates or live-in babysitters People staying here temporarily No additional people		
What is your telephone number? We will only contact you if needed for official Census Bureau business. Telephone Number		

ere is someone living here wh sidence, start by listing him o vner or the person who pays t art by listing any adult living h hat is Person 1's name? Print	r her he re nere a	as Person 1. If the nt does not live here s Person 1.
rst Name	, idi iio	MI
ast Name(s)		
Does this person usually live or	stay	somewhere else?
Mark 🗶 all that apply.		
☐ No		
Yes, for college		Yes, with a parent or other relative
Yes, for a military assignment		Yes, at a seasonal or second residence
Yes, for a job or business		Yes, in a jail or prison



Questions Planned for the 2020 American Community Survey

- Based on results of the 2016 ACS Content Test, changes to the questions about the following topics are planned for implementation on the 2019 ACS (and will be carried forward to the 2020 ACS):
 - Telephone service
 - Journey to work
 - Weeks worked
 - Class of worker
 - **Industry and Occupation**
 - Retirement income
 - Relationship
 - Health insurance premiums and subsidies (new question)
- The ACS will implement the version of the race and Hispanic origin questions used on the 2020 Census on the 2020 ACS.

Preparing the Questions Planned for the 2020 Census and American Community Survey

Planned Timeline

	Activity	Timeline
√	Federal agencies provide updates to Federal use documentation	March – June 2016
✓	Incorporate feedback into draft <i>Planned Subjects</i> document	May – September 2016
✓	Provide updates and conduct briefings	January – March 2017
✓	Planned Subjects document delivered*	No later than March 31, 2017
✓	Draft Planned Questions document	September 2017 – January 2018
	Provide updates and conduct briefings	January – March 2018
	Planned Questions document delivered*	No later than March 31, 2018
	American Community Survey Federal Register Notices (public comment period)	December 2017 – February 2018, March – April 2018
	2020 Census Federal Register Notices (public comment period)	May – July 2018, August – September 2018

^{*2020} Island Areas Censuses Subjects and Questions are submitted via letter in the same period.



Outstanding Item

- On December 12, 2017, the Department of Justice requested that citizenship be added to the 2020 Census short form, stating:
 - These "data are critical to the Department's enforcement of Section 2 of the Voting Rights Act and its important protections against racial discrimination in voting. To fully enforce those requirements, the Department needs a reliable calculation of the citizen voting-age population in localities where voting rights violations are alleged or suspected."
- This request is currently under evaluation by the Department of Commerce.

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Questions?



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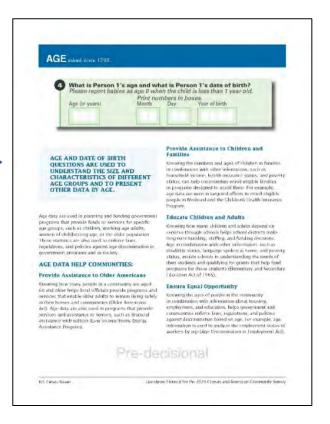
2020 Census and ACS Questions

Document Development

2020 Census and ACS Subjects

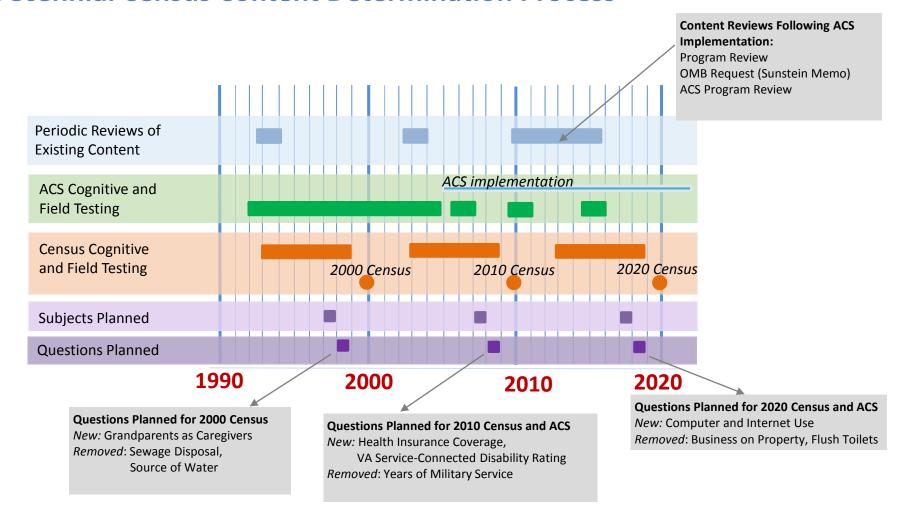


2020 Census and ACS Questions



Subjects and Questions Planned for the 2020 Census and ACS

Decennial Census Content Determination Process





U.S. Department of Commerce

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Submission of the 2020 Census and American Community Survey Questions to Congress

Briefing for the Department of Commerce

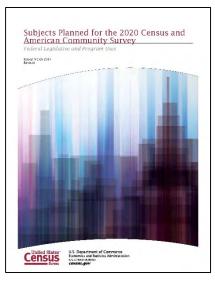
March 6, 2018

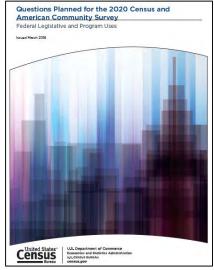


2020 Census and American Community Survey Subjects and Questions

Requirements

- Section 141(f) of the Census Act requires that the subjects included in the next census be submitted to Congress no later than 3 years before the census date.
 - ✓ This document was issued on March 28, 2017.
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How a Question Becomes Part of the Census or American Community Survey

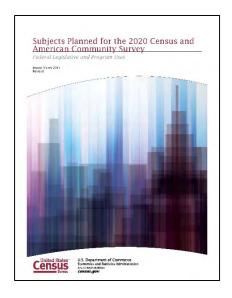
Standard Considerations

- The determination of content for the Decennial Census Program rests with the Secretary of Commerce.
- Requests undergo legal, technical, and policy review to determine whether the question should be included.
- If the question is not currently used in an ongoing survey, it is the Census Bureau standard develop and test the wording of the new question.
- The Census Bureau must submit to Congress the planned questions for the 2020 Census and American Community Survey by March 31, 2018.
- In compliance with the Paperwork Reduction Act, the Census Bureau will publish a Federal Register Notice.

Subjects Planned for the 2020 Census

As submitted in March 2017

- No changes to the 2020 Census subjects
 - Same subjects included on the 2010 Census and Census 2000 short form
- 2020 Subjects
 - Age asked since 1790
 - Gender asked since 1790
 - **Hispanic origin** asked since 1970
 - Race asked since 1790
 - Relationship asked since 1880
 - **Tenure** (owner/renter) asked since 1890
 - Operational (e.g., name) asked since 1790



Outstanding Item

- On December 12, 2017, the Department of Justice requested that citizenship be added to the 2020 Census short form, stating:
 - These "data are critical to the Department's enforcement of Section 2 of the Voting Rights Act and its important protections against racial discrimination in voting. To fully enforce those requirements, the Department needs a reliable calculation of the citizen voting-age population in localities where voting rights violations are alleged or suspected."
- This request is currently under evaluation by the Department of Commerce.

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Prepare and Deliver the Questions Planned for the 2020 Census and American Community Survey

Planned Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Mar-4	Mar-5	Mar-6	Mar-7	Mar-8	Mar-9	Mar-10
Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17 Need decisions
Mar-18	Mar-19	Mar-20	Mar-21	Mar-22	Mar-23	Mar-24
Mar-25	Mar-26	Mar-27	Mar-28	Mar-29 Document is Delivered	Mar-30 Good Friday	Mar-31

Final document layout takes 2-3 days. Printing takes 3 days.

Finalize and Deliver the Questions Planned for the 2020 Census and American Community Survey

Planned Timeline

	Activity	Timeline
\triangle	Finalize draft of the Planned Questions document	March 1, 2018
\checkmark	Present at the 2020 Program Management Review	January 26, 2018
✓	Brief Census Executive Staff	February 13, 2018
\checkmark	Brief the Office of Management and Budget	February 22, 2018
✓	Brief the Department of Commerce	March 6, 2018
	Brief the Interagency Council on Statistical Policy Subcommittee on the ACS	March 14, 2018
	Brief the Census Scientific Advisory Committee	March 29, 2018
	Brief the National Advisory Committee	March-April 2018
	Brief House and Senate Staffers	April 2018
	Planned Questions document delivered*	No later than March 29, 2018



Questions Planned for the 2020 Census and American Community Survey

Document Outline

Contents:

- Introduction
- Questions Planned for the 2020 Census
- Questions Planned for the ACS
- Year First Included in a Decennial Census or on the ACS

Structure:

- Question image (paper form)
- Statement about why the question is asked (relationship to published data)
- Paragraph summarizing federal government use of data derived from the question
- Select summaries of types of community-level uses

Questions Planned for the 2020 Census

Question Images

- Age
- Gender
- Hispanic origin
- Race
- Relationship
- Tenure (owner/renter)
- Operational (number of people)



Age

Asked since 1790

Answers to the age and date of birth question provide the data that help us understand the size of different age groups and how other characteristics may vary by age.

What is Person 1's a birth? For babies less months. Write 0 as the	than 1 year	is Person old, do not	1's date of write the age in
2 / 1 / 1 / 2 / 2 / 2 / 2 / 2 / 2 / 2 /		bers in boxe	
Age on April 1, 2020	Month	Day	Year of birth
years			

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Gender

Asked since 1790

A question about the gender of each person is used to create statistics about males and females and to present other data by gender.

What is Person 1's sex? Mark X ONE box.				
	Male		Female	

Hispanic Origin*

Asked since 1970

A question about whether a person is of Hispanic, Latino, or Spanish origin is used to create statistics about this ethnic group.

Is Person 1 of Hispanic, Latino, or Spanish origin? Mark X one or more boxes AND print origins.					
	No, not of Hispanic, Latino, or Spanish origin				
	Yes, Mexican, Mexican Am., Chicano				
	Yes, Puerto Rican				
	Yes, Cuban				
	Yes, another Hispanic, Latino, or Spanish origin – <i>Print, for example, Salvadoran, Dominican, Colombian, Guatemalan, Spaniard, Ecuadorian, etc.</i>				

* This Hispanic origin question will be implemented on the ACS in 2020.



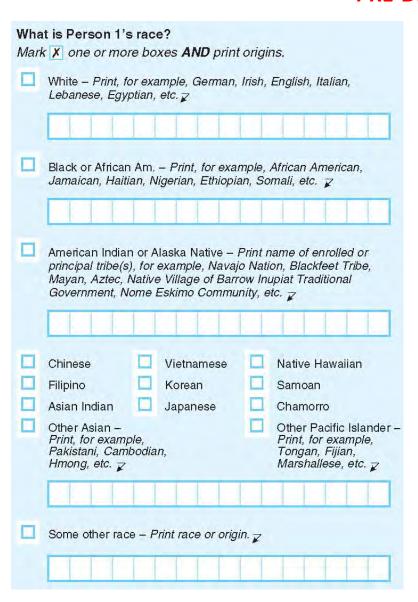
Race*

Asked since 1790

A question about a person's race to create statistics about race and to present other estimates by race groups.

* This race question will be implemented on the ACS in 2020.





Relationship*

Asked since 1880

A question about the relationship of each person in a household to one central person is used to create estimates about families, households, and other groups, and to present other data at a household level.

How	is this person related to Person 1? Mark X ONE box.
П	Opposite-sex husband/wife/spouse
П	Opposite-sex unmarried partner
П	Same-sex husband/wife/spouse
П	Same-sex unmarried partner
П	Biological son or daughter
	Adopted son or daughter
П	Stepson or stepdaughter
П	Brother or sister
	Father or mother
	Grandchild
П	Parent-in-law
	Son-in-law or daughter-in-law
	Other relative
	Roommate or housemate
	Foster child
	Other nonrelative

Tenure (owner/renter)

Asked since 1890

A question about whether a home is owned or rented is used to create data about tenure, renters, and home ownership.

Is this house, apartment, or mobile home — Mark 🗷 ONE box.					
	Owned by you or someone in this household with a mortgage or loan? Include home equity loans.				
	Owned by you or someone in this household free and clear (without a mortgage or loan)?				
П	Rented?				
П	Occupied without payment of rent?				

Operational

Asked since 1790

Some operational questions are asked to better administer the data collection process and to ensure greater accuracy of the data collected. Contact information is not part of published estimates and is carefully protected, as mandated by federal law, to respect the personal information of respondents.

How many people were living or staying in this house, apartment, or mobile home on April 1, 2020? Number of people =				
	there any <u>additional</u> people staying here on April 1, 2020 ou did not include in Question 1?			
	X all that apply.			
	Children, related or unrelated, such as newborn babies, grandchildren, or foster children			
Relatives, such as adult children, cousins, or in-laws				
Nonrelatives, such as roommates or live-in babysitters				
People staying here temporarily				
1	No additional people			
What is your telephone number? We will only contact you if needed for official Census Bureau business.				
Telephone Number				

there resid owne	se provide information for e is someone living here wh ence, start by listing him of er or the person who pays t by listing any adult living h	o pay r her he re	s the rent or owns this as Person 1. If the nt does not live here,		
What	is Person 1's name? Print	name	below.		
First N	lame		MI		
ast N	lame(s)				
Doe	s this person usually live or	stay	somewhere else?		
Mar	k 🗶 all that apply.				
	No				
			Unit will be a second on		
	Yes, for college		Yes, with a parent or other relative		
	Yes, for a military assignment	Yes, at a seasonal or second residence			
	Yes, for a job or business		Yes, in a jail or prison		
	Yes, in a nursing home		Yes, for another reason		



PRE-DECISIONAL

Subjects Planned for the 2020 American Community Survey

As submitted in March 2017

No changes to the ACS subjects.

(Year first asked in the Decennial Census Program)

2020 Subjects	Social Subjects	Economic Subjects	Housing Subjects
Operational	Ancestry (1980)	Journey to Work/Commuting (1960)	Acreage & Agricultural Sales (1960)
Age	Disability (1830)	Health Insurance (2008)	Computer & Internet Use (2013)
Gender	Fertility (1890)	Income (1940)	Home Heating Fuel (1940)
Race/Ethnicity	Grandparent Caregivers (2000)	Industry of Worker (1820)	Home Value & Rent (1940)
Relationship	Language Spoken at Home (1890)	Occupation of Worker (1850)	Plumbing Facilities (1940)
Tenure	Marital Status (1880)	Class of Worker (1910)	Kitchen Facilities (1940)
	Marital History (1850)	Labor Force Status (1890)	Telephone Service (1960)
	Migration/Residence One Year Ago	Work Status Last Year (1880)	Selected Monthly Owner Costs (1940-1990)
	(1930)		Utilities, mortgage, etc.
	Place of Birth (1850)		SNAP (2005)
			Food Stamps
	Citizenship (1820)		Units in Structure (1940)
	Year of Entry (1890)		Rooms (1940)
	School Enrollment (1850)		Bedrooms (1960)
	Educational Attainment (1940)		Vehicles Available (1960)
	Undergraduate Field of Degree (2009)		Year Built (1940)
	Veteran Status (1890)		Year Moved In (1960)
	Veteran Period of Service and VA		
	Service-Connected Disability (2008)		



Note: The 2020 ACS (formerly the long form) will be administered in the 50 states, the District of Columbia, and Puerto Rico. The 2020 Island Areas EPIC-18-03-22-Census-Bureau-FOIA-20180611-Production 000451 Censuses will use the 2020 ACS as a base, which will be modified to better 17 meet the needs of the Island Areas.

Questions Planned for the 2020 American Community Survey

- Based on results of the 2016 ACS Content Test, changes to the questions about the following topics are planned for implementation on the 2019 ACS (and will be carried forward to the 2020 ACS):
 - Telephone service
 - Journey to work
 - Weeks worked
 - Class of worker
 - Industry and Occupation
 - Retirement income
 - Relationship
 - Health insurance premiums and subsidies (new question)
- The ACS will implement the version of the race and Hispanic origin questions used on the 2020 Census on the 2020 ACS.

Questions?



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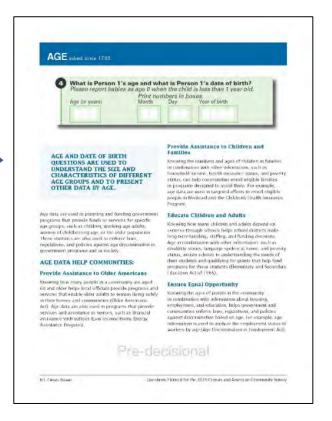
2020 Census and ACS Questions

Document Development

2020 Census and ACS Subjects

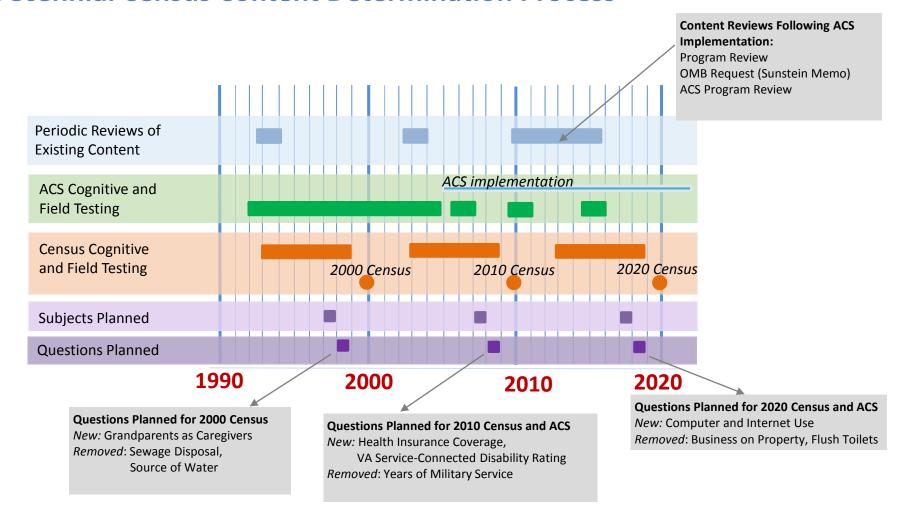


2020 Census and ACS Questions



Subjects and Questions Planned for the 2020 Census and ACS

Decennial Census Content Determination Process





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Comparison of 2010 ACS and 2010 Decennial Census Response Rates by 2010					
Numident Citizenship Status					
	Self-response rate (%)		Difference	Row Percent	
Numident Status	Census	ACS			
Citizen	79.9	66.1	13.8	94.1	
	0.04	0.05			
Non-citizen	71.5	52.6	18.9	5.9	
	0.19	0.21			

Sources: 2010 ACS 1-year file and 2010 Decennial Census Unedited File (CUF), first mailout responses only.

Notes: Unweighted percentages. The sample size is 929,000 households. Standard errors below response rates. DRB clearance CBDRB-2017-CDAR-001. Difference in difference is -5.1 with a standard error of 0.26 (N=929,000).

2016 Internet Breakoff Rates (from Internet Paradata, weighted with base weight)

	Non H	lispanic Wh	nite	Non His	panic Non \	White		Hispanic		M	issing Data
last_screen	Percent*	SE	MOE	Percent*	SE	MOE	Percent*	SE	MOE	Percent*	SE
notbreakoff	90.52	0.0400	0.0658	85.93	0.1091	0.1795	82.41	0.1445	0.2377	17.06	0.4003
2ndmortgage	0.0707	0.0036	0.0059	0.0998	0.0114	0.0188	0.1590	0.0163	0.0268	0.0358	0.0161
2ndmortgageamt	0.0223	0.0020	0.0033	0.0267	0.0054	0.0089	0.0233	0.0056	0.0092	0.0725	0.0240
acres	0.0249	0.0021	0.0035	0.0533	0.0076	0.0125	0.0790	0.0121	0.0199	0.0241	0.0125
activelookforwork	0.0124	0.0015	0.0025	0.0168	0.0036	0.0059	0.0306	0.0068	0.0112	0.0411	0.0213
add_1			0.0000	0.0012	0.0012	0.0020			0.0000		
address	0.0034	0.0007	0.0012	0.0066	0.0023	0.0038	0.0012	0.0012	0.0020	0.2677	0.0423
addresslastyear	0.0716	0.0038	0.0063	0.1049	0.0089	0.0146	0.1383	0.0146	0.0240	0.0326	0.0149
agrsales	0.0125	0.0013	0.0021	0.0095	0.0029	0.0048	0.0242	0.0062	0.0102	0.0192	0.0140
ancestry	0.1274	0.0049	0.0081	0.0840	0.0092	0.0151	0.1568	0.0138	0.0227	0.0481	0.0239
another_home			0.0000			0.0000			0.0000	0.0280	0.0168
another_home_who			0.0000			0.0000			0.0000	0.0043	0.0043
anywork	0.0144	0.0018	0.0030	0.0337	0.0054	0.0089	0.0352	0.0060	0.0099	0.0077	0.0077
attendschool	0.0828	0.0036	0.0059	0.1757	0.0132	0.0217	0.1846	0.0164	0.0270	0.0620	0.0235
away_now	0.0003	0.0002	0.0003			0.0000			0.0000	0.0209	0.0153
birth	0.0071	0.0010	0.0016	0.0152	0.0037	0.0061	0.0157	0.0048	0.0079	0.0077	0.0077
blind	0.0461	0.0027	0.0044	0.0825	0.0089	0.0146	0.0826	0.0113	0.0186	0.0121	0.0089
business	0.0001	0.0001	0.0002			0.0000			0.0000		
businessclass	0.0376	0.0027	0.0044	0.0543	0.0073	0.0120	0.0878	0.0120	0.0197	0.0202	0.0150
citizenship	0.0352	0.0025	0.0041	0.2678	0.0159	0.0262	0.3628	0.0256	0.0421	0.0465	0.0262
compuse	0.0257	0.0018	0.0030	0.0451	0.0071	0.0117	0.0433	0.0080	0.0132	0.0273	0.0152
condo	0.0132	0.0014	0.0023	0.0222	0.0044	0.0072	0.0397	0.0085	0.0140	0.0208	0.0152
condofee	0.0016	0.0008	0.0013	0.0011	0.0008	0.0013	0.0044	0.0025	0.0041		
condofeeamt	0.0031	0.0007	0.0012	0.0014	0.0012	0.0020	0.0043	0.0021	0.0035		
couldwork	0.0057	0.0009	0.0015	0.0091	0.0030	0.0049	0.0204	0.0048	0.0079	0.0243	0.0156
dateofbirth	0.0108	0.0015	0.0025	0.0174	0.0037	0.0061	0.0224	0.0063	0.0104	40.6823	0.4465
deaf	0.0303	0.0022	0.0036	0.0303	0.0049	0.0081	0.0611	0.0091	0.0150	0.0390	0.0154
difficultyconcent	0.037	0.0029	0.0048	0.0663	0.0085	0.0140	0.0418	0.0062	0.0102	0.0077	0.0077
difficultydress	0.0579	0.0031	0.0051	0.0563	0.0067	0.0110	0.1020	0.0123	0.0202	0.0209	0.0153
difficultyerrand	0.0458	0.0029	0.0048	0.0563	0.0069	0.0114	0.0764	0.0120	0.0197	0.0679	0.0238
difficultywalk	0.0351	0.0025	0.0041	0.0380	0.0069	0.0114	0.0510	0.0079	0.0130	0.0492	0.0253

disabilityrate	0.0062	0.0009	0.0015	0.0098	0.0033	0.0054	0.0065	0.0032	0.0053		
divorce	0.0161	0.0016	0.0026	0.0282	0.0057	0.0094	0.0302	0.0061	0.0100	0.0286	0.0171
duties	0.1432	0.0046	0.0076	0.2228	0.0145	0.0239	0.2657	0.0199	0.0327	0.0232	0.0134
elecamt	0.0931	0.0036	0.0059	0.1465	0.0112	0.0184	0.1620	0.0145	0.0239	0.0195	0.0129
elecinc	0.0056	0.0009	0.0015	0.0063	0.0023	0.0038	0.0098	0.0030	0.0049	0.0071	0.0071
elecpay	0.0434	0.0028	0.0046	0.0684	0.0087	0.0143	0.1109	0.0127	0.0209	0.0154	0.0109
employeetype	0.2209	0.0070	0.0115	0.3665	0.0184	0.0303	0.3990	0.0253	0.0416	0.0988	0.0311
employer	0.092	0.0045	0.0074	0.1440	0.0125	0.0206	0.1855	0.0159	0.0262	0.0175	0.0108
englishprof	0.0034	0.0007	0.0012	0.0195	0.0050	0.0082	0.0359	0.0065	0.0107		
estincome	0.0644	0.0035	0.0058	0.0813	0.0085	0.0140	0.1528	0.0129	0.0212	0.0043	0.0043
facilities	0.0239	0.0018	0.0030	0.0461	0.0064	0.0105	0.0529	0.0088	0.0145	0.0280	0.0168
fieldofdegree	0.0686	0.0038	0.0063	0.0730	0.0085	0.0140	0.0525	0.0096	0.0158		
fiftymoreweeks	0.0576	0.0029	0.0048	0.0948	0.0096	0.0158	0.1123	0.0130	0.0214	0.0373	0.0200
finalize	0	0.0000	0.0000	0.0007	0.0007	0.0012	0.0006	0.0006	0.0010		
finishedperson	0.2479	0.0056	0.0092	0.4049	0.0210	0.0345	0.5694	0.0241	0.0396	0.1358	0.0357
foodstamps	0.0135	0.0015	0.0025	0.0391	0.0053	0.0087	0.0292	0.0069	0.0114	0.0273	0.0138
gasamt	0.0181	0.0017	0.0028	0.0221	0.0049	0.0081	0.0292	0.0065	0.0107	0.0131	0.0131
gasinc	0.0055	0.0011	0.0018	0.0079	0.0026	0.0043	0.0064	0.0029	0.0048	0.0077	0.0077
gaspay	0.0208	0.0017	0.0028	0.0277	0.0061	0.0100	0.0350	0.0072	0.0118	0.0043	0.0043
gasuse	0.0061	0.0009	0.0015	0.0092	0.0028	0.0046	0.0115	0.0038	0.0063	0.0461	0.0220
grandchildrenhome	0.0122	0.0014	0.0023	0.0158	0.0038	0.0063	0.0207	0.0053	0.0087	0.0269	0.0160
grandparentsresp	0.0011	0.0003	0.0005	0.0007	0.0007	0.0012	0.0067	0.0026	0.0043		
heatingfuel	0.0168	0.0019	0.0031	0.0338	0.0052	0.0086	0.0327	0.0074	0.0122	0.0263	0.0157
highestlevel	0.1666	0.0051	0.0084	0.2567	0.0151	0.0248	0.2981	0.0190	0.0313	0.2119	0.0474
hispanic	0.0043	0.0008	0.0013	0.0091	0.0028	0.0046	0.0065	0.0026	0.0043	3.0989	0.1696
hoursworked	0.1017	0.0034	0.0056	0.1802	0.0127	0.0209	0.1953	0.0173	0.0285	0.0280	0.0169
hunitstatus	0.0017	0.0006	0.0010	0.0020	0.0014	0.0023	0.0018	0.0018	0.0030	0.0047	0.0047
insurance	0.1875	0.0062	0.0102	0.3305	0.0155	0.0255	0.3364	0.0195	0.0321	0.1200	0.0272
interest	0.2086	0.0060	0.0099	0.1788	0.0129	0.0212	0.2418	0.0203	0.0334	0.0612	0.0236
interestamt	0.1234	0.0052	0.0086	0.0769	0.0079	0.0130	0.0616	0.0107	0.0176	0.0198	0.0144
language	0.0294	0.0019	0.0031	0.0502	0.0079	0.0130	0.0542	0.0093	0.0153	0.0031	0.0022
lastworked	0.0484	0.0031	0.0051	0.0685	0.0085	0.0140	0.0995	0.0145	0.0239	0.0409	0.0197
layoff	0.0086	0.0012	0.0020	0.0151	0.0040	0.0066	0.0153	0.0052	0.0086	0.0164	0.0128
lengthofresp	0.0006	0.0003	0.0005	0.0008	0.0007	0.0012			0.0000		

live	0.0002	0.0001	0.0002			0.0000			0.0000		
liveu	0.001	0.0005	0.0008			0.0000	0.0012	0.0012	0.0020	0.0504	0.0238
marriedstatus	0.0103	0.0015	0.0025	0.0264	0.0050	0.0082	0.0362	0.0062	0.0102	0.0077	0.0077
meals	0.0253	0.0020	0.0033	0.0702	0.0075	0.0123	0.0947	0.0108	0.0178	0.0257	0.0149
militaryemployer	0.0002	0.0002	0.0003	0.0012	0.0012	0.0020	0.0018	0.0018	0.0030		
mintowork	0.0399	0.0026	0.0043	0.0516	0.0071	0.0117	0.0561	0.0078	0.0128	0.0319	0.0187
mobilehometax	0.0068	0.0009	0.0015	0.0071	0.0027	0.0044	0.0129	0.0042	0.0069	0.0071	0.0071
monthrent	0.0116	0.0015	0.0025	0.0299	0.0052	0.0086	0.0209	0.0050	0.0082	0.0252	0.0158
mortgage	0.0516	0.0026	0.0043	0.0671	0.0080	0.0132	0.0999	0.0124	0.0204	0.0521	0.0204
mortgageamt	0.0602	0.0033	0.0054	0.0648	0.0078	0.0128	0.0540	0.0096	0.0158	0.0131	0.0131
mortgageinsurance	0.0111	0.0012	0.0020	0.0199	0.0044	0.0072	0.0242	0.0059	0.0097	0.0077	0.0077
mortgagetax	0.0174	0.0019	0.0031	0.0206	0.0052	0.0086	0.0203	0.0070	0.0115		
netaccess	0.022	0.0021	0.0035	0.0464	0.0057	0.0094	0.0512	0.0095	0.0156	0.0195	0.0115
netsub	0.0419	0.0023	0.0038	0.0602	0.0084	0.0138	0.0683	0.0100	0.0165	0.0071	0.0071
numberofmarriages	0.0391	0.0029	0.0048	0.0416	0.0049	0.0081	0.0994	0.0113	0.0186	0.0098	0.0076
numberofriders	0.0534	0.0029	0.0048	0.0588	0.0063	0.0104	0.0935	0.0109	0.0179	0.0132	0.0132
ofuelamt	0.0035	0.0007	0.0012	0.0001	0.0001	0.0002			0.0000		
ofuelinc	0.0014	0.0005	0.0008	0.0005	0.0005	0.0008	0.0011	0.0011	0.0018		
ofuelpay	0.0038	0.0007	0.0012	0.0015	0.0011	0.0018	0.0040	0.0028	0.0046	0.0019	0.0019
ofueluse	0.0139	0.0013	0.0021	0.0330	0.0051	0.0084	0.0226	0.0058	0.0095	0.0235	0.0155
otherincome	0.0607	0.0028	0.0046	0.0831	0.0093	0.0153	0.1161	0.0139	0.0229	0.0280	0.0169
otherincomeamt	0.0104	0.0012	0.0020	0.0184	0.0039	0.0064	0.0208	0.0061	0.0100		
periodofservice	0.0073	0.0012	0.0020	0.0136	0.0037	0.0061	0.0129	0.0038	0.0063	0.0131	0.0131
pin	0.0011	0.0004	0.0007	0.0033	0.0019	0.0031			0.0000	0.0192	0.0099
placeofbirth	0.4475	0.0091	0.0150	0.7656	0.0255	0.0419	0.9614	0.0388	0.0638	0.2188	0.0418
pmarried	0.0131	0.0014	0.0023	0.0266	0.0053	0.0087	0.0246	0.0065	0.0107	0.0350	0.0255
propinsurance	0.1275	0.0044	0.0072	0.1150	0.0107	0.0176	0.1530	0.0150	0.0247	0.0509	0.0242
propvalue	0.0744	0.0033	0.0054	0.0883	0.0082	0.0135	0.1286	0.0154	0.0253	0.0178	0.0140
pselect	1.3214	0.0156	0.0257	2.0959	0.0419	0.0689	2.5070	0.0656	0.1079	0.4710	0.0848
publicasst	0.0389	0.0026	0.0043	0.0496	0.0065	0.0107	0.0787	0.0106	0.0174	0.0226	0.0131
publicasstamt	0.0042	0.0008	0.0013	0.0096	0.0028	0.0046	0.0171	0.0041	0.0067		
race	0.0308	0.0020	0.0033	0.0791	0.0101	0.0166	0.1030	0.0105	0.0173	2.7677	0.1553
recalltowork	0.0026	0.0007	0.0012	0.0016	0.0009	0.0015	0.0012	0.0012	0.0020	0.0201	0.0119
recovery	0.0003	0.0002	0.0003			0.0000			0.0000	0.0301	0.0167

ref_per	0.1361	0.0044	0.0072	0.1797	0.0133	0.0219	0.2258	0.0196	0.0322	10.5385	0.2792
relationship	0.048	0.0028	0.0072	0.0756	0.0133	0.0213	0.1053	0.0100	0.0322	6.9910	0.2275
remove_one	0.040	0.0028	0.0040	0.0730	0.0065	0.0000	0.1055	0.0103	0.0000	0.0035	0.0034
residencelastyear	0.1039	0.0044	0.0000	0.1822	0.0139	0.0229	0.2321	0.0163	0.0268	0.0572	0.0034
resp_name	0.1039	0.0044	0.0072	0.1822	0.0133	0.0223	0.2321	0.0103	0.0208	0.0372	0.0220
retirement	0.049	0.0030	0.0013	0.0493	0.0017	0.0028	0.0700	0.0104	0.0010	0.0333	0.0200
retirementamt	0.0207	0.0030	0.0043	0.0455	0.0078	0.0128	0.0766	0.0104	0.0171	0.0377	0.0200
rooms	0.0659	0.0017	0.0028	0.1091	0.0032	0.0160	0.0100	0.0048	0.0073	0.0152	0.0132
roster_a	0.0033	0.0004	0.0007	0.0029	0.0037	0.0100	0.1430	0.0123	0.0000	0.0333	0.0205
roster_b	0.0011	0.0004	0.0007	0.0023	0.0018	0.0030	0.0018	0.0013	0.0001	0.0377	0.0263
roster_c	0.0003	0.0002	0.0003	0.0010	0.0008	0.0013	0.0018	0.0013	0.0021	0.0270	0.0101
roster_check	0.0002	0.0002	0.0003	0.0004	0.0004	0.0067	0.0377	0.0073	0.0120	2.6231	0.1678
security	0.0095	0.0021	0.0033	0.0109	0.0031	0.0051	0.0224	0.0075	0.0090	0.1912	0.0466
selfemp	0.0906	0.0010	0.0010	0.0990	0.0093	0.0153	0.1663	0.0165	0.0030	0.0175	0.0139
selfempamt	0.0396	0.0033	0.0044	0.0339	0.0066	0.0109	0.0255	0.0056	0.0092	0.0173	0.0133
sex	0.0111	0.0012	0.0020	0.0174	0.0035	0.0058	0.0277	0.0083	0.0137	10.5951	0.2981
socialsecurity	0.0824	0.0039	0.0064	0.0945	0.0087	0.0143	0.1405	0.0142	0.0234	0.0542	0.0225
socialsecurityamt	0.0972	0.0036	0.0059	0.0808	0.0101	0.0166	0.0843	0.0105	0.0173	0.0154	0.0109
ssi	0.0425	0.0030	0.0049	0.0568	0.0063	0.0104	0.0629	0.0088	0.0145	0.0370	0.0180
ssiamt	0.0057	0.0008	0.0013	0.0125	0.0037	0.0061	0.0076	0.0029	0.0048		
taxes	0.1637	0.0055	0.0090	0.1824	0.0140	0.0230	0.2593	0.0194	0.0319	0.0181	0.0113
tempabsent	0.0085	0.0013	0.0021	0.0207	0.0045	0.0074	0.0096	0.0032	0.0053	0.0417	0.0264
tenure	0.0401	0.0021	0.0035	0.0581	0.0070	0.0115	0.0967	0.0117	0.0192	0.0564	0.0208
thankyoubusiness	0.0007	0.0004	0.0007			0.0000			0.0000		
timeleftforwork	0.124	0.0047	0.0077	0.1701	0.0133	0.0219	0.1899	0.0151	0.0248	0.0227	0.0153
totalincome	0.1081	0.0040	0.0066	0.1161	0.0111	0.0183	0.1408	0.0139	0.0229	0.1488	0.0311
transporttowork	0.0368	0.0026	0.0043	0.0507	0.0079	0.0130	0.0653	0.0092	0.0151		
typeofbusiness	0.0506	0.0030	0.0049	0.0937	0.0100	0.0165	0.0805	0.0108	0.0178		
typeofunit	0.0352	0.0021	0.0035	0.0634	0.0072	0.0118	0.0843	0.0099	0.0163	0.0830	0.0287
typeofwork	0.076	0.0039	0.0064	0.0866	0.0083	0.0137	0.1322	0.0161	0.0265	0.0090	0.0078
vadisability	0.009	0.0011	0.0018	0.0125	0.0036	0.0059	0.0042	0.0025	0.0041	0.0174	0.0138
vehicles	0.0184	0.0018	0.0030	0.0272	0.0048	0.0079	0.0337	0.0081	0.0133	0.0168	0.0100
veteranstat	0.0399	0.0026	0.0043	0.0638	0.0076	0.0125	0.0676	0.0098	0.0161	0.0716	0.0274
vrfyincome	0.1983	0.0064	0.0105	0.2625	0.0159	0.0262	0.3678	0.0213	0.0350	0.0395	0.0241

wages	0.3651	0.0092	0.0151	0.4589	0.0197	0.0324	0.5903	0.0277	0.0456	0.0569	0.0220
wagesamt	0.5887	0.0101	0.0166	0.6908	0.0286	0.0470	0.7509	0.0315	0.0518	0.0396	0.0210
wateramt	0.0672	0.0031	0.0051	0.0821	0.0088	0.0145	0.0797	0.0108	0.0178	0.0150	0.0132
waterinc	0.0056	0.0010	0.0016	0.0144	0.0036	0.0059	0.0048	0.0026	0.0043	0.0330	0.0194
waterpay	0.0377	0.0023	0.0038	0.0538	0.0063	0.0104	0.0681	0.0080	0.0132	0.0019	0.0019
weeksworked	0.0405	0.0027	0.0044	0.0561	0.0072	0.0118	0.0735	0.0098	0.0161	0.0334	0.0235
welcomeback	0.0281	0.0021	0.0035	0.0269	0.0047	0.0077	0.0702	0.0107	0.0176	0.6223	0.0791
whatgrade	0.0126	0.0016	0.0026	0.0319	0.0054	0.0089	0.0366	0.0069	0.0114		
whatlanguage	0.0052	0.0009	0.0015	0.0111	0.0034	0.0056	0.0361	0.0092	0.0151	0.0203	0.0150
whenmovedin	0.0868	0.0039	0.0064	0.1689	0.0132	0.0217	0.1996	0.0163	0.0268	0.0825	0.0289
widow	0.0147	0.0016	0.0026	0.0188	0.0037	0.0061	0.0244	0.0065	0.0107	0.0043	0.0043
worklastweek	0.2567	0.0060	0.0099	0.4066	0.0162	0.0266	0.5969	0.0244	0.0401	0.0573	0.0233
worklocal	0.6416	0.0108	0.0178	1.0446	0.0322	0.0530	1.2457	0.0379	0.0623	0.1133	0.0372
yearbuilt	0.0554	0.0029	0.0048	0.1233	0.0105	0.0173	0.1591	0.0159	0.0262	0.0330	0.0174
yearofentry	0.0219	0.0019	0.0031	0.1193	0.0092	0.0151	0.2599	0.0207	0.0341	0.0202	0.0119
yearofmarriage	0.0559	0.0029	0.0048	0.1044	0.0094	0.0155	0.1082	0.0116	0.0191		
cit/pob/yoe combine	0.5045	0.0097	0.0160	1.1526	0.0330	0.0543	1.5841	0.0480	0.0790	0.2855	0.0484

^{*} The numerator is the breakoff at each questions and the denominator is the total of times that question was reached.

MOE	
0.6585	
0.0265	
0.0395	
0.0206	
0.0350	
0.0000	
0.0696	
0.0245	
0.0230	
0.0393	
0.0276	
0.0071	
0.0127	
0.0387	
0.0252	
0.0127	
0.0146	
0.0000	
0.0247	
0.0431	
0.0250	
0.0250	
0.0000	
0.0000	
0.0257	
0.7345	
0.0253	
0.0127	
0.0252	
0.0392	
0.0416	

0.0281

0.0220

0.0212

0.0212

0.0117

0.0179

0.0512

0.0178

0.0000

0.0071

0.0276

0.0000

0.0329

0.0000

0.0587

0.0227

0.0215

0.0127

0.0071

0.0362

0.0263

0.0000

0.0258

0.0780

0.2790

0.0278

0.0077

0.0447

0.0388

0.0237

0.0036

0.0324

0.0211

0.0392

0.0127

0.0245

0.0000

0.0308

0.0117

0.0260 0.0336

0.0215

0.0127

0.0000

0.0189

0.0117

0.0125 0.0217

0.0000 0.0000

0.0031

0.0255

0.0278

0.0000

0.0215

0.0163

0.0688

0.0419

0.0398

0.0230

0.1395

0.0215

0.0000

0.2555

0.0196

0.3742

0.0056

0.0372

0.0290

0.0329

0.0217

0.0525

0.0337

0.0265

0.0306

0.2760

0.0767

0.0229

0.0199

0.4904

0.0370

0.0179

0.0296

0.0000

0.0186

0.0434

0.0342

0.0000

0.0252

0.0512 0.0000

0.0000

0.0472 0.0128

0.0227

0.0165

0.0451

0.0345

0.0217

0.0319

0.0031

0.0387

0.1301

0.0000

0.0247

0.0475

0.0071

0.0383

0.0612

0.0286

0.0196

0.0000

ACS Item Allocation Rates for United States: 2016,

Title	2016
Overall housing allocation rate	
occupied and vacant housing units	4.9
Overall person allocation rate	
total population	9.5
Vacancy status	
vacant housing units	3.9
Tenure	
occupied housing units	1.2
Units in structure	
occupied and vacant housing units	1.5
Year moved in	
occupied housing units	3
Month moved in	
occupied housing units into which households move in the last two years	0.7
Year built	
occupied and vacant housing units	18.2
Lot size	
occupied and vacant single family and mobile homes	3.9
Agricultural sales	
occupied and vacant single family and mobile homes with lot size greater	
than or equal to 1 acre	4
Business on property	
occupied and vacant single family and mobile homes	**
Number of rooms	
occupied and vacant housing units	5
Number of bedrooms	
occupied and vacant housing units	5.5
Running water	
occupied and vacant housing units	2.4
Flush toilet	
occupied and vacant housing units	**
Bathtub or shower	
occupied and vacant housing units	2.6
Sink with a faucet	
occupied and vacant housing units	2.6
Stove or range	
occupied and vacant housing units	3.1
Refrigerator	
occupied and vacant housing units	3.2
Telephone	

occupied housing units	1.5
Number of vehicles	
occupied housing units	1.2
Heating fuel	
occupied housing units	3.4
Monthly electricity cost	
occupied housing units	8.1
Monthly gas cost	
occupied housing units	9.6
Yearly water and sewer cost	
occupied housing units	8.5
Yearly other fuel cost	
occupied housing units	7.3
Yearly food stamp recipiency - household	
occupied housing units	1.7
Yearly real estate taxes	
owner-occupied housing units	16.7
Yearly property insurance	
owner-occupied housing units	23.9
Mortgage status	
owner-occupied housing units	2.2
Monthly mortgage payment	
owner-occupied housing units with a mortgage	10.5
Mortgage payment incl. real estate taxes	
owner-occupied housing units with a mortgage	6.2
Mortgage payment incl. insurance	
owner-occupied housing units with a mortgage	6.8
Second mortgage	
owner-occupied housing units	3.2
Home equity loan	
owner-occupied housing units	3.7
Other monthly mortgage payment(s)	
owner-occupied housing units with second mortgage or home equity loan	23.3
Property value	
owner-occupied housing units and vacant housing units for sale	11.6
Yearly mobile home costs	
occupied mobile homes and other units	21.7
Monthly condominium fee	
owner-occupied housing units	0.8
Monthly rent	
occupied housing units rented for each rent and vecent housing write for rent	10 5
occupied housing units rented for cash rent and vacant housing units for rent	10.5
Meals included in rent	

occupied housing units rented for cash rent and vacant housing units for rent	2.1
Desktop/laptop/notebook computer	
occupied housing units	1.3
Handheld computer/smart mobile phone	
occupied housing units	**
Tablet or other portable wireless computer	
occupied housing units	1.6
Smartphone	
occupied housing units	1.6
Other computer	
occupied housing units	1.7
Household has internet access	
occupied housing units	3.3
Dial-up internet service	
occupied housing units with internet access	3.8
DSL internet service	
occupied housing units with internet access	**
Cable modem internet service	
occupied housing units with internet access	**
Fiber-optic internet service	
occupied housing units with internet access	**
Cellular data plan (formerly mobile broadband)	
occupied housing units with internet access	7.6
Satellite internet service	
occupied housing units with internet access	3.8
High speed internet service	
occupied housing units with internet accesss	3.8
Some other internet service	
occupied housing units with internet access	3.8
Race	
total population	1.5
Hispanic origin	
total population	1.8
Sex	
total population	0.1
Age	
total population	1.7
Relationship	
total household population	1.2
Marital status	
total population 15 years and over	5.3
Married past 12 months	
total population 15 years and over, except those never married	6.9

	1
Widowed past 12 months	
total population 15 years and over, except those never married	7.4
Divorced past 12 months	
total population 15 years and over, except those never married	7.4
Times married	
total population 15 years and over, except those never married	8.1
Year last married	
total population 15 years and over, except those never married	13.5
Place of birth	
total population	9.1
Citizenship	
total population	6
Year of naturalization	
total population naturalized citizens	22.5
Year of entry	
total population not born in US	14.8
Speaks another language at home	
total population 5 years and over	6.8
Language spoken	
total population 5 years and over who speak another language at home	8.3
English ability	
total population 5 years and over who speak another language at home	7.1
School enrollment	
total population 3 years and over	6.7
Grade level attending	
total population 3 years and over enrolled	10.2
Educational attainment	
total population 3 years and over	8.5
Field of degree	
total population 25 years and over with a bachelor's degree or higher	13.5
Mobility status	
total population 1 years and over	7.2
Migration state/foreign county	
total population 1 years and over movers	13.2
Migration county	
total population 1 years and over movers within US	14.6
Migration minor civil division	
total population 1 years and over movers within US	14.2
Migration place	
total population 1 years and over movers within US	15
Health insurance thru employer/union	

total population	10.7
Health insurance purchased directly	
total population	11.3
Health insurance through Medicare	
total population	9.5
Health insurance through Medicaid	
total population	12.2
Health insurance through TRICARE	
total population	12.5
Health insurance through VA	
total population	12.3
Health ins. thru Indian Health Service	
total population	12.8
Visual difficulty	
total population	7.1
Hearing difficulty	
total population	6.8
Physical difficulty	
total population 5 years and over	7.5
Difficulty remembering	
total population 5 years and over	7.5
Difficulty dressing	
total population 5 years and over	7.5
Difficulty going out	
total population 16 years and over	7.3
Grandchildren living in home	
noninstitutionalized population 30 years and over	1.1
Responsibility for grandchildren	
noninstitutionalized population 30 years and over who are grandparents	
with grandchildren in the home	17.7
Months responsible for grandchildren	
noninstitutionalized population 30 years and over who are grandparents	
with grandchildren in the home that have responsibility	17.2
Fertility status	
female total population 15-50	7.8
Veteran status	
total population 17 years and over	7.3
Periods of military service	
total population 17 years and over on active duty now or previously	9.7
Service-connected disability rating	
total population 17 years and over, except those who never served in the	
Armed Forces	6.8
Service-connected disability rating value	

1	
total population 17 years and over with a service-connected disability	0.2
Employment status recode	
noninstitutionalized population 16 years and over	8.7
When last worked	
noninstitutionalized population 16 years and over	9.6
Weeks worked in the past 12 months	
noninstitutionalized population 16 years and over who worked in the past 12	
months	10.6
Hours worked per week	
noninstitutionalized population 16 years and over who worked in the past 12	
months	11.9
Place of work state/foreign county	
popingtitutionalized population 16 years and over at work last week	11.0
noninstitutionalized population 16 years and over at work last week	11.8
Place of work county	
noninstitutionalized population 16 years and over at work last week	12.5
Place of work minor civil division	
noninstitutionalized population 16 years and over at work last week	3.6
Place of work place	
noninstitutionalized population 16 years and over at work last week	13.1
Transportation to work	
noninstitutionalized population 16 years and over at work last week	9.6
Carpool size	
noninstitutionalized population 16 years and over at work last week who	
drive to work	10.9
Time of departure	
noninstitutionalized population 16 years and over at work last week who	
don't work at home	20.2
Commuting time	
noninstitutionalized population 16 years and over at work last week who	
don't work at home	14.5
Class of worker	
total population 16 years and over who worked in the last 5 years	11.7
Industry	
total population 16 years and over who worked in the last 5 years	12.7
Occupation	
total population 16 years and over who worked in the last 5 years	13.4
Wages/salary income	
total population 15 years and over	19.1

Self-employment income	
total population 15 years and over	10.5
Interest, dividends, etc. income	
total population 15 years and over	15.2
Social security or railroad retirement	
total population 15 years and over	14.5
Supplemental security income	
total population 15 years and over	12.7
Public assistance	
total population 15 years and over	13.2
Retirement income	
total population 15 years and over	13.6
Other income	
total population 15 years and over	13.2
Some or all income allocated	
total population 15 years and over	28.4
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Source: ACS 1-year data. See following links for more information:

https://www.census.gov/acs/www/methodology/sample-size-and-data-quality/item-allocation-rat

https://www.census.gov/programs-surveys/acs/methodology/sample-size-and-data-quality/item-a Note:

^{**} This item was not asked in this year.

2013, 2010

2015, 2010		
2013	2010	
5.6	5.2	
8.4	5.8	
3.5	2.9	
1.3	1.2	
1.5	1.5	
3	3.4	
0.7	0.7	
17.1	16.2	
3.9	4.2	
4.2	4.4	
2.4	3	
5.5	5.2	
4.6	4.3	
2.1	2	
2.2	2	
2.2	2	
2.2	2	
2.8	2.5	
2.9	2.7	

1.2	1.1
1.4	1.3
3.4	3.3
8.2	7.3
9.9	9.8
8.8	8.1
8.3	10.6
1.7	1.3
	16.3
18.5	
25.6	23.2
2.5	2.1
12.4	10.7
6.9	<u>(X)</u>
7.4	<u>(X)</u>
7.4	<u>(N)</u>
3.7	3.4
3.7	3.4
3.7	3.4
3.7 4.3	3.4 4.2
3.7 4.3 21.7	3.4 4.2 17.9
3.7 4.3 21.7 12.9	3.4 4.2 17.9 12.3
3.7 4.3 21.7 12.9 21.5	3.4 4.2 17.9 12.3 19.9
3.7 4.3 21.7 12.9 21.5	3.4 4.2 17.9 12.3

1	1
2.1	2
3.2	**
3.3	**
**	**
**	**
	**
3.7	<u>**</u>
4.4	**
5.7	**
5.7	**
5.7	**
5.7	**
26.7	**
5.7	**
**	**
5.7	**
1.6	1.5
2.1	1.8
0.1	0.1
1.6	1.3
1.1	1.2
4.8	3
6.6	4.7

7	4.5
7	4.5
7.8	5.1
13.3	11.4
8.6	6.5
5.2	2.7
22.5	16.6
13.2	10.3
5.9	3.4
7	5.7
5.9	4
6	3.7
8.9	6
8	5.6
U	5.0
12.4	9.8
6.5	4
11.3	7.1
12.5	8.3
12.1	8.4
12.9	8.8

9	6.2
9.7	6.9
8.1	5.2
10.5	7.9
10.8	8.1
10.7	8.1
11.1	8.5
6.1	3.4
5.9	3.2
6.7	3.5
6.7	3.5
6.7	3.5
6.5	3.4
1	0.9
15.7	12
16.1	14.9
6.7	3.7
6.8	3.8
9.3	6.3
6.6	3.9

0.2	0.7
8.1	5.1
9.1	5.7
9.7	6.9
10.8	7.7
10.4	6.3
11	7
3.3	2.1
11.6	7.6
8.8	5.7
9.9	6.8
18.5	12.8
13.3	9.7
10.7	7.2
11.4	7.8
11.8	8.1
19	16

9.3	5.9
12.6	8.8
12.3	8.9
10.3	6.7
10.5	6.8
11.1	7.5
10.8	7.4
25.3	22.4

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Percent of ACS Response by Mode: 2010-2017





Response Rates and Rea

	Housing Unit		
Year	Response Rate	Refusal	Unable to Locate
2016	94.7	2.1	0
2015	95.8	2	0
2014	96.7	1.6	0
2013	89.9	1.3	0
2012	97.3	1.2	0
2011	97.6	1.1	0
2010	97.5	1.1	0
2009	98	0.8	0
2008	97.9	0.8	0
2007	97.7	0.9	0.2
2006	97.5	1	0.3
2005	97.3	1	0.4
2004	93.1	1	0.3
2003	96.7	1.7	0.3
2002	97.7	1	0
2001	96.7	1.3	0
2000	95.1	1.7	0

Response Rates and Rea

	Group Quarters (Person)		
Year	Response Rate	GQ Person Refusal	Unable to Locate GQ Person
2016	95.7	1.2	0.3
2015	95.3	1.3	0.2
2014	95.9	1.2	0.3
2013	95.2	1.1	0.2
2012	95.1	0.9	0.2
2011	96.9	0.8	0.2
2010	97.6	0.9	0.2
2009	98	0.9	0.1
2008	98	0.5	0.1
2007	97.8	0.4	0.2
2006	97.4	0.8	0.2

Note: As a result of the 2013 government shutdown, the ACS did not have a second mailing States, paper questionnaire in Puerto Rico) contribute to the overall response for this pane housing unit response rate rises to 97.1%. Similarly, due to a reduction in funding in 2004, response rate.

asons for Noninterviews (in percent) - Housing Units - United

Response Rates and Reasons for Noninterviews

No One Home	Temporarily Absent	Language Problem	Insufficient Data
0.9	0.1	0.1	0.3
0.9	0.1	0.1	0.3
0.7	0.1	0	0.3
0.6	0.1	0	0.2
0.6	0.1	0	0.2
0.6	0.1	0	0.2
0.6	0.1	0	0.2
0.6	0.1	0	0.2
0.6	0.1	0	0.2
0.5	0.1	0	0.4
0.5	0.1	0	0.4
0.5	0.1	0	0.3
0.5	0.1	0	0.4
0.6	0.1	0	0.3
0.5	0.1	0	0.4
0.7	0.1	0	0.7
1.1	0.2	0.1	1

sons for Noninterviews (in percent) - Group Quarters - Unite

Response Rates and Reasons for Noninterviews

Response Nates and Neasons for Normite views			
Resident Temporarily Absent	Language Problem	Insufficient Data	GQ Person Other
0.2	0	0.2	0.9
0.1	0	0.2	1.5
0.1	0	0.1	1
0.1	0	0.1	1.6
0.1	0	0.1	2.2
0.1	0	0.1	0.7
0.1	0	0.2	0.4
0.1	0	0.1	0.4
0.1	0	0.1	1
0.1	0	0	1.2
0.1	0	0.1	0.6

g, a telephone followup, or a person followup operation for the October 2013 housing unit panel. Or sl. This caused a drop in the annual housing unit response rate of about 7 percentage points. If we ex the telephone and personal visit followup operations for the January 2004 panel were dropped, which

I States

Maximum Contact Attempts Reached	Other
1.1	0.7
N/A	0.8
N/A	0.6
N/A	7.9
N/A	0.5
N/A	0.4
N/A	0.4
N/A	0.3
N/A	0.3
N/A	0.2
N/A	0.3
N/A	0.3
N/A	4.7
N/A	0.2
N/A	0.2
N/A	0.4
N/A	0.8

d States

Whole GQ Refusal	Whole GQ Other
1	0.5
0.9	0.6
0.9	0.5
0.7	0.9
0.7	0.8
0.4	0.8
0.1	0.5
0.1	0.3
0.2	0
0.3	0
0.5	0.2

nly respondents from the first mailing (Internet in the United clude the October panel from the calculation, the annual ch resulted in a comparable effect on the overall 2004

THE American Community

People are our most important resource. This Census Bureau survey collects information about education, employment, income, and housing—information your



community uses to plan and fund programs. Your response is important, and we keep your answers confidential.



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 1-800-354-7271.

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

FORM ACS-1(2000)

OMB No. 0607-0810 Approval Expires 10/31/2002

Start Here

This form asks for three types of information:

- basic information about the people who are living or staying at the address on the mailing label above
- specific information about this house, apartment, or mobile home
- more detailed information about each person living or staying here
- ➡ What is your name? Please PRINT the name of the person who is filling out this form. Include the telephone number so we can contact you if there is a question, and today's date.

Last Name

First Name

MI

Area Code + Number

Date (Month/Day/Year)

- How many people are living or staying at this address?

 Number of people
- Please turn to the next page to continue.

List of Res	sidents	•	What is this person's sex?	What is this person's date of birth and what is this person's age? Print numbers in boxes.	How is this person related to Person 1?
READ THESE INSTRUCTIONS FIRST Please fill out this form as soon as possible after receiving it in the mail. • LIST everyone who is living or staying here for	Person 1 Last Name (Please print) First Name	MI	☐ Male ☐ Female	Month Day Year of birth Age (in years)	Person 1 (Person 1 is the person living or staying here in whose name this house or apartment is owned, being bought, or rented. If there is no such person, start with the name of any adult living or staying here.)
LIST anyone else staying here who does not have another usual place to stay. DO NOT LIST anyone who is living somewhere else for more than 2 months, such as a college student living away.	Person 2 Last Name (Please print) First Name	МІ	☐ Male ☐ Female	Month Day Year of birth Age (in years)	Relationship of Person 2 to Person 1. Husband or wife Son or daughter Brother or sister Father or mother Grandchild In-law Other relative
If this place is a vacation home or a temporary residence where no one in this household stays for more than 2 months, do not list any names in the List only pages 4, 5, and 6	Person 3 Last Name (Please print) First Name	MI	☐ Male ☐ Female	Month Day Year of birth Age (in years)	Relationship of Person 3 to Person 1. Husband or wife Roomer, boarder Housemate, roommate Brother or sister Unmarried partner Grandchild Other nonrelative
and return the form. IF YOU ARE NOT SURE WHOM TO LIST, CALL 1–800–354–7271.	Person 4 Last Name (Please print) First Name	М	☐ Male ☐ Female	Month Day Year of birth Age (in years)	Relationship of Person 4 to Person 1. Husband or wife Son or daughter Brother or sister Father or mother Grandchild In-law Other relative
	Person 5 Last Name (Please print) First Name	Mi	☐ Male ☐ Female	Month Day Year of birth Age (in years)	Relationship of Person 5 to Person 1. Husband or wife Roomer, boarder Housemate, roommate Brother or sister Unmarried partner Foster child In-law Other nonrelative
If there are more than five people, list them here. We may call you for more information about them.	Person 6 Last Name (Please print)		Person Last Name	7	Person 8 Last Name
After you've created the List of Residents, answer the questions across the top of the page for the first five people on the list.	First Name M	40	First Name	MI	First Name MI

2

Now married Widowed Divorced	No, not Spanish/Hispanic/Latino Yes, Mexican, Mexican Am., Chicano Yes, Payerto Rican	White Black, African Am., or Negro American Indian or Alaska Native – Print name of enrolled	Asian Indian Chinese Filipino	Native Hawaiian Guamanian or Chamorro Samoan
			Filipino Japanese Korean Vietnamese Other Asian –	Samoan Other Pacific Islander – Print race below Some other race – Print race below
Now married Widowed Divorced Separated Never married	No, not Spanish/Hispanic/Latino Yes, Mexican, Mexican Am., Chicano Yes, Puerto Rican Yes, Cuban Yes, Cuban Yes, other Spanish/Hispanic/ Latino — Print group	White Black, African Am., or Negro American Indian or Alaska Native – Print name of enrolled or principal tribe. **g**	Asian Indian Chinese Filipino Japanese Korean Vietnamese Other Asian Print race	Native Hawaiian Guamanian or Chamorro Samoan Other Pacific Islander – Print race below Some other race – Print race below
Now married Widowed Divorced Separated Never married	No, not Spanish/Hispanic/Latino Yes, Mexican, Mexican Am., Chicano Yes, Puerto Rican Yes, Cuban Yes, Cuban Print group	White Black, African Am., or Negro American Indian or Alaska Native - Print name of enrolled or principal tribe.	Asian Indian Chinese Filipino Japanese Korean Vietnamese Other Asian	Native Hawailan Guamanian or Chamorro Samoan Other Pacific Islander – Print race below Some other race – Print race below

• When you are finished, turn the page and continue with the Housing section.

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3

Housing

Ð	Please answer the following questions about the house, apartment, or mobile home at the address on the mailing label.	0	Answer questions 4-6 ONLY if this is a one-family house or a mobile home; otherwise, SKIP to question 7.	0	How many bedrooms are in this house, apartment, or mobile home; that is, how many bedrooms would you list if this house, apartment, or mobile home were on the market for sale or rent?	
					☐ No bedroom	
		-	How many acres is this house or		1 bedroom	
D	Which best describes this building? Include all apartments, flats, etc., even if	Y	mobile home on?		O z bedrooms	
	vacant.		☐ Less than 1 acre → SKIP to question 6		☐ 3 bedrooms	
	A mobile home		1 to 9.9 acres		4 bedrooms	
	A one-family house detached from any other house		10 or more acres		5 or more bedrooms	
	A one-family house attached to one or				_ 5 or more searooms	
	more houses A building with 2 apartments A building with 3 or 4 apartments A building with 5 to 9 apartments	6	IN THE PAST 12 MONTHS, what were the actual sales of all agricultural products from this property? None	9	Does this house, apartment, or mobile home have COMPLETE plumbing facilities; that is, 1) hot and cold piped water, 2) a flush toilet, and 3) a bathtub or shower?	
	A building with 10 to 19 apartments		□ \$1 to \$999		Yes, has all three facilities	
	A building with 20 to 49 apartments		\$1,000 to \$2,499		U No	1
	A building with 50 or more apartments		\$2,500 to \$4,999	1		
	Boat, RV, van, etc.		\$5,000 to \$9,999 \$10,000 or more	0	Does this house, apartment, or mobile home have COMPLETE kitchen facilities; that is, 1) a sink with piped water, 2) a	
2	About when was this building first built?	6	to the second se	-	stove or range, and 3) a refrigerator?	
	1999 or later 1995 to 1998	Ψ	Is there a business (such as a store or barber shop) or a medical office on		Yes, has all three facilities No	
	1990 to 1994		this property?			
	1980 to 1989		□ Yes □ No	4		
	1970 to 1979		_ 140	Ψ	Is there telephone service available in this house, apartment, or mobile home from	
	1960 to 1969 1950 to 1959	\perp			which you can both make and receive	
	1950 to 1959 1940 to 1949	9	How many rooms are in this house,		calls?	
	1939 or earlier		apartment, or mobile home? Do NOT count bathrooms, porches, balconies, foyers, halls, or		☐ Yes ☐ No	
			half-rooms.		U NO	
			1 room	\perp		
3	When did PERSON 1 (listed in the List of Residents on page 2) move into this		2 rooms	Ø	How many automobiles, vans, and trucks	
	house, apartment, or mobile home?		3 rooms	78	of one-ton capacity or less are kept at home for use by members of this	
	Month Year		4 rooms		household?	
			5 rooms		ONone	
			7 rooms		O1	
			7 rooms	18	O ₂	
			9 or more rooms	1	Q ₃	
			O J of more rooms		Q4	
				1	Q ₅	
					6 or more	

Housing information helps your community plan for police and fire protection.

Housing (continued)		
Which FUEL is used MOST for heating this house, apartment, or mobile home? Gas: from underground pipes serving the neighborhood Gas: bottled, tank, or LP Electricity Fuel oil, kerosene, etc. Coal or coke Wood Solar energy Other fuel No fuel used	d. IN THE PAST 12 MONTHS, what was the cost of oil, coal, kerosene, wood, etc., for this house, apartment, or mobile home? if you have lived here less than 12 months, estimate the cost. Past 12 months' cost — Dollars OR Included in rent or condominium fee No charge or these fuels not used	Is this house, apartment, or mobile home - Owned by you or someone in this household with a mortgage or loan? Owned by you or someone in this household free and clear (without a mortgage or loan)? Rented for cash rent? Occupied without payment of cash rent? → Skip to question 21 Answer questions 19a-21 ONLY IF you PAY RENT for this house, apartment, or mobile home. Otherwise, SKIP to question 22.
a. LAST MONTH, what was the cost of electricity for this house, apartment, or mobile home? Last month's cost - Dollars OR Included in rent or condominium fee	12 MONTHS, were you or any member of this household enrolled in or receiving benefits from: a. free or reduced-price meals at school through the National School Lunch Program or the School Breakfast Program? Yes No	
 No charge or electricity not used LAST MONTH, what was the cost of gas for this house, apartment, or mobile home? Last month's cost – Dollars 	b. the Federal home heating and cooling assistance program? Yes No	b. Does the monthly rent include any meals? Yes No
OR Included in rent or condominium fee Included in electricity payment entered above No charge or gas not used C. IN THE PAST 12 MONTHS, what was the	At any time DURING THE PAST 12 MONTHS, did anyone in this household receive Food Stamps? ☐ Yes → What was the value of the Food Stamps? Past 12 months' value – Dollars \$.00	a. Is the rent on this house, apartment, or mobile home reduced because the Feder state, or local government is paying part of the cost? ☐ Yes ☐ No → Skip to question 21
cost of water and sewer for this house, apartment, or mobile home? If you have lived here less than 12 months, estimate the cost. Past 12 months' cost – Dollars OR Included in rent or condominium fee	Is this house, apartment, or mobile home part of a condominium? ☐ Yes → What is the monthly condominium fee? For renters, answer only if you pay the condominium fee in addition to your rent; otherwise, mark the "None" box.	b. What government program provides this reduced rent? The "Section 8" program Some other government program Not sure
○ No charge	Monthly amount – Dollars \$.00 OR O None	Is this house, apartment, or mobile home in a public housing project; that is, is it part of a government housing project for persons with low income?
	□No	No

Answer questions 22–26 ONLY IF you or someone else in this household OWNS or IS BUYING this house, apartment, or mobile home. Otherwise, SKIP to	a. Do you or any member of this household have a mortgage, deed of trust, contract to purchase, or similar debt on THIS property? Yes, mortgage, deed of trust, or similar	Answer questions 27a and b ONLY IF this is a MOBILE HOME. Otherwise, SKIP to
What is the value of this property; that is, how much do you think this house and lot, apartment, or mobile home and lot, would sell for if it were for sale? Less than \$10,000 \$10,000 to \$14,999	debt Yes, contract to purchase No → SKIP to question 26a b. How much is the regular monthly mortgage payment on THIS property? Include payments only on FIRST mortgage or contract to purchase.	a. Do you or any member of this household have an installment loan or contract on THIS mobile home? Yes No b. What are the total annual costs for installment loan payments, personal
\$15,000 to \$19,999 \$20,000 to \$24,999 \$25,000 to \$24,999 \$30,000 to \$34,999 \$35,000 to \$39,999 \$40,000 to \$49,999 \$50,000 to \$59,999	Monthly amount – Dollars 5 OR No regular payment required → SKIP to question 26a	property taxes, site rent, registration fees, and license fees on THIS mobile home and its site? Exclude real estate taxes. Annual costs – Dollars S .00
\$60,000 to \$69,999 \$70,000 to \$79,999 \$80,000 to \$89,999 \$90,000 to \$99,999 \$100,000 to \$124,999 \$125,000 to \$149,999 \$150,000 to \$174,999	c. Does the regular monthly mortgage payment include payments for real estate taxes on THIS property? Yes, taxes included in mortgage payment No, taxes paid separately or taxes not required	Answer questions 28a-c ONLY IF you listed at least one person on page 2. Otherwise, SKIP to page 24 for the mailing instructions. a. Do all of the persons listed on pages 2 and 3 live at this address year round?
\$175,000 to \$199,999 \$200,000 to \$249,999 \$250,000 or more – Specify \$250,000	d. Does the regular monthly mortgage payment include payments for fire, hazard, or flood insurance on THIS property? Yes, insurance included in mortgage payment No, insurance paid separately or no insurance	 Yes → SKIP to the questions for Person 1 on the next page No b. Of the persons listed on pages 2 and 3, how many live somewhere else part of the year?
What are the annual real estate taxes on THIS property? Annual amount – Dollars OR None	a. Do you or any member of this household have a second mortgage or a home equity loan on THIS property? ☐ Yes, home equity loan ☐ Yes, second mortgage ☐ Yes, second mortgage and home equity loan ☐ No → SKIP to	All persons listed Some persons – How many? Person(s) → SKIP to the questic for person 1 on the next page. c. Do you consider this house, apartment, or mobile home, that uses the address on the front cover, your –
What is the annual payment for fire, hazard, and flood insurance on THIS property? Annual amount – Dollars OR None	b. How much is the regular monthly payment on all second or junior mortgages and all home equity loans on THIS property? Monthly amount – Dollars OR No regular payment required	☐ Primary residence? ☐ Vacation home? ☐ School residence? ☐ Work residence? ☐ Other — Specify ☐ Continue with the questions about PERSON 1 on the next page.

			i Yi L型層 Your a	answers a	re important! Every p	erso	n
	Person 1				n Community Survey c		
>	Please copy the name of Person 1 from the List of Residents on page 2, then continue answering questions below. Last Name	0	What is the highest degree or level of this person has COMPLETED? Mark (X) if currently enrolled, mark the previous graphighest degree received.	ONE box.	c. Did this person live inside the limicity or town?	ts of ti	he
		2	No schooling completed		☐ No, outside the city/town limits		
	Sizet Name MI		Nursery school to 4th grade		Name of county		
	First Name MI		5th grade or 6th grade				
			7th grade or 8th grade		Name of state ZIP C	-ada	
			9th grade		Name of State 217	.000	
	Where was this person born?		10th grade			1. 1	
	In the United States Print name of state.		11th grade	1			
			12th grade - NO DIPLOMA	G	If this person is UNDER 5 years of age, Si	KIP to	
	Outside the United States – Print name of foreign		HIGH SCHOOL GRADUATE - high sch	lool	the questions for PERSON 2 on page 10. Otherwise, continue with question 14.		
	country, or Puerto Rico, Guam, etc.		DIPLOMA or the equivalent (for exam	ple: GED)		_	1
			Some college credit, but less than 1 ye				
			1 or more years of college, no degree		a. Does this person speak a language	e other	r
	is this person a CITIZEN of the United States?	10	Associate degree (for example: AA, A	5)	than English at home?		
	Yes, born in the United States - Skip to 10a	80	Bachelor's degree (for example: BA, A	8, 85)	Yes		
	Yes, born in Puerto Rico, Guam, the U.S. Virgin Islands, or Northern Marianas		Master's degree (for example: MA, M: MEd, MSW, MBA)	S, MEng,	No → SKIP to question 15 b. What is this language?		
	Yes, born abroad of American parent or parents		Professional degree (for example: MD	DDS, DVM.	b. what is this language?		
	Yes, U.S. citizen by naturalization		LLB, JD)				
	No, not a citizen of the United States	100	Doctorate degree (for example: P	hD, EdD)	For example: Korean, Italian, Spanish	. Vietna	ıme:
	C (10, not a cipzen of the bilited states	ሐ	10th and far white manners to an anadom and achieve	In autotum	c. How well does this person speak E	nglish	17
	When did this person come to live in the United States? Print numbers in boxes. Year	۳	What is this person's ancestry or ethn	ic origins	Very well Not well Well Not at all		
	rear		(For example: Italian, Jamaican, African A	m. (Does this person have any of the follong-lasting conditions:	iowing	9
	and the same of th		Cambodian, Cape Verdean, Norwegian,		The second section will be a second	Yes	N
	a. At any time IN THE LAST 3 MONTHS, has this person attended regular school or college?		Dominican, French Canadian, Haitian, Kor Lebanese, Polish, Nigerian, Mexican, Taiw Ukrainian, and so on)		a. Blindness, deafness, or a severe vision or hearing impairment?		C
	include only nursery or preschool, kindergarten, elementary school, and schooling which leads to a	1	OKIBINARI, BIIG 20 UNI.)		b. A condition that substantially limits		
	high school diploma or a college degree.	Œ	a. Did this person live in this house or		one or more basic physical activities such as walking, climbing stairs,	121	
	No, has not attended in the last 3	Т	apartment 1 year ago?		reaching, lifting, or carrying?		C
	months → SKIP to question 11		Person is under 1 year old → SKIP t	o the			
	Yes, public school, public college		questions for Person 2 on page 10.	Œ	Because of a physical, mental, or em condition lasting 6 months or more,		
	Yes, private school, private college		Yes, this house → SKIP to I in the column	e next	person have any difficulty in doing a	any of	the
	b. What grade or level was this person attending? Mark (X) ONE box.		No, outside the United States – Prin		following activities:	Yes	١
	Nursery school, preschool		foreign country, or Puerto Rico, Gu below; then SKIP to 🚺 in next co	am, etc.,	a. Learning, remembering, or concentrating?	0	(
	Kindergarten		weigh, their skir to an in heat to	wiini.	b. Dressing, bathing, or getting around		
	Grade 1 to grade 4				inside the home?		C
	Grade 5 to grade B		No, different house in the United S	tates	c. (Answer if this person is 16 YEARS		
	Grade 9 to grade 12		b. Where did this person live 1 year ag		OLD OR OVER.) Going outside the		
	College undergraduate years (freshman to		and we had been been a property of the colors.	101	home alone to shop or visit a doctor's office?		
	senior)		Name of city, town, or post office		d. (Answer if this person is 16 YEARS		
	Graduate or professional school (for example: medical, dental, or law school)				OLD OR OVER.) Working at a job or business?		

this person is UNDER 15 years of age, (IP to the questions for PERSON 2 on page 10.	20	When did this person serve on active duty in the U.S. Armed Forces? Mark (X) a box for EACH	4	How did this person usually get to work LAST WEEK? If this person usually used more than one
therwise, continue with		period in which this person served.		method of transportation during the trip, mark (X) t box of the one used for most of the distance.
		April 1995 or later August 1990 to March 1995 (including		Car, truck, or van Motorcycle
		Persian Gulf War)		Bus or trolley bus Bicycle
nswer question 17 ONLY IF this person is		September 1980 to July 1990 May 1975 to August 1980		Streetcar or trolley car Walked Subway or elevated Worked at home -
male and 15-50 years old. Otherwise,		Vietnam era (August 1964 to April 1975)		Railroad SKIP to question 3.
IP to question 18a.		February 1955 to July 1964		Ferryboat Other method
		Korean War (June 1950 to January 1955)		Taxicab
ns this person given birth to any children in		World War II (September 1940 to July 1947)	1	
e past 12 months? Yes		Some other time	P	Answer question 25 ONLY IF you marked
No	a	In total, how many years of active-duty		"Car, truck, or van" in question 24. Otherwise, SKIP to question 26.
, 40	Ψ	military service has this person had?		
Ald		Less than 2 years	0	Here warm weeks including this access
Does this person have any of his/her own grandchildren under the age of 18 living in this house or apartment?	Ц	2 years or more	۳	How many people, including this person, usually rode to work in the car, truck, or van LAST WEEK?
Yes	22	LAST WEEK, did this person do ANY work for either pay or profit? Mark (X) the "Yes" box even if		Person(s)
No → SKIP to question 19		the person worked only 1 hour, or helped without pay in a family business or farm for 15 hours or more,		
is this grandparent currently responsible for		or was on active duty in the Armed Forces. Yes	20	What time did this person usually leave home
most of the basic needs of any grandchild(ren) under the age of 18 who live(s) in this house or apartment?		No → SKIP to question 28	۳	go to work LAST WEEK?
	23	C 110 -9 3Kill to question 25		Hour Minute a.m.
☐ Yes ☐ No → SKIP to question 19		At what location did this person work LAST WEEK?	7	D p.m.
→ NO → 2KIL to dieztion 13		If this person worked at more than one location, print where he or she worked most last week.	4	
low long has this grandparent been		a. Address (Number and street name)	ø	How many minutes did it usually take this person to get from home to work LAST WEEK?
responsible for the(se) grandchild(ren)? If the grandparent is financially responsible for				Minutes
more than one grandchild, answer the question for the grandchild for whom the grandparent		If the exact address is not known, give a		
has been responsible for the longest period of		description of the location such as the building name or the nearest street or intersection.		
time. Less than 6 months			4	Account quarties 19-21 ONII VIE this parent
6 to 11 months		b. Name of city, town, or post office	4	Answer questions 28–31 ONLY IF this person did NOT work last week. Otherwise, SKIP to
1 or 2 years				question 32.
3 or 4 years		c. Is the work location inside the limits of that		
5 or more years		city or town?	23	a. LAST WEEK, was this person on layoff from
		No, outside the city/town limits		a job?
s this person ever served on active duty in		d. Name of county		Yes → SKIP to question 28c
U.S. Armed Forces, military Reserves, or tional Guard? Active duty does not include				b. LAST WEEK, was this person TEMPORARILY
ining for the Reserves or National Guard, but ES include activation, for example, for the				absent from a job or business?
sian Gulf War.		e. Name of U.S. state or foreign country		Yes, on vacation, temporary illness, labor
Yes, now on active duty				dispute, etc. → SKIP to question 31 No → SKIP to question 29
Yes, on active duty in past, but not now		f. ZIP Code		c. Has this person been informed that he or she
No, training for Reserves or National Guard only → SKIP to question 22 No, never served in the military → SKIP to				will be recalled to work within the next 6 months OR been given a date to return to work?
question 22				Yes → SKIP to question 30
				○ Yes → Skir to question 30

8

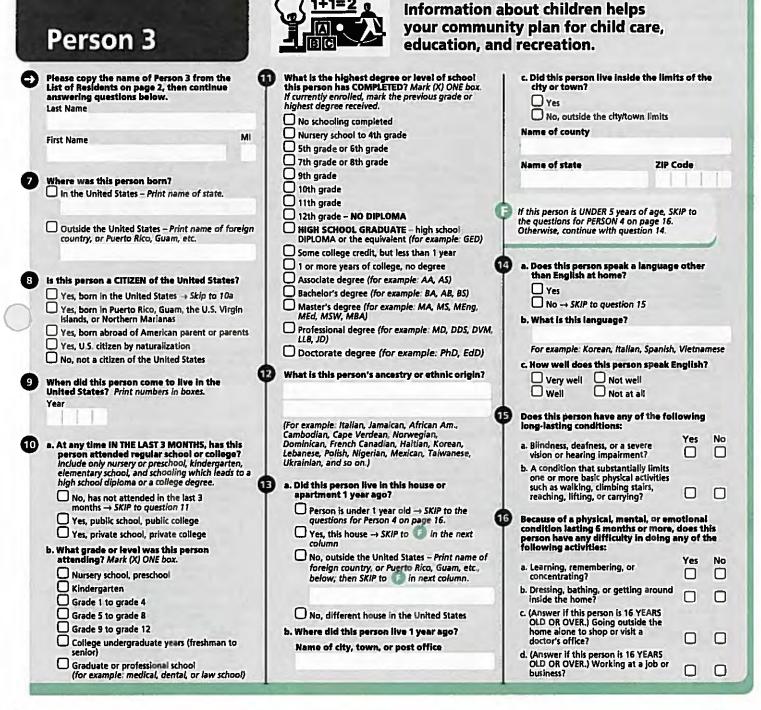
	Person 1 (continued)	Ž.		
29	Has this person been looking for work during the last 4 weeks? Yes No → SKIP to question 31	•	For whom did this person work? If now on active duty in the Armed Forces, mark (X) this box → and print the branch of the Armed Forces.	b. Self-employment income from own nonfarm businesses or farm businesses, including proprietorships and partnerships. Report NET income after business expenses.
30	LAST WEEK, could this person have started a job if offered one, or returned to work if recalled?		Name of company, business, or other employer	Yes → S
	Yes, could have gone to work No, because of own temporary illness No, because of all other reasons (in school, etc.)	0	What kind of business or industry was this? Describe the activity at the location where employed. (For example: hospital, newspaper publishing, mail order house, auto engine manufacturing, bank)	c. Interest, dividends, net rental income, royalty income, or income from estates and trusts. Report even small amounts credited to an account.
(3)	When did this person last work, even for a few days? Within the past 12 months		Order nouse, auto engine mandracturing, saring	☐ Yes → 5 .00 ☐ Loss ☐ No TOTAL AMOUNT for past 12 MONTHS
	1 to 5 years ago → SKIP to question 34	1	is this mainly - Mark (X) one box.	12 INCIALLIS
	Over 5 years ago or never worked → SKIP to	T	manufacturing?	d. Social Security or Railroad Retirement.
	question 40		U wholesale trade? □ retail trade?	O Yes → 5 .00
32	During the PAST 12 MONTHS, how many WEEKS did this person work? Count paid vacation, paid sick leave, and military service.		other (agriculture, construction, service, government, etc.)?	No TOTAL AMOUNT for past 12 MONTHS
	Weeks	\perp		e. Supplemental Security Income (SSI).
		8	What kind of work was this person doing? (For example: registered nurse, personnel manager,	☐ Yes → \$.00
3	During the PAST 12 MONTHS, in the WEEKS WORKED, how many hours did this person		supervisor of order department, secretary, accountant)	No TOTAL AMOUNT for past 12 MONTHS
7	usually work each WEEK?	6	What were this person's most important	f. Any public assistance or welfare payments from the state or local welfare office.
1	Usual hours worked each WEEK	Ĭ	activities or duties? (For example: patient care, directing hiring policies, supervising order clerks, typing and filing, reconciling financial records)	☐ Yes → 5 .00 ☐ No TOTAL AMOUNT for past
-			typing and lilling, recomming linearises records,	12 MONTHS
(3	Answer questions 34-39 ONLY IF this person worked in the past 5 years. Otherwise, SKIP to question 40.		INCOME IN THE PAST 12 MONTHS.	g. Retirement, survivor, or disability pensions. Do NOT include Social Security.
-		٣	Mark (X) the "Yes" box for each type of income this	☐ Yes → 5 .00
-	34-39 CURRENT OR MOST RECENT JOB ACTIVITY. Describe clearly this person's chief job activity or business last week. If this person had more than one job, describe the one at which this person worked the	4	mark (x) the Tes box for each type of income this person received, and give your best estimate of the TOTAL AMOUNT during the PAST 12 MONTHS. (NOTE: The "past 12 months" is the period from today's date one year ago up through today.)	No TOTAL AMOUNT for past 12 MONTHS
	most hours. If this person had no job or business last week, give information for his/her last job or business.	6	Mark (X) the "No" box to show types of income	 h. Any other sources of income received regularly such as Veterans' (VA) payments, unemploy- ment compensation, child support or alimony.
33	Was this person – Mark (X) ONE box.		NOT received. If net income was a loss, mark the "Loss" box to the	Do NOT include lump sum payments such as money from an inheritance or the sale of a home.
	an employee of a PRIVATE FOR PROFIT company or business, or of an individual, for wages, salary,		right of the dollar amount.	☐ Yes → 5 .00
	or commissions?		For income received jointly, report the appropriate share for each person – or, if that's not possible,	No TOTAL AMOUNT for past 12 MONTHS
	an employee of a PRIVATE NOT FOR PROFIT, tax-exempt, or charitable organization?		report the whole amount for only one person and mark the "No" box for the other person.	What was this person's total income during the
	a local GOVERNMENT employee (city, county, etc.)?		a. Wages, salary, commissions, bonuses, or tips from all jobs. Report amount before deductions for taxes, bonds, dues, or other items.	PAST 12 MONTHS? Add entries in questions 40a to 40h; subtract any losses. If net income was a loss, enter the amount and mark (X) the "Loss" box next to the dollar amount.
	a Federal GOVERNMENT employee?			- 00 -
	SELF-EMPLOYED in own NOT INCORPORATED business, professional practice, or farm?	3	Yes → \$.00 No TOTAL AMOUNT for past	None OR Loss TOTAL AMOUNT for past 12 MONTHS
	 U SELF-EMPLOYED in own INCORPORATED business, professional practice, or farm? □ working WITHOUT PAY in family business or farm? 		12 MONTHS	Continue with the questions for Person 2 on the next page. If only 1 person is listed in the List of
	Working WithOut PAT in Tamily business or farm:			Residents, SKIP to page 24 for mailing instructions

Person 2

	Person 2		ial as	tion helps your comm sistance for roads, hos ore.		
C	Please copy the name of Person 2 from the List of Residents on page 2, then continue answering questions below. Last Name	What is the highest degree or level of school this person has COMPLETED? Mark (X) ONE be if currently enrolled, mark the previous grade or highest degree received. No schooling completed		c. Did this person live inside the limit city or town? Yes No, outside the city/town limits	ts of th	•
	First Name Mi	Nursery school to 4th grade 5th grade or 6th grade 7th grade or 8th grade 9th grade		Name of county Name of state ZIP C	ode	
7	Where was this person born? In the United States – Print name of state.	10th grade 11th grade 12th grade - NO DIPLOMA	G	If this person is UNDER 5 years of age, Sk the questions for PERSON 3 on page 13	(IP to	H
	Outside the United States - Print name of foreign country, or Puerto Rico, Guam, etc.	HIGH SCHOOL GRADUATE – high school DIPLOMA or the equivalent (for example: GE Some college credit, but less than 1 year 1 or more years of college, no degree	b) 14	Otherwise, continue with question 14.	other	
8	Is this person a CITIZEN of the United States? Yes, born in the United States → Skip to 10a Yes, born in Puerto Rico, Guam, the U.S. Virgin Islands, or Northern Marianas Yes, born abroad of American parent or parents	Associate degree (for example: AA, AS) Bachelor's degree (for example: BA, AB, BS) Master's degree (for example: MA, MS, MEN, MEN, MSW, MBA) Professional degree (for example: MD, DDS, I		than English at home? ☐ Yes ☐ No → SKIP to question 15 b. What is this language?		
9	Yes, U.S. citizen by naturalization No, not a citizen of the United States When did this person come to live in the United States? Print numbers in boxes.	LLB, JD) Doctorate degree (for example: PhD, Ed) What is this person's ancestry or ethnic original		For example: Korean, Italian, Spanish, c. How well does this person speak E Very well Not well Well Not at all		
D	a. At any time IN THE LAST 3 MONTHS, has this person attended regular school or college?	(For example: Italian, Jamaican, African Am., Cambodian, Cape Verdean, Norwegian, Dominican, French Canadian, Haitian, Korean, Lebanese, Polish, Nigerian, Mexican, Taiwanese,	Œ	Does this person have any of the foli long-lasting conditions: a. Blindness, deafness, or a severe vision or hearing impairment?	lowing Yes	No □
	include only nursery or preschool, kindergarten, elementary school, and schooling which leads to a high school diploma or a college degree. No, has not attended in the last 3 months → SKIP to question 11	a. Did this person live in this house or apartment 1 year ago?		b. A condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying?	0	0
	Yes, public school, public college Yes, private school, private college b. What grade or level was this person	Person is under 1 year old → SKIP to the questions for Person 3 on page 13. Yes, this house → SKIP to in the next column	1	Because of a physical, mental, or em condition lasting 6 months or more, person have any difficulty in doing a following activities:	does th	ris
	attending? Mark (X) ONE box. Nursery school, preschool Kindergarten Grade 1 to grade 4	No, outside the United States − Print name foreign country, or Puerto Rico, Guam, etc below; then SKIP to in next column.		a. Learning, remembering, or concentrating? b. Dressing, bathing, or getting around inside the home?	Yes	0
	Grade 5 to grade 8 Grade 9 to grade 12 College undergraduate years (freshman to	 No, different house in the United States Where did this person live 1 year ago? Name of city, town, or post office 		c. (Answer if this person is 16 YEARS OLD OR OVER.) Going outside the home alone to shop or visit a doctor's office?	0	0
	senior) Graduate or professional school (for example: medical, dental, or law school)			d. (Answer if this person is 16 YEARS OLD OR OVER.) Working at a job or business?	0	0

	Person 2 (continued)	4		10	
3	If this person is UNDER 15 years of age, SKIP to the questions for PERSON 3 on page 13. Otherwise, continue with H.	20	When did this person serve on active duty in the U.S. Armed Forces? Mark (X) a box for EACH period in which this person served. April 1995 or later August 1990 to March 1995 (including Persian Gulf War)	2	How did this person usually get to work LAST WEEK? If this person usually used more than one method of transportation during the trip, mark (X) the box of the one used for most of the distance. Car, truck, or van Bus or trolley bus Bicycle
0	Answer question 17 ONLY IF this person is female and 15—50 years old. Otherwise, SKIP to question 18a.		September 1980 to July 1990 May 1975 to August 1980 Vietnam era (August 1964 to April 1975) February 1955 to July 1964 Korean War (June 1950 to January 1955)		Streetcar or trolley car Subway or elevated Railroad Ferryboat Taxicab Streetcar or trolley car Walked Worked at home → SKIP to question 32 Other method
7	Has this person given birth to any children in the past 12 months?		World War II (September 1940 to July 1947) Some other time	0	Answer question 25 ONLY IF you marked
	□ No	4	In total, how many years of active-duty military service has this person had?	-	"Car, truck, or van" in question 24. Otherwise, SKIP to question 26.
3	a. Does this person have any of his/her own grandchildren under the age of 18 living in this house or apartment?		Less than 2 years 2 years or more	4	How many people, including this person, usually rode to work in the car, truck, or van LAST WEEK?
	Yes No → SKIP to question 19	22	LAST WEEK, did this person do ANY work for either pay or profit? Mark (X) the "Yes" box even if the person worked only 1 hour, or helped without pay in a family business or farm for 15 hours or more,		Person(s)
	b. Is this grandparent currently responsible for most of the basic needs of any grandchild(ren) under the age of 18 who live(s) in this house or apartment?		or was on active duty in the Armed Forces. ☐ Yes ☐ No → SKIP to question 28	4	What time did this person usually leave home to go to work LAST WEEK? Hour Minute
	Yes No → SKIP to question 19	3	At what location did this person work LAST WEEK if this person worked at more than one location, print where he or she worked most last week	1	p.m.
	c. How long has this grandparent been responsible for the(se) grandchild(ren)? If the grandparent is financially responsible for more than one grandchild, answer the question for the grandchild for whom the grandparent		a. Address (Number and street name) If the exact address is not known, give a	9	How many minutes did it usually take this person to get from home to work LAST WEEK? Minutes
	has been responsible for the longest period of time.		description of the location such as the building name or the nearest street or intersection.	1	
	Less than 6 months 6 to 11 months 1 or 2 years		b. Name of city, town, or post office	T	Answer questions 28-31 ONLY IF this person did NOT work last week. Otherwise, SKIP to question 32.
	3 or 4 years 5 or more years		c. Is the work location inside the limits of that city or town? Yes	0	a. LAST WEEK, was this person on layoff from a job?
)	Has this person ever served on active duty in the U.S. Armed Forces, military Reserves, or		No, outside the city/town limits d. Name of county		Yes → SKIP to question 28c No
	National Guard? Active duty does not include training for the Reserves or National Guard, but DOES include activation, for example, for the Persian Gulf War. Yes, now on active duty		e. Name of U.S. state or foreign country		b. LAST WEEK, was this person TEMPORARILY absent from a job or business? ☐ Yes, on vacation, temporary illness, labor dispute, etc. → SKIP to question 31 ☐ No → SKIP to question 29
	Yes, on active duty in past, but not now No, training for Reserves or National Guard only → SKIP to question 22 No, never served in the military → SKIP to question 22		f. 2IP Code		c. Has this person been informed that he or she will be recalled to work within the next 6 months OR been given a date to return to work? Yes SKIP to question 30

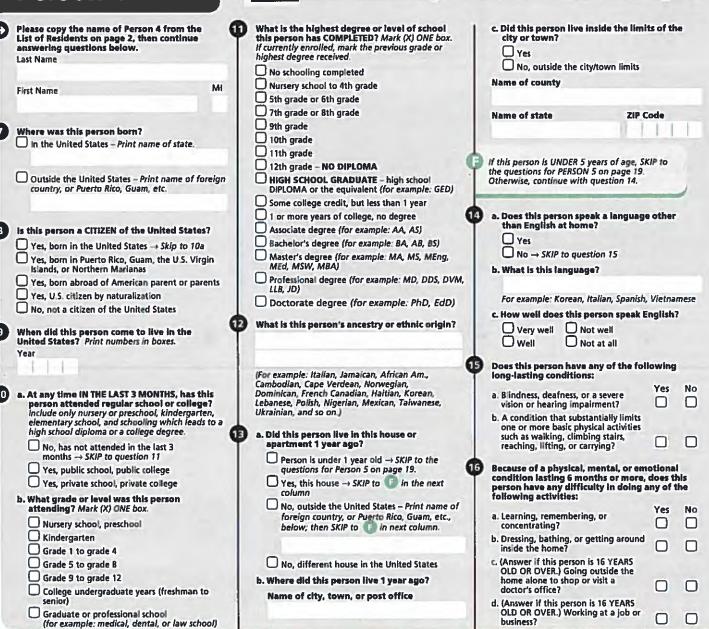
Person 2 (continued) Has this person been looking for work during the last 4 weeks? For whom did this person work? b. Self-employment income from own nonfarm businesses or farm businesses, including proprietorships and partnerships. Report NET income after business expenses. If now on active duty in the Armed Forces, mark (X) this box → and print the branch of the Armed Forces. ☐ Yes No → SKIP to question 31 U Yes → S Name of company, business, or other employer .00 Loss LAST WEEK, could this person have started a job if offered one, or returned to work if recalled? No TOTAL AMOUNT for past 12 MONTHS Yes, could have gone to work Interest, dividends, net rental income, royalty income, or income from estates and trusts. What kind of business or industry was this? No, because of own temporary illness Describe the activity at the location where employed. (For example: hospital, newspaper publishing, mail No, because of all other reasons (in school, etc.) Report even small amounts credited to an account. order house, auto engine manufacturing, bank) When did this person last work, even for a ☐ Yes → S few days? No TOTAL AMOUNT for past Within the past 12 months 12 MONTHS is this mainly - Mark (X) one box. 1 to 5 years ago → SKIP to question 34 d. Social Security or Railroad Retirement. Over 5 years ago or never worked -> SKIP to manufacturing? question 40 wholesale trade? O Yes → S retail trade? No TOTAL AMOUNT for past During the PAST 12 MONTHS, how many WEEKS did this person work? Count paid vacation, paid sick leave, and military service. other (agriculture, construction, service, government, etc.)? 12 MONTHS e. Supplemental Security Income (SSI). 38 What kind of work was this person doing? (For Yes → 5 example: registered nurse, personnel manager, supervisor of order department, secretary, accountant) No TOTAL AMOUNT for past 12 MONTHS During the PAST 12 MONTHS, in the WEEKS WORKED, how many hours did this person usually work each WEEK? f. Any public assistance or welfare payments from the state or local welfare office. What were this person's most important activities or duties? (For example: patient care, directing hiring policies, supervising order clerks, typing and filing, reconciling financial records) Usual hours worked each WEEK Yes → 5 No TOTAL AMOUNT for past 12 MONTHS Answer questions 34–39 ONLY IF this person worked in the past 5 years. Otherwise, SKIP g. Retirement, survivor, or disability pensions. Do NOT include Social Security. to auestion 40. 40 **INCOME IN THE PAST 12 MONTHS.** Yes → 5 Mark (X) the "Yes" box for each type of income this person received, and give your best estimate of the TOTAL AMOUNT during the PAST 12 MONTHS. (NOTE: The "past 12 months" is the period from No TOTAL AMOUNT for past 12 MONTHS 34-39 CURRENT OR MOST RECENT JOB ACTIVITY. Describe clearly this person's chief job activity or business last week. If this person had more than one job, describe the one at which this person worked the today's date one year ago up through today.) h. Any other sources of income received regularly such as Veterans' (VA) payments, unemploy-ment compensation, child support or alimony. Do NOT include lump sum payments such as money from an inheritance or the sale of a home. most hours. If this person had no job or business last week, give information for his/her last job or business. Mark (X) the "No" box to show types of income NOT received. 34 Was this person -Mark (X) ONE box. If net income was a loss, mark the "Loss" box to the an employee of a PRIVATE FOR PROFIT company or business, or of an individual, for wages, salary, right of the dollar amount. Yes → 5 For income received jointly, report the appropriate share for each person – or, if that's not possible, report the whole amount for only one person and mark the "No" box for the other person. □ No TOTAL AMOUNT for past or commissions? 12 MONTHS an employee of a PRIVATE NOT FOR PROFIT, tax-exempt, or charitable organization? What was this person's total income during the PAST 12 MONTHS? Add entries in questions 40a to 40h; subtract any losses. If net income was a loss, enter a local GOVERNMENT employee (city. a. Wages, salary, commissions, bonuses, or tips county, etc.)? from all jobs. Report amount before deductions for taxes, bonds, dues, or other items. the amount and mark (X) the "Loss" box next to the a state GOVERNMENT employee? dollar amount. a Federal GOVERNMENT employee? .00 SELF-EMPLOYED in own NOT INCORPORATED business, professional practice, or farm? Loss O Yes → S None OR **TOTAL AMOUNT for past** No TOTAL AMOUNT for past SELF-EMPLOYED in own INCORPORATED business, professional practice, or farm? 12 MONTHS 12 MONTHS Continue with the questions for Person 3 on the next page. If only 2 people are listed in the List of Residents, SKIP to page 24 for mailing instructions. working WITHOUT PAY in family business or farm?



	-		-	
If this person is UNDER 15 years of age, SKIP to the questions for PERSON 4 on page 16. Otherwise, continue with	30	When did this person serve on active duty in the U.S. Armed Forces? Mark (X) a box for EACH period in which this person served.	20	How did this person usually get to work LAST WEEK? If this person usually used more than one method of transportation during the trip, mark (X) the box of the one used for most of the distance.
		April 1995 or later		Car, truck, or van Motorcycle
		August 1990 to March 1995 (including Persian Gulf War)		Bus or trolley bus Bicycle
		September 1980 to July 1990		Streetcar or trolley car Walked
Answer question 17 ONLY IF this person is		May 1975 to August 1980		☐ Subway or elevated ☐ Worked at home →
female and 15—50 years old. Otherwise, SKIP to question 18a.		Vietnam era (August 1964 to April 1975)		Railroad SKIP to question 32
Skill to decition roa.		February 1955 to July 1964		Ferryboat Other method
		Korean War (June 1950 to January 1955)		☐ Taxicab
Has this person given birth to any children in		World War II (September 1940 to July 1947)		
the past 12 months?	5	Some other time	0	Answer question 25 ONLY IF you marked
Yes	\perp		T	"Car, truck, or van" in question 24. Otherwise, SKIP to question 26.
□ No	ø	In total, how many years of active-duty military service has this person had?		Otherwise, Skir to question 20.
		Less than 2 years	1	
a. Does this person have any of his/her own grandchildren under the age of 18 living in this house or apartment?		2 years or more	9	How many people, including this person, usually rode to work in the car, truck, or van LAST WEEK?
Yes	2	LAST WEEK, did this person do ANY work for		Person(s)
No → SKIP to question 19	T	either pay or profit? Mark (X) the "Yes" box even if the person worked only 1 hour, or helped without pay in a family business or farm for 15 hours or more,		reison(s)
b. Is this grandparent currently responsible for		or was on active duty in the Armed Forces.	\perp	
most of the basic needs of any		Yes	ख	What time did this person usually leave home to go to work LAST WEEK?
grandchild(ren) under the age of 18 who live(s) in this house or apartment?		No → SKIP to question 28		147.00
☐ Yes	1			Hour Minute a.m.
No → SKIP to question 19	Ŧ	At what location did this person work LAST WEEK? If this person worked at more than one location, print where he or she worked most last week.	1	D p.m.
c. How long has this grandparent been		a. Address (Number and street name)	W	How many minutes did it usually take this person to get from home to work LAST WEEK?
responsible for the(se) grandchild(ren)? If the grandparent is financially responsible for more than one grandchild, answer the question		a. Aduless (number and street name)		Minutes
for the grandchild for whom the grandparent has been responsible for the longest period of time.		If the exact address is not known, give a description of the location such as the building name or the nearest street or intersection.		
Less than 6 months			40	Answer questions 28-31 ONLY IF this person
6 to 11 months		b. Name of city, town, or post office	Y	did NOT work last week. Otherwise, SKIP to
1 or 2 years				question 32.
3 or 4 years	10	c. Is the work location inside the limits of that	-	
5 or more years		city or town?	ல	a. LAST WEEK, was this person on layoff from
		Yes	4	a job?
		No, outside the city/town limits		Yes → SKIP to question 28c
Has this person ever served on active duty in the U.S. Armed Forces, military Reserves, or		d. Name of county		□ No
National Guard? Active duty does not include				b. LAST WEEK, was this person TEMPORARILY
training for the Reserves or National Guard, but DOES include activation, for example, for the		a Name of the state of free law assessment		absent from a job or business?
Persian Gulf War. Yes, now on active duty		e. Name of U.S. state or foreign country		Yes, on vacation, temporary illness, labor dispute, etc. → SKIP to question 31
Yes, on active duty in past, but not now		f. ZIP Code		U No → SKIP to question 29
No, training for Reserves or National Guard only → SKIP to question 22			Н	c. Has this person been informed that he or she will be recalled to work within the next 6 months OR been given a date to return to
No, never served in the military → SKIP to question 22				work?
प्यट्याणा				Yes → SKIP to question 30 No

	Person 3 (continued)			
29	Has this person been looking for work during the last 4 weeks? ☐ Yes ☐ No → SKIP to question 31	63	For whom did this person work? If now on active duty in the Armed Forces, mark (X) this box → □ and print the branch of the Armed Forces.	b. Self-employment income from own nonfarm businesses or farm businesses, including proprietorships and partnerships. Report NET income after business expenses.
3	LAST WEEK, could this person have started a job if offered one, or returned to work if recalled?	9	Name of company, business, or other employer	☐ Yes → 5 .00 ☐ Loss ☐ No TOTAL AMOUNT for past 12 MONTHS
1	Yes, could have gone to work No, because of own temporary illness No, because of all other reasons (in school, etc.)	0	What kind of business or industry was this? Describe the activity at the location where employed. (For example: hospital, newspaper publishing, mail	c. Interest, dividends, net rental income, royalty income, or income from estates and trusts. Report even small amounts credited to an account.
9	When did this person last work, even for a few days?		order house, auto engine manufacturing, bank)	Yes → 5 .00 Loss No TOTAL AMOUNT for past
	 Within the past 12 months 1 to 5 years ago → SKIP to question 34 Over 5 years ago or never worked → SKIP to question 40 	0	ts this mainly – Mark (X) one box. manufacturing? wholesale trade?	d. Social Security or Railroad Retirement. ☐ Yes → \$.00
32	During the PAST 12 MONTHS, how many WEEKS did this person work? Count paid vacation, paid sick leave, and military service.		retail trade? other (agriculture, construction, service, government, etc.)?	No TOTAL AMOUNT for past 12 MONTHS
	Weeks	Ф	What kind of work was this person doing? (For example: registered nurse, personnel manager, supervisor of order department, secretary, accountant)	e. Supplemental Security Income (SSI). ☐ Yes → S ☐ No TOTAL AMOUNT for past
3	During the PAST 12 MONTHS, in the WEEKS WORKED, how many hours did this person usually work each WEEK?	0	What were this person's most important	12 MONTHS f. Any public assistance or welfare payments from the state or local welfare office.
7	Usual hours worked each WEEK	Ĭ	activities or duties? (For example: patient care, directing hiring policies, supervising order clerks, typing and filing, reconciling financial records)	O Yes → 5 .00 No TOTAL AMOUNT for past 12 MONTHS
(3)	Answer questions 34-39 ONLY IF this person worked in the past 5 years. Otherwise, SKIP to question 40.	0	INCOME IN THE PAST 12 MONTHS.	g. Retirement, survivor, or disability pensions. Do NOT include Social Security.
	34–39 CURRENT OR MOST RECENT JOB ACTIVITY. Describe clearly this person's chief job activity or business last week. If this person had more than one job, describe the one at which this person worked the	Ī	Mark (X) the "Yes" box for each type of income this person received, and give your best estimate of the TOTAL AMOUNT during the PAST 12 MONTHS. (NOTE: The "past 12 months" is the period from today's date one year ago up through today.)	Yes → S No TOTAL AMOUNT for past 12 MONTHS h. Any other sources of income received regular!
34	most hours. If this person had no job or business last week, give information for histher last job or business. Was this person —		Mark (X) the "No" box to show types of income NOT received.	such as Veterans' (VA) payments, unemploy- ment compensation, child support or alimony. Do NOT include lump sum payments such as money from an inheritance or the sale of a home.
	Mark (X) ONE box. an employee of a PRIVATE FOR PROFIT company or business, or of an individual, for wages, salary, or commissions?		If net income was a loss, mark the "Loss" box to the right of the dollar amount. For income received jointly, report the appropriate share for each person — or, if that's not possible,	☐ Yes → S .00 ☐ No TOTAL AMOUNT for past 12 MONTHS
	an employee of a PRIVATE NOT FOR PROFIT, tax-exempt, or charitable organization? a local GOVERNMENT employee (city, county, etc.)? a state GOVERNMENT employee? a Federal GOVERNMENT employee?		report the whole amount for only one person and mark the "No" box for the other person. a. Wages, salary, commissions, bonuses, or tips from all jobs. Report amount before deductions for taxes, bonds, dues, or other items.	What was this person's total income during the PAST 12 MONTHS? Add entries in questions 40a to 40h; subtract any losses. If net income was a loss, ente the amount and mark (X) the "Loss" box next to the dollar amount.
Į.	SELF-EMPLOYED in own NOT INCORPORATED business, professional practice, or farm? SELF-EMPLOYED in own INCORPORATED business,		O Yes → 5 .00 No TOTAL AMOUNT for past 12 MONTHS	None OR 5 Loss TOTAL AMOUNT for past 12 MONTHS
	professional practice, or farm? working WITHOUT PAY in family business or farm?	,		Continue with the questions for Person 4 on the next page. If only 3 people are listed in the List of Residents, SKIP to page 24 for mailing instructions

Person 4



Knowing about age, race, and sex helps your

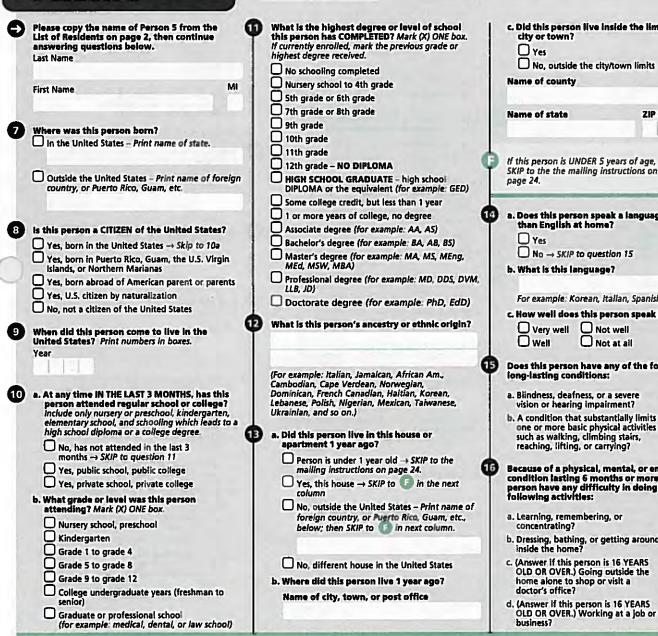
community better meet the needs of everyone.



)	If this person is UNDER 15 years of age, SKIP to the questions for PERSON 5 on page 19. Otherwise, continue with	30	When did this person serve on active duty in the U.S. Armed Forces? Mark (X) a box for EACH period in which this person served.	23	How did this person usually get to work LAST WEEK? If this person usually used more than one method of transportation during the trip, mark (X) th box of the one used for most of the distance.
)	Answer question 17 ONLY IF this person is female and 15—50 years old, Otherwise, SKIP to question 18a.		April 1995 or later August 1990 to March 1995 (including Persian Gulf War) September 1980 to July 1990 May 1975 to August 1980 Vietnam era (August 1964 to April 1975) February 1955 to July 1964 Korean War (June 1950 to January 1955)		Car, truck, or van Bus or trolley bus Streetcar or trolley car Subway or elevated Railroad Ferryboat Taxicab Motorcycle Bicycle Walked Worked at home → SKIP to question 32
)	Has this person given birth to any children in the past 12 months?		☐ World War II (September 1940 to July 1947) ☐ Some other time	4	Answer question 25 ONLY IF you marked
	Yes No	4	In total, how many years of active-duty military service has this person had?	I	"Car, truck, or van" in question 24. Otherwise, SKIP to question 26.
)	a. Does this person have any of his/her own grandchildren under the age of 18 living in this house or apartment?		Less than 2 years 2 years or more	4	How many people, including this person, usually rode to work in the car, truck, or van LAST WEEK?
	Yes No → SKIP to question 19	9	LAST WEEK, did this person do ANY work for either pay or profit? Mark (X) the "Yes" box even if the person worked only 1 hour, or helped without pay in a family business or farm for 15 hours or more, or was on active duty in the Armed Forces.		Person(s)
	b. Is this grandparent currently responsible for most of the basic needs of any grandchild(ren) under the age of 18 who live(s) in this house or apartment?		Yes No → SKIP to question 28	0	What time did this person usually leave home to go to work LAST WEEK? Hour Minute a.m.
	Yes No → SKIP to question 19	3	At what location did this person work LAST WEEK's if this person worked at more than one location, print where he or she worked most last week.	0	D p.m.
	c. How long has this grandparent been responsible for the(se) grandchild(ren)? If the grandparent is financially responsible for more than one grandchild, answer the question for the grandparent has been responsible for the longest period of time.		a. Address (Number and street name) If the exact address is not known, give a description of the location such as the building name or the nearest street or intersection.		How many minutes did it usually take this person to get from home to work LAST WEEK? Minutes
	Less than 6 months 6 to 11 months 1 or 2 years		b. Name of city, town, or post office	9	Answer questions 28–31 ONLY IF this person did NOT work last week. Otherwise, SKIP to question 32.
	3 or 4 years 5 or more years		c. Is the work location inside the limits of that city or town? Yes No, outside the city/town limits	9	a. LAST WEEK, was this person on layoff from a job?
	Has this person ever served on active duty in the U.S. Armed Forces, military Reserves, or National Guard? Active duty does not include		d. Name of county	and the	Yes → SKIP to question 28c No No b. LAST WEEK, was this person TEMPORARILY
	training for the Reserves or National Guard, but DOES include activation, for example, for the Persian Gulf War. Yes, now on active duty		e. Name of U.S. state or foreign country		absent from a job or business? Yes, on vacation, temporary illness, labor dispute, etc. → SKIP to question 31 No → SKIP to question 29
	Yes, on active duty in past, but not now No, training for Reserves or National Guard only → SKIP to question 22 No, never served in the military → SKIP to question 22		f. ZIP Code		c. Has this person been informed that he or she will be recalled to work within the next 6 months OR been given a date to return to work?
	question 22			7	Yes → SKIP to question 30 No

1	Person 4 (continued)			
)	Has this person been looking for work during the last 4 weeks? Yes No → SKIP to question 31	6	For whom did this person work? If now on active duty in the Armed Forces, mark (X) this box → □ and print the branch of the Armed Forces.	b. Self-employment income from own nonfarm businesses or farm businesses, including proprietorships and partnerships. Report NET income after business expenses.
)	LAST WEEK, could this person have started a job if offered one, or returned to work if recalled?		Name of company, business, or other employer	☐ Yes → \$.00 ☐ Loss ☐ No TOTAL AMOUNT for past 12 MONTHS
	Yes, could have gone to work No, because of own temporary illness No, because of all other reasons (in school, etc.)	0	What kind of business or industry was this? Describe the activity at the location where employed. (For example: hospital, newspaper publishing, mail order house, auto engine manufacturing, bank)	c. Interest, dividends, net rental income, royalty income, or income from estates and trusts. Report even small amounts credited to an account
)	When did this person last work, even for a few days?		State Hause, and English Handracturing, Sully	O Yes → 5 .00 Loss No TOTAL AMOUNT for past
	☐ Within the past 12 months	\perp		12 MONTHS
	1 to 5 years ago → SKIP to question 34	Ø	is this mainly - Mark (X) one box.	A man to the control of the control
	Over 5 years ago or never worked → SKIP to		manufacturing?	d. Social Security or Railroad Retirement.
	question 40		wholesale trade?	☐ Yes → S .00
,	Durley sha nagy sa sensivité hamanan		retail trade?	□ No TOTAL AMOUNT for past
)	During the PAST 12 MONTHS, how many WEEKS did this person work? Count paid vacation, paid sick leave, and military service.		other (agriculture, construction, service, government, etc.)?	12 MONTHS
	Weeks	\perp		e. Supplemental Security Income (SSI).
		8	What kind of work was this person doing? (for example: registered nurse, personnel manager, supervisor of order department, secretary, accountant)	☐ Yes → 5 .00 ☐ No TOTAL AMOUNT for past
	During the PAST 12 MONTHS, in the WEEKS WORKED, how many hours did this person usually work each WEEK?		appersion of order separations, secondary, secondary	12 MONTHS f. Any public assistance or welfare payments
	Usual hours worked each WEEK	ø	What were this person's most important activities or duties? (For example: patient care,	from the state or local welfare office. ☐ Yes → \$.00
			directing hiring policies, supervising order clerks, typing and filing, reconciling financial records)	No TOTAL AMOUNT for past 12 MONTHS
)	Answer questions 34-39 ONLY IF this person worked in the past 5 years. Otherwise, SKIP to question 40.			g. Retirement, survivor, or disability pensions. Do NOT include Social Security.
	to question to	40	INCOME IN THE PAST 12 MONTHS.	□ Yes → \$.00
	34-39 CURRENT OR MOST RECENT JOB ACTIVITY. Describe clearly this person's chief job activity or business last week. If this person had more than one		Mark (X) the "Yes" box for each type of income this person received, and give your best estimate of the TOTAL AMOUNT during the PAST 12 MONTHS. (NOTE: The "past 12 months" is the period from	No TOTAL AMOUNT for past 12 MONTH5
	job, describe the one at which this person worked the most hours. If this person had no job or business last week, give information for his/her last job or business.		today's date one year ago up through today.) Mark (X) the "No" box to show types of income	h. Any other sources of income received regular such as Veterans' (VA) payments, unemploy- ment compensation, child support or alimony
)	Was this person –		NOT received.	Do NOT include lump sum payments such as mone
	Mark (X) ONE box.		If net income was a loss, mark the "Loss" box to the	from an inheritance or the sale of a home.
	an employee of a PRIVATE FOR PROFIT company or business, or of an individual, for wages, salary,		right of the dollar amount. For income received jointly, report the appropriate	O Yes → \$.00 No TOTAL AMOUNT for past
	or commissions? an employee of a PRIVATE NOT FOR PROFIT, tax-exempt, or charitable organization?		share for each person — or, if that's not possible, report the whole amount for only one person and mark the "No" box for the other person.	12 MONTHS
	a local GOVERNMENT employee (city, county, etc.)?		a. Wages, salary, commissions, bonuses, or tips	PAST 12 MONTHS? Add entries in questions 40a to 40h; subtract any losses. If net income was a loss, ent
	a state GOVERNMENT employee? a Federal GOVERNMENT employee?		from all jobs. Report amount before deductions for taxes, bonds, dues, or other items.	the amount and mark (X) the "Loss" box next to the dollar amount.
	SELF-EMPLOYED in own NOT INCORPORATED business, professional practice, or farm?		Yes → \$.00	None OR 5 .00 Loss
	SELF-EMPLOYED In own INCORPORATED business, professional practice, or farm?		No TOTAL AMOUNT for past 12 MONTHS	12 MONTHS Continue with the questions for Person 5 on the
	working WITHOUT PAY in family business or farm:			next page. If only 4 people are listed in the List o Residents. SKIP to page 24 for mailing instruction

Person 5



	c. Did this person live inside the lim	The second secon									
	Yes No, outside the city/town limits										
	Name of county										
	Name of state ZIP	Code									
)	If this person is UNDER 5 years of age, SKIP to the the mailing instructions on page 24.										
)	a. Does this person speak a languag than English at home? ☐ Yes ☐ No → SKIP to question 15	je other									
	b. What is this language?										
	For example: Korean, Italian, Spanish, Vietnamese										
	c. How well does this person speak Very well Not well Well Not at all	English'									
•	Does this person have any of the following lasting conditions:	llowing									
	a. Blindness, deafness, or a severe vision or hearing impairment?	Yes	No								
	 A condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying? 	0									
•	Because of a physical, mental, or er condition lasting 6 months or more person have any difficulty in doing following activities:	, does t	nis								
	a. Learning, remembering, or concentrating?	Yes	No O								
	b. Dressing, bathing, or getting around inside the home?	· 0									
	c. (Answer If this person is 16 YEARS OLD OR OVER.) Going outside the home alone to shop or visit a dector's office?										

Your answers help your

community plan for the future.

	Person 5 (continued)				
)	If this person is UNDER 15 years of age, SKIP to the mailing instructions on page 24. Otherwise, continue with	the U.S. A period in to April 1	this person serve on active-duty in Armed Forces? Mark (X) a box for EACH which this person served. 995 or later t 1990 to March 1995 (including	3	How did this person usually get to work LAST WEEK? If this person usually used more than one method of transportation during the trip, mark (X) the box of the one used for most of the distance. Car, truck, or van Motorcycle
	Answer question 17 ONLY IF this person is female and 15—50 years old. Otherwise, SKIP to question 18a.	Septer May 19 Vietna Februa Koreal	n Gulf War) nber 1980 to July 1990 1975 to August 1980 Imera (August 1964 to April 1975) In 1955 to July 1964 In War (June 1950 to January 1955) War II (September 1940 to July 1947)		Bus or trolley bus Streetcar or trolley car Subway or elevated Railroad Ferryboat Subway or elevated SkiP to question 32 Other method
	Has this person given birth to any children in the past 12 months? Yes No	Some of Some o	other time now many years of active-duty service has this person had?	0	Answer question 25 ONLY IF you marked "Car, truck, or van" in question 24. Otherwise, SKIP to question 26.
	a. Does this person have any of his/her own grandchildren under the age of 18 living in this house or apartment? Yes	Less th	an 2 years s or more EK, did this person do ANY work for	3	How many people, including this person, usually rode to work in the car, truck, or van LAST WEEK? Person(s)
	\square No \rightarrow SKIP to 19 b. Is this grandparent currently responsible for	the person	y or profit? Mark (X) the "Yes" box even if n worked only 1 hour, or helped without amily business or farm for 15 hours or more, active duty in the Armed Forces.	-	What time did this person usually leave home to
	most of the basic needs of any grandchild(ren) under the age of 18 who live(s) in this house or apartment? ☐ Yes ☐ No → SKIP to 19	No →	SKIP to question 28 location did this person work LAST WEEK son worked at more than one location, print	,	go to work LAST WÉEK? Hour Minute
	c. How long has this grandparent been responsible for the(se) grandchild(ren)? If the grandparent is financially responsible for more than one grandchild, answer the question for the grandchild for whom the grandparent	where he	or she worked most last week. Is (Number and street name) It address is not known, give a	9	How many minutes did it usually take this person to get from home to work LAST WEEK? Minutes
	has been responsible for the longest period of time.	descriptio name or t	n of the location such as the building he nearest street or intersection.		Answer questions 28–31 ONLY IF this person
	Ess trian 6 months 6 to 11 months 1 or 2 years 3 or 4 years		of city, town, or post office		did NOT work last week. Otherwise, SKIP to question 32.
	5 or more years	city or	town? outside the city/town limits	28	a. LAST WEEK, was this person on layoff from a job? ☐ Yes → SKIP to question 28c
)	Has this person ever served on active duty in the U.S. Armed Forces, military Reserves, or National Guard? Active duty does not include training for the Reserves or National Guard, but DOES include activation, for example, for the		of county		No b. LAST WEEK, was this person TEMPORARILY absent from a job or business?
	Persian Gulf War. Yes, now on active duty Yes, on active duty in past, but not now	10	of U.S. state or foreign country		Yes, on vacation, temporary Illness, labor dispute, etc. → SKIP to question 31 No → SKIP to question 29
	No, training for Reserves or National Guard only → SKIP to question 22 No, never served in the military → SKIP to question 22	f. ZIP Co	de_		c. Has this person been informed that he or she will be recalled to work within the next 6 months OR been given a date to return to work? ☐ Yes → SKIP to 30 ☐ No

	Person 5 (continued)					
29	Has this person been looking for work during	9	For whom did this person work?	1	 b. Self-employment income from own non- businesses or farm businesses, including 	
1	the last 4 weeks? ☐ Yes ☐ No → SKIP to question 31		If now on active duty in the Armed Forces, mark (X) this box → ☐ and print the branch of the Armed Forces.		proprietorships and partnerships. Report income after business expenses.	
1	LAST WEEK, could this person have started a job		Name of company, business, or other employer			Loss
a	if offered one, or returned to work if recalled?				No TOTAL AMOUNT for past 12 MONTHS	
	Yes, could have gone to work No, because of own temporary illness No, because of all other reasons (in school, etc.)	0	What kind of business or industry was this? Describe the activity at the location where employed. (For example: hospital, newspaper publishing, mail order house, auto engine manufacturing, bank)		c. Interest, dividends, net rental income, ro income, or income from estates and trus Report even small amounts credited to an ac	its.
3	When did this person last work, even for a few days?		order riouse, acto engine manufacturing, bank,		O Yes → 5 .00 O	Loss
	Within the past 12 months	-	a ability of the state of the second		12 MONTHS	
	1 to 5 years ago → SKIP to question 34	9	is this mainly – Mark (X) one box.		d. Social Security or Railroad Retirement.	
	Over 5 years ago or never worked → SKIP to question 40		manufacturing? wholesale trade?		□Yes → 5 .00	
			retail trade?		No TOTAL AMOUNT for past	
92	During the PAST 12 MONTHS, how many WEEKS did this person work? Count paid vacation, paid sick leave, and military service.		other (agriculture, construction, service, government, etc.)?		12 MONTHS	
	Weeks	1			e. Supplemental Security Income (SSI).	
	Process	33	What kind of work was this person doing? (For		O Yes → 5 .00	
			example: registered nurse, personnel manager, supervisor of order department, secretary, accountant,	,	No TOTAL AMOUNT for past	
33	During the PAST 12 MONTHS, in the WEEKS WORKED, how many hours did this person usually work each WEEK?				12 MONTHS f. Any public assistance or welfare paymen	rts
	Usual hours worked each WEEK	0	What were this person's most important		from the state or local welfare office.	
		T	activities or duties? (For example: patient care, directing hiring policies, supervising order clerks,		☐ Yes → S .00	
			typing and filing, reconciling financial records)		No TOTAL AMOUNT for past	
B	Answer questions 34–39 ONLY IF this person worked in the past 5 years. Otherwise, SKIP	1			g. Retirement, survivor, or disability pension Do NOT include Social Security.	ons.
	to question 40.	0	INCOME IN THE PAST 12 MONTHS.			
	34-39 CURRENT OR MOST RECENT JOB ACTIVITY.	87	Mark (X) the "Yes" box for each type of income this		O Yes → \$.00	
	Describe clearly this person's chief job activity or business last week. If this person had more than one		person received, and give your best estimate of the TOTAL AMOUNT during the PAST 12 MONTHS. (NOTE: The "past 12 months" is the period from		No TOTAL AMOUNT for past 12 MONTHS	
	job, describe the one at which this person worked the most hours. If this person had no job or business last		today's date one year ago up through today.)		h. Any other sources of income received re	gulari
	week, give information for histher last job or business	5	Mark (X) the "No" box to show types of Income		such as Veterans' (VA) payments, unemp ment compensation, child support or ali	mony
34	Francisco Company Company (Company)		NOT received.		Do NOT include lump sum payments such as from an inheritance or the sale of a home.	mone
	Mark (X) ONE box.		If net income was a loss, mark the "Loss" box to the right of the dollar amount.			
	an employee of a PRIVATE FOR PROFIT company or business, or of an individual, for wages, salary, or commissions?		For income received jointly, report the appropriate		☐ Yes → \$.00 ☐ No TOTAL AMOUNT for past	
	an employee of a PRIVATE NOT FOR PROFIT,		share for each person – or, if that's not possible, report the whole amount for only one person and	T	12 MONTHS	
	a local GOVERNMENT employee (city,		mark the "No" box for the other person. a. Wages, salary, commissions, bonuses, or tips	9	What was this person's total income during PAST 12 MONTHS? Add entries in questions 40 40h; subtract any losses. If net income was a los	Da to
	county, etc.)?		from all jobs. Report amount before deductions	22	the amount and mark (X) the "Loss" box next to	
	a state GOVERNMENT employee? a Federal GOVERNMENT employee?		for taxes, bonds, dues, or other Items.		dollar amount.	
	SELF-EMPLOYED in own NOT INCORPORATED		☐ Yes → 5 .00			Loss
	business, professional practice, or farm?		☐ No TOTAL AMOUNT for past	1	TOTAL AMOUNT for past 12 MONTHS	
	SELF-EMPLOYED in own INCORPORATED business, professional practice, or farm?		12 MONTHS	6	Now continue with the mailing	
	working WITHOUT PAY in family business or farm	7		Ψ	instructions on page 24	



Mailing Instructions

- Please make sure you have..
 - put all names on the List of Residents and answered the questions across the top of the page
 - answered all Housing questions
 - answered all Person questions for each person on the List of Residents.
- Then...
 - put the completed questionnaire into the postage-paid return envelope. (It is addressed to the Bureau of the Census Processing Center in Jeffersonville, Indiana)
 - make sure the barcode above your address shows in the window of the return envelope.

Thank you for participating in the American Community Survey.

For Census Bureau Use	
POP EDIT PHONE	JIC1 JIC2
EDIT CLERK TELEPHONE CLERK	JIC3 JIC4

The Census Bureau estimates that, for the average household, this form will take 38 minutes to complete, including the time for reviewing the instructions and answers. Comments about the estimate should be directed to the Associate Director for Administration, U.S. Census Bureau, Room 3104, FB 3, Washington, DC 20233, Attn 0607-0810 Please DO NOT RETURN your questionnaire to this address. Use the enclosed preaddressed envelope to return your completed questionnaire.

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

Form ACS-1(2000) (9-1-2000)

U.S. DEPARTMENT OF COMMERCE



THE American Community Survey

This booklet shows the content of the American Community Survey questionnaire.

Please complete this form and return it as soon as possible after receiving it in the mail.

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 or 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 pedir un cuestionario en español o completar su entrevista por teléfono con un entrevistador que habla español.

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

USCENSUSBUREAU

Start Here

Please print today's date.

Month Day Year

Day Year

Please print the name and telephone number of the person who is filling out this form. We may contact you if there is a question.

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(INFO)(2010)KFI

OMB No. 0607-0810



	Per	rson 1		6		Pe	erson 2		
OF B	son 1 is the person living or sta partment is owned, being boug on, start with the name of any	ght, or rented. I	f there is no such	Las	hat is Person 2's na st Name (Please print)	ame?	First No	ame	MI
pura	Start will the home of any	oddit ii ving o	oral trial troubly	2 He	w is this person re	lated to	Person 17 N	tark ()	() ONE box.
					Husband or wife			Son	in-law or daughter-in-law
					Biological son or da	ughter		1000	er relative
Wha	nt is Person 1's name?				Adopted son or dau	0-700		Roo	mer or boarder
	Name (Please print)	First Name		ME,	Stepson or stepday				semate or roommate
					Brother or sister				narried partner
									ter child
Hov	v is this person related to Pe	erson 17							er nonrelative
X	Person 1							Otti	ai Ilomidiativa
1011.	via Dancan dia ann'i Adami /V	ONE how			hat is Person 2's se	- Const	/YI ONE how		
AAUI	nt is Person 1's sex? Mark (X) Male	ONE DOX.		9		Female	IN DIVE DOX.		
					~				
Whe	at is Person 1's age and wha se report babies as age 0 wher	nt is Person 1' on the child is le.	s date of birth? ss than 1 year old.	W W	hat is Person 23 and	and w	hat is Personen the child in	n 2's <i>s less</i>	date of birth? than 1 vear old.
, ,,,,,		ers in boxes.			0		mbers in box		
Age	(in years) Month Da	y Year of b	irth	Ag	e (in years)	Month	Day Year	of birt	h
-		15	i i		0				
					The state of the s			-	
O O	OTE: Please answer BOTH Question 6 about race. For this	uestion 5 abou survey, Hispai	it Hispanic origin and nic origins are not rac	es.	NOTE: Please answ	rer BOTH ce. For th	Question 5 a	bout mani	Hispanic origin and corigins are not races
	erson 1 of Hispanic, Latino,			11	Person 2 of Hispan		The second second	- 27	A STATE OF THE PARTY OF THE PAR
	No, not of Hispanic, Latino, or Sp			de	No, not of Hispanic,		PER MINISTER	-	
	Yes, Mexican, Mexican Am., Chic				A DESCRIPTION OF STREET				
ă		20110	(A)			van 2111., u	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
	Yes, Puerto Rican		All		The state of the s				
	Yes, Cuban	- 1 1 1 7 7 7 7 1	- Mile						
	Yes, another Hispanic, Latino, or Argentinean, Colombian, Domini and so on. 7	Spanish origin - ican, Nicaraguan	, Salvadoust, Spaniard,	»,		nc, Latino, abian, Don	or Spanish only iinican, Nicarag	juan, S	rint origin, for example, ialvadoran, Spanlard,
Whi	at is Person 1's race? Mark ()	X) one or more	boxes.	6 W	hat is Person 2's ra	ce? Mari	k (X) one or m	ore b	oxes.
	White	111		T	White				
	Black, African Am., or Negro	v			Black, African Am.,	or Negro			
	American Indian or Alaska Native	e Print name e	of enrolled or principal tr	ibe.y	American Indian or	Alaska Na	tive Print na	me of	enrolled or principal tribe
								-	
								1	
	Asian Indian	apanese 🗍	Native Hawaiian		Asian Indian		Japanese		Native Hawailan
	Chinese	orean 🔲	Guamanian or Chamo	rro [Chinese		Korean		Guamanian or Chamorro
	Filipino U	letnamese 🗌	Samoan		Filipino		Vietnamese		Samoan
	Other Asian Print race, for example, Hmong, Laotian, Thal, Pakistani, Cambodian, and so on.		Other Pacific Islander- Print race, for example Fijlan, Tongan, and so on. 7		Other Asian – Print of for example, Hmony Laotian, Thai, Pakist Cambodian, and so	g, tani,			Other Pacific Islander – Print race, for example, Fijlan, Tongan, and so on.
_									
	Some other race - Print race.				Some other race – F	rint race.	7		

EPIC-18-03-22-Census-Bureau-FOIA-20180611-Production

Person 3						Person 4								
	et is Person 3's no Name (Please print)	ame?	-	irst Na	me		and the latest the same	at is Person 4 Name (Please p			First N	ome.		
100	Ivanila (r ioasa pinni)			1101 110	****			. Ivalive (r rease p	,,,,,	1	Lineria	a1110		Ĩ
				47.14	1. (14) (214	F 4					42.4	4-1-12	L CALE I	
low 	v is this person re	siated to	rerson	anna I			-	w is this pers		CO Pers		1000		
51	Husband or wife				Other rela	v or daughter-in	·law L	Husband or wi					in-law or d r relative	augnter-in
4	Biological son or da			H				Biological son	THE PERSON NAMED IN			100		
=	Adopted son or dau				Roomer o			Adopted son o					ner or boa	
=	Stepson or stepdau	gnier				e or roommate		Stepson or ste					emate or a	
51	Brother or sister Father or mother				Unmarried Foster chil	4.050		Brother or sist			-		arried part er child	ner
51	Grandchild							Grandchild	er			1000	er cauca r nonrelati	
51	Parent-in-law				Other non	Herativa		Parent-in-law				Othe	t 190Utelett	ve
=3			VA						4					
- 1	it is Person 3's se		(X) ONE	box.				at is Person 4	-		NE box.			
4	Male 🔲	Female						Male	Fembale	3				
	it is Person 3's a						4 Wh	at is Person 4	age and	what i	s Perso	n 4's c	late of bi	rth?
188	se report babies as		men tne t Imbers in			ı year old.	PIE	ase report bubl	en as age u Print r	wnen tr rumber	ie cniia i s in boxi	IS 1855 1 85.	nan i yea	r ola.
ge i	(in years)	Month	A	Year o			Age	(in year)	Month	A STATE OF THE PARTY OF THE PAR		of birth		
41			-11		7 7			0						
-			7				1 4		-		4	y 1		
	No, not of Hispanic, Yes, Mexican, Mexic	, Latino, c	r Spanish			ins are not ra		Person 6 above Person 4 of His No, not of His Yes, Mexican, Yes, Puerto Ric	spanic, Lat panic, Latino, Mexican Am-	or Span	ish origir	h orig	in?	
	No, not of Hispanic	can Am.,	or Spanish Chicano	origin	origin?	AR.		No, not of His	spanic, Lat panic, Latino, Mexican Am- an	or Span , Chican	ish origir o	h orig		or examp Spaniard,
	Ne, not of Hispanic Yes, Mexican, Mexic Yes, Puerto Rican Yes, Cuban Yes, another Hispan Argentinean, Colomand so on. p	c, Latino, c ican Am., ican Am., ican Am., ican Am., Con ican Am., Con ican Am., Con	or Spanish Chicano , or Spanis minican, N	origin sh origi	origin?	AR.	5	Person 4 of His No, not of His Yes, Mexican, Yes, Puerto Ric Yes, Cuban Yes, another H Argentinean, C and so on.	spanic, Latino, Mexican Am. an ispanic, Latin colombian, De	or Span , Chican no, or Sp orninicar	ish origin o snish ori a, <i>Nicar</i> ag	h orig 1 gin - Pr quan, Si	int origin, i sivadoran,	ior exampi Spaniard,
Vha	Ne, not of Hispanic Yes, Mexican, Mexican Yes, Puerto Rican Yes, Cuban Yes, another Hispan Argentinean, Colora and so on. P	c, Latino, c ican Am., ican Am., ican Am., ican Am., Con ican Am., Con ican Am., Con	or Spanish Chicano , or Spanis minican, N	origin sh origi	origin?	AR.	5 h. i	Person 4 of His No, not of His Yes, Mexican, Yes, Puerto Ric Yes, Cuban Yes, another H Argentinean, C and so on. 2	spanic, Latino, Mexican Am. an ispanic, Latin colombian, De	or Span , Chican no, or Sp orninicar	ish origin o snish ori a, <i>Nicar</i> ag	h orig 1 gin - Pr quan, Si	int origin, i sivadoran,	ior examp Spaniard,
Vha	Ne, not of Hispanic Yes, Mexican, Mexic Yes, Puerto Rican Yes, Cuban Yes, another Hispan Argentinean, Colora and so on. To art is Person 3's ra White	can Am., can Am., can Am., can Am., can Am., can Am., can an ic, Latino abian, Doi	or Spanish Chicano , or Spanis minican, N	origin sh origi	origin?	AR.	6 WH	Person 4 of His No, not of His Yes, Mexican, Yes, Puerto Ric Yes, Cuban Yes, another H Argentinean, C and so on. 2 at is Person 4 White	spanic, Latino, Mexican Am. an ispanic, Latin olombian, Do	or Span , Chicana no, or Sp pominicar	ish origin o snish ori a, <i>Nicar</i> ag	h orig 1 gin - Pr quan, Si	int origin, i sivadoran,	ior examp Spaniard,
Wha	Ne, not of Hispanic Yes, Mexican, Mexic Yes, Puerto Rican Yes, Cuban Yes, another Hispan Argentinean, Colomand so on. 2	can Am., cian Am., nic, Latino nic, Latino nic, Latino nican Dos	or Spanish Chicano , or Spanis ninican, N	origin sh origi	origin?	example of a spaniard,	6 WH	Person 4 of His No, not of His Yes, Mexican, Yes, Puerto Ric Yes, Cuban Yes, another H Argentinean, C and so on. 2 at is Person 4 White Black, African	spanic, Latino, Mexican Am. an ispanic, Latin olombian, Do 's race? Ma	or Span , Chicane , Chicane , or Spominicar ark (X) o	ish origin o anish ori o, <i>Nicara</i>	h orig n gin - Pr quan, Si nore bo	int origin, i alvadoran, exes.	
Vha	Ne, not of Hispanic Yes, Mexican, Mexic Yes, Puerto Rican Yes, Cuban Yes, another Hispan Argentinean, Colora and so on. To art is Person 3's ra White	can Am., cian Am., nic, Latino nic, Latino nic, Latino nican Dos	or Spanish Chicano , or Spanis ninican, N	origin sh origi	origin?	example of a spaniard,	6 WH	Person 4 of His No, not of His Yes, Mexican, Yes, Puerto Ric Yes, Cuban Yes, another H Argentinean, C and so on. 2 at is Person 4 White	spanic, Latino, Mexican Am. an ispanic, Latin olombian, Do 's race? Ma	or Span , Chicane , Chicane , or Spominicar ark (X) o	ish origin o anish ori o, <i>Nicara</i>	h orig n gin - Pr quan, Si nore bo	int origin, i alvadoran, exes.	
Wha	Ne, not of Hispanic Yes, Mexican, Mexic Yes, Puerto Rican Yes, Cuban Yes, another Hispan Argentinean, Colomand so on. 2	can Am., cian Am., nic, Latino nic, Latino nic, Latino nican Dos	or Spanish Chicano , or Spanis ninican, N	origin sh origi licaragu	n - Print eran, Salva	example of a spaniard,	6 WH	Person 4 of His No, not of His Yes, Mexican, Yes, Puerto Ric Yes, Cuban Yes, another H Argentinean, C and so on. 2 at is Person 4 White Black, African	spanic, Latino, Mexican Am. an ispanic, Latin olombian, Do 's race? Ma	or Span , Chicano , or Sponinicar ark (X) o	ish origin one or m	h origin - Pr gin - Pr guan, Si nore bo	int origin, i alvadoran, exes.	orincipal ti
Vha	Ne, not of Hispanic Yes, Mexican, Mexic Yes, Puerto Rican Yes, another Hispan Argentinean, Colora and so on. p	can Am., cian Am., nic, Latino nic, Latino nic, Latino nican Dos	or Spanish Chicano , or Spanis minican, N	ah origin	n - Print of an, Salvavan,	example paniard,	6 Wh	Yes, Mexican, Yes, Puerto Ric Yes, Cuban Yes, another Hargentinean, Cand so on. 2 at is Person 4 White Black, African American India	spanic, Latino, Mexican Am. an ispanic, Latin olombian, Do 's race? Ma	or Span , Chicano , Chicano , or Spominicar ark (X) o Native —	ish origin anish origin, Nicarag one or m	gin - Pr guan, Si nore bo	int origin, i alvadoran, exes. nrolled or j	orincipal ti alian
Vha	No, not of Hispanic Yes, Mexican, Mexic Yes, Puerto Rican Yes, Cuban Yes, another Hispan Argentinean, Colorn and so on. P at is Person 3's ra White Black, African Am., American Indian or	can Am., cian Am., nic, Latino nic, Latino nic, Latino nican Dos	or Spanish Chicano , or Spanis minican, N rk (X) one stive — Pro Japanes Korean	ah origin	n - Print of an, Salvavan,	ed or principal to	6 White g	Yes, Mexican, Yes, Puerto Ric Yes, Cuban Yes, Cuban Yes, another H Argentinean, C and so on. p at is Person 4 White Black, African American India	spanic, Latino, Mexican Am. san spanic, Latino spanic, Latin colombian, Do spanic, Latin spanic, Latin colombian, Do spanic, Latin spanic, Latin colombian, Do spanic, Latin	or Span , Chicano , Chicano , or Sponinicar ark (X) of Native —	ish origin anish origin, Nicarag one or m	gin Pr quan, Si me of e	int origin, i alvadoran, exes. nrolled or p	orincipal ti alian
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Vha	Ne, not of Hispanic Yes, Mexican, Mexic Yes, Puerto Rican Yes, Cuban Yes, another Hispan Argentinean, Colora and so on. White Black, African Am., American Indian or Asian Indian Chinese Filipino Other Asian – Print for example, Hmon Laotian, Thai, Pakis Cambodian, and so	can Am., can Am	or Spanish Chicano , or Spanish minican, N rk (X) one ative — Pr. Japanet Korean Vietnam	ah origin sh origin licaragu	n - Print man, Salvatan, Salvatan, Salvatan, Salvatan, Salvatan, Samoi Guaman, Samoi Diher Print n Fijian,	ed or principal to the Hawaiian anian or Chamo an Pacific Islander ace, for exampl Tongan, and	6 With	Person 4 of His No, not of His Yes, Mexican, Yes, Puerto Ric Yes, Cuban Yes, another H Argentinean, C and so on. 2 at is Person 4 White Black, African American India Asian Indian Chinese Filipino Other Asian - for example, it Lactian, That, Cambodian, at	spanic, Latino, Mexican Am. an ispanic, Latino, Mexican Am. an ispanic, Latino olombian, Do 's race? Mi Am., or Negro on or Alaska N	or Span , Chicano , Chicano , or Sponinicar ark (X) of Native — Japa Kore Vietr	ish origin anish origin, Nicaraç one or m Print na	gin Pr guen, Si me of e	int origin, i alvadoran, exes. nrolled or p lative Haw suamanlan ismoan trint race, f rijian, Tong	orincipal to
Vha	Ne, not of Hispanic Yes, Mexican, Mexic Yes, Puerto Rican Yes, Cuban Yes, another Hispan Argentinean, Colora and so on. p at is Person 3's ra White Black, African Am., American Indian or Asian Indian Chinese Filipino Other Asian – Print for example, Hmons Laotian. Thei. Pakis	can Am., can Am	or Spanish Chicano , or Spanish minican, N rk (X) one ative — Pr. Japanet Korean Vietnam	ah origin sh origin licaragu	n - Print man, Salvatan, Salvatan, Salvatan, Salvatan, Salvatan, Samoi Guaman, Samoi Diher Print n Fijian,	ed or principal to the Hawaiian anian or Chamo an Pacific Islander ace, for exampl Tongan, and	6 Wh	Person 4 of His No, not of His Yes, Mexican, Yes, Puerto Ric Yes, Cuban Yes, Cuban Yes, another H Argentinean, C and so on. p at is Person 4 White Black, African American India Chinese Filipino Other Asian — for example, H Lactian, The L	spanic, Latino, Mexican Am. an ispanic, Latino, Mexican Am. an ispanic, Latino olombian, Do 's race? Mi Am., or Negro on or Alaska N	or Span , Chicano , Chicano , or Sponinicar ark (X) of Native — Japa Kore Vietr	ish origin anish origin, Nicaraç one or m Print na	gin Pr guen, Si me of e	int origin, i alvadoran, exes. nrolled or p lative Haw suamanlan ismoan trint race, f rijian, Tong	orincipal to

		son 5			es for Person 6 through Person 12.
	at is Person 5's name? Name (Please print)	First Na	me MI	We may call you for more infor	mation about them. 7
Mat	Name (Fibase print)	First (Va	ing Wil	Person 6	
				Last Name (Please print)	First Name N
lov	w is this person related to Pe	rson 17 M	ark (X) ONE box.		
	Husband or wife		Son-in-law or daughter-in-law		
5	Biological son or daughter		Other relative		
	Adopted son or daughter		Roomer or boarder	Sex Male Female	Age (in years)
	Stepson or stepdaughter		Housemate or roommate	The state of the s	
5	Brother or sister		Unmarried pertner	Person 7	
=	Father or mother		Foster child	Lest Name (Please print)	First Name N
5	Grandchild	ñ	Other nonrelative	13	107
5	Parent-in-law		Other homelative	100	
=					
-	at is Person 5's sex? Mark (X)	ONE box.		Sex Male Fermie	Age (in years)
	Male Female			Person 8	A STATE OF THE PARTY OF THE PAR
	at is Person 5's age and wha			Last Name (Pleasy prior)	First Name N
lea	ase report babies as age 0 when Print numb				
ne	(in years) Month Da		of birth		
## -					
				Sex Male Female	and the same of th
NO	OTE: Please answer BOTH Qu	estion 5 al	bout Hispanic origin and	Sex Male Female	Age (in years)
Qu	uestion 6 about race. For this	survey, His	panic origins are not races.	Person 9	
B P	erson 5 of Hispanic, Latino,	or Spanisl	origin?		
				Last Name (Please Drint)	First Name N
	No, not of Hispanic, Latino, or Sp	anish origin	0 (List Name (Please print)	First Name
	No, not of Hispanic, Latino, or Sp Yes, Mexican, Mexican Am., Chic		0 (Cast Name (Please print)	First Name
	Charles and the second second		0 (Last Name (Please print)	First Name
	Yes, Mexican, Mexican Am., Chic		0 (
	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban	ano		Sex Male Female	Age (in years)
	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban Yes, another Hispanic, Latino, or Argentinean, Colombian, Dominia	ano			
	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban	ano		Sex Male Female	
	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban Yes, another Hispanic, Latino, or Argentinean, Colombian, Dominia	ano		Sex Male Female	Age (in years)
	Yes, Mexican, Mexican Am., Chloryes, Puerto Rican Yes, Cuban Yes, another Hispanic, Latino, or Argentinean, Colombian, Dominicand so on.	ano Spanish orig can, Nicarag	in – Print optim los example, uan, Selvadosa, Spaniard,	Sex Male Female	Age (in years)
	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban Yes, another Hispanic, Latino, or: Argentinean, Colombian, Dominic and so on. 2	ano Spanish orig can, Nicarag	in – Print optim los example, uan, Selvadosa, Spaniard,	Sex Male Female	Age (in years)
)ha	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban Yes, another Hispanic, Latino, or Argentinean, Colombian, Dominic and so on. 2	ano Spanish orig can, Nicarag	in – Print optim los example, uan, Selvadosa, Spaniard,	Sex Male Female	Age (in years)
	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban Yes, another Hispanic, Latino, or Argentinean, Colombian, Dominic and so on. 2	Spanish original spanish original spanish original spanish original spanish sp	in - Print organ los example, uan, Salvad cun, Speniard, pre-poxes.	Sex Male Female Person 10 Last Name (Please print) Sex Male Female	Age (in years)
	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban Yes, another Hispanic, Latino, or Argentinean, Colombian, Dominic and so on. 2	Spanish original spanish original spanish original spanish original spanish sp	in - Print organ los example, uan, Salvad cun, Speniard, pre-poxes.	Sex	Age (in years) First Name Age (in years)
	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban Yes, another Hispanic, Latino, or Argentinean, Colombian, Dominic and so on. 2	Spanish original spanish original spanish original spanish original spanish sp	in - Print organ los example, uan, Salvad cun, Speniard, pre-poxes.	Sex Male Female Person 10 Last Name (Please print) Sex Male Female	Age (in years)
	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban Yes, another Hispanic, Latino, or Argentinean, Colombian, Dominic and so on. 7	Spanish original can, Nicarag	in – Print organ los example, uan, Salvadocan, Spaniard, openiard,	Sex	Age (in years) First Name Age (in years)
	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban Yes, another Hispanic, Latino, or Argentinean, Colombian, Dominic and so on. 7 at is Person 5's race? Mark (X White Black, African Am., or Negro American Indian or Alaska Native	Spanish original can, Nicarag	in - Print or print or parample, uan, Selvad exa, Spaniard, openiard, openia	Sex	Age (in years) First Name Age (in years)
	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban Yes, another Hispanic, Latino, or Argentinean, Colombian, Dominic and so on. 7 at is Person 5's race? Mark (Xillian Mexican Indian or Alaska Native Asian Indian	Spanish original can, Nicarag	in - Print organ los example, uan, Selvad exa, Spaniard,	Sex	Age (in years) First Name Age (in years)
	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban Yes, Cuban Yes, another Hispanic, Latino, or Argentinean, Colombian, Dominicand so on. 7 at is Person 5's race? Mark (X White Black, African Am., or Negro American Indian	Spanish original can, Nicarag	in - Print organ to example, user, Selvad exer, Spaniard, pro-boxes. Native Hawalian Guamanian or Chamorro Samoan	Sex	Age (in years) First Name Age (in years)
	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban Yes, another Hispanic, Latino, or Argentinean, Colombian, Dominic and so on. 7 at is Person 5's race? Mark (X White Black, African Am., or Negro American Indian or Alaska Native Asian Indian Js Chinese Ko Filipino Vi Other Asian – Print race,	Spanish original can, Nicarag	in - Print or principal tribe. produces. Native Hawalian Guamanian or Chamoro Samoan Other Pacific Islander	Sex	Age (in years) First Name Age (in years)
	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban Yes, another Hispanic, Latino, or Argentinean, Colombian, Dominic and so on. 7 at is Person 5's race? Mark (X White Black, African Am., or Negro American Indian or Alaska Native Asian Indian Js Chinese Ko Filipino Vi Other Asian – Print race, for example, Hmong, Laotien, Thei, Pakistani.	Spanish original can, Nicarag	in - Print open to example, user, Selvad con, Spaniard, December of enrolled or principal tribe; Native Hawaiian Guamanian or Chamorro Samoan Other Pacific Islander Print race, for example, Fijlan, Tongan, and	Sex	Age (in years) First Name Age (in years) First Name Age (in years)
	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban Yes, Cuban Yes, another Hispanic, Latino, or Argentinean, Colombian, Dominic and so on. 7 at is Person 5's race? Mark (X White Black, African Am., or Negro American Indian or Alaska Native Asian Indian	Spanish original can, Nicarag	in - Print organ los example, uan, Salvadora, Speniard, pra doxes. Native Hawaiian Guamanian or Chamorro Samoan Other Pacific Islander Print race, for example,	Sex	Age (in years) First Name Age (in years)
	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban Yes, another Hispanic, Latino, or Argentinean, Colombian, Dominic and so on. 7 at is Person 5's race? Mark (X White Black, African Am., or Negro American Indian or Alaska Native Asian Indian Js Chinese Ko Filipino Vi Other Asian – Print race, for example, Hmong, Laotien, Thei, Pakistani.	Spanish original can, Nicarag	in - Print open to example, user, Selvad con, Spaniard, December of enrolled or principal tribe; Native Hawaiian Guamanian or Chamorro Samoan Other Pacific Islander Print race, for example, Fijlan, Tongan, and	Sex	Age (in years) First Name Age (in years) First Name Age (in years)
	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban Yes, another Hispanic, Latino, or Argentinean, Colombian, Dominic and so on. at is Person 5's race? Mark (X) White Black, African Am., or Negro American Indian or Alaska Native Asian Indian Js Chinese Kr Filipino Vi Other Asian – Print race, for example, Himong, Laotian, Thai, Pakistani, Cambodian, and so on.	Spanish original can, Nicarag	in - Print open to example, user, Selvad con, Spaniard, December of enrolled or principal tribe; Native Hawaiian Guamanian or Chamorro Samoan Other Pacific Islander Print race, for example, Fijlan, Tongan, and	Sex	Age (in years) First Name Age (in years) First Name Age (in years)
	Yes, Mexican, Mexican Am., Chic Yes, Puerto Rican Yes, Cuban Yes, another Hispanic, Latino, or Argentinean, Colombian, Dominic and so on. 7 at is Person 5's race? Mark (X White Black, African Am., or Negro American Indian or Alaska Native Asian Indian Js Chinese Ko Filipino Vi Other Asian – Print race, for example, Hmong, Laotien, Thei, Pakistani.	Spanish original can, Nicarag	in - Print open to example, user, Selvad con, Spaniard, December of enrolled or principal tribe; Native Hawaiian Guamanian or Chamorro Samoan Other Pacific Islander Print race, for example, Fijlan, Tongan, and	Sex	Age (in years) First Name Age (in years) First Name Age (in years)

Housing

qu	Please answer the following questions about the house,		Answer questions 4 – 6 if this is a HOUSE OR A MOBILE HOME; otherwise, SKIP to	9	Does this house, apartment, one have –		
	artment, or mobile home at the dress on the mailing label.		question 7a.		. hot and cold running water?	Yes	No
Ť					a flush toilet?		
In	hich best describes this building? clude all apartments, flats, etc., even if	0	How many acres is this house or mobile home on?	1 000	a bathtub or shower?		Ė
	cant.		☐ Less than 1 acre → SKIP to question 6	d	l, a sink with a faucet?		
		-41	☐ 1 to 9.9 acres	е	a stove or range?		
	A one-family house detached from any other house		☐ 10 or more acres	f	a refrigerator?		
				n	telephone service from	-	k
	more houses A building with 2 apartments	6	IN THE PAST 12 MONTHS, what	7	which you can both make and receive calls? Include		-
E	The latter than the state of the latter than the state of	T	were the actual sales of all agricultural		cell phones.		
Ē	A THE PARTY OF THE		products from this property?	1			
Ē	The property of the State of th	- 18	□ None	9 H	low many automobiles, vans	and tr	uck
	A STATE OF THE PARTY OF THE PAR		□ \$1 to \$999	O	of one-ton capacity or less are	kept a	it
	Mary and the Agent of State of		\$1,000 to \$2,499		ousehold?		
			\$2,500 to \$4,999	10	None		
		1/4	\$5,000 to \$9,999		1		
			□ \$10,000 or mo(1	7 2		
Ą.	out when was this building first built?				3		
	1990 to 1999	-	barber short or a medical office on this property?	3	5 6 or more		
	1980 to 1989	100			Which FUEL is used MOST for		g th
	1970 to 1979	O	a. How many separate rooms are in this	I h	ouse, apartment, or mobile i	iome?	
		-	house, apartment, or mobile home? Rooms must be separated by built-in	1	Gas: from underground pip	es servi	ng ti
	And the Control of th	3	archways or walls that extend out at least	r	neighborhood		
	A substitute of the last of th		6 inches and go from floor to ceiling.		Gas: bottled, tank, or LP Electricity		
	1939 or earlier		INCLUDE bedrooms, kitchens, etc.		Secretary of the last of the l		
		- 110	 EXCLUDE bathrooms, porches, balconies, fovers, halls, or unfinished basements. 		Fuel oil, kerosene, etc. Coal or coke		
	#4 DEDGON 4 (Wassel		Number of rooms		Wood		
	nen did PERSON 1 (listed on page 2) ove into this house, apartment, or		Number of rooms		Solar energy		
	obile home?				Other fuel		
٩c	nth Year		L II		No fuel used		
	7 1 1 1 1 - 1 - 2 - 1	į	b. How many of these rooms are bedrooms? Count as bedrooms those rooms you would list if this house, apartment, or mobile home were for sale or rent. If this is an efficiency/studio apartment, print "0".				
			Number of bedrooms				

ST MONTH, what was the cost electricity for this house, artment, or mobile home? st month's cost — Dollars	12 IN THE PAST 12 MONTHS, did anyone in this household receive Food Stamps or a Food Stamp benefit card? Include government benefits from the Supplemental Nutrition Assistance Program (SNAP). Do NOT include WIC or the National School Lunch Program.	C Answer questions 16 – 20 if you or someone else in this household OWNS or IS BUYING this house, apartment, or mobile home. Otherwise, SKIP to E on the next page.
OR	☐ Yes	
Included in rent or condominium fee	□ No	About how much do you think this
No charge or electricity not used		house and lot, apartment, or mobile home (and lot, if owned) would sell for
AST MONTH, what was the cost gas for this house, apartment, mobile home? st month's cost – Dollars	Is this house, apartment, or mobile home part of a condominium? ☐ Yes → What is the monthly condominium fee? For renters, answer only if you pay the condominium fee in addition to	If it were for sale? Amount - Dollars
	your rent; otherwise, mark the "None" box.	What are the annual real estate taxes or
OR Included in rent or condominium fee	Monthly amount - Dollars	THIS property?
included in rent or condominium ree	8 00	Annual amount - Dollars
entered above	3 .00	s .oc
No charge or gas not used	OR None	OR
use, apartment, or mobile home? If u have lived here less than 12 months, limate the cost. st 12 months' cost – Dollars	14 Is this house, apartment, or mobile home Mark (X) ONE to Owned to you or someone in this house boy with a mortgage or	What is the annual payment for fire, hazard, and flood insurance on THIS property?
.00.	household with a mortgage or long moude home equity loans.	Annual amount - Dollars
	When the by you or compone in this	
OR	Tourehold free and clear (without a	\$.00
Included in rent or condominium fee	household free and clear (without a mortgage or loan)?	
The state of the s	Rented? Occupied without payment of	OR
Included in rent or condominium fee No charge THE PAST 12 MONTHS, what was the st of oil, coal, kerosene, wood, etc., or this house, apartment, or mobile me? If you have lived here less than 12 onths, estimate the cost.	fourehold free and clear (without a mortgage or loan)? Rented?	
Included in rent or condominium fee No charge THE PAST 12 MONTHS, what was the st of oil, coal, kerosene, wood, etc., or this house, apartment, or mobile me? If you have lived here less than 12 onths, estimate the cost. st 12 months' cost – Dollars	B Answer questions 15a and b if this house, apartment, or mobile home is RENTED. Otherwise, SKIP to question 16.	OR
Included in rent or condominium fee No charge THE PAST 12 MONTHS, what was the st of oil, coal, kerosene, wood, etc., or this house, apartment, or mobile me? If you have lived here less than 12 onths, estimate the cost. Ist 12 months' cost – Dollars OR	Rented? ☐ Occupied without payment of rent? → SKIP to C B Answer questions 15a and b if this house, apartment, or mobile home is RENTED. Otherwise, SKIP to question 16.	OR
Included in rent or condominium fee No charge THE PAST 12 MONTHS, what was the st of oil, coal, kerosene, wood, etc., or this house, apartment, or mobile me? If you have lived here less than 12 onths, estimate the cost. Inst 12 months' cost – Dollars OR Included in rent or condominium fee	Rented? ☐ Occupied without payment of rent? → SKIP to C B Answer questions 15a and b if this house, apartment, or mobile home is RENTED. Otherwise, SKIP to question 16. 15 a. What is the monthly rent for this house, apartment, or mobile home?	OR
Included in rent or condominium fee No charge THE PAST 12 MONTHS, what was the st of oil, coal, kerosene, wood, etc., or this house, apartment, or mobile me? If you have lived here less than 12 onths, estimate the cost. Ist 12 months' cost – Dollars OR Included in rent or condominium fee	B Answer questions 15a and b if this house, apartment, or mobile home is RENTED. Otherwise, SKIP to question 16. B a. What is the monthly rent for this house, apartment, or mobile home? Monthly amount - Dollars	OR
Included in rent or condominium fee No charge THE PAST 12 MONTHS, what was the set of oil, coal, kerosene, wood, etc., or this house, apartment, or mobile ome? If you have lived here less than 12 conths, estimate the cost. Inst 12 months' cost – Dollars OR Included in rent or condominium fee	B Answer questions 15a and b if this house, apartment, or mobile home is RENTED. Otherwise, SKIP to question 16. B a. What is the monthly rent for this house, apartment, or mobile home? Monthly amount - Dollars b. Does the monthly rent include any	OR

a. Do you or any member of this household have a mortgage, deed of trust, contract to purchase, or similar debt on THIS property?	a. Do you or any member of this household have a second mortgage or a home equity loan on THIS property?	Answer questions about PERSON 1 on the next page if you listed at least one person on page 2. Otherwise, SKIP to page 28 for the mailing instructions.
Yes, mortgage, deed of trust, or similar debt Yes, contract to purchase No → SKIP to question 20a	Yes, home equity loan Yes, second mortgage Yes, second mortgage and home equity loan No → SKIP to D	
b. How much is the regular monthly mortgage payment only on FIRST mortgage or contract to purchase. Monthly amount - Dollars OR No regular payment required → SKIP to question 20a c. Does the regular monthly mortgage payment include payments for real estate taxes on THIS property? Yes, taxes included in mortgage payment No, taxes paid separately or taxes not required d. Does the regular monthly mortgage payment include payments for fire, hazard, or flood insurance on THIS property? Yes, insurance included in mortgage payment No, insurance paid separately or for insurance	b. How much is the regular monthly payment on all second or junior mortgages and all home equity loans on THIS property? Monthly amount Dollars OR No regular payment required	

Person 1	A 100 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	
Please copy the name of Person 1 from page 2, then continue answering questions below. Last Name	What is the highest degree or level of school this person has COMPLETED? Mark (X) ONE box. If currently enrolled mark the previous grade or highest degree received. NO SCHOOLING COMPLETED No schooling completed	What is this person's ancestry or ethnic origin? (For example: Italian, Jamaican, African Am., Cambodian, Cape Verdean, Norweglan, Dominican,
First Name MI	NURSERY OR PRESCHOOL THROUGH GRADE 12 Nursery school	French Canadian, Haitian, Korean, Lebanese, Polish, Nigerian, Mexican, Talwanese, Ukrainian, and so on.
	☐ Kindergarten ☐ Grade 1 through 11 Specify	a. Does this person speak a language other than English at home?
Where was this person born? In the United States - Print name of state.	grade 1 – 11	☐ Yes ☐ No → SKIP to question 15a
Outside the United States - Print name of	12th grade NO DIPLOMA	b. What is this language?
foreign country, or Puerto Rico, Guarn, etc.	HIGH SCHOOL GRADUATE Regular high school diploma	For example: Korean, Italian, Spanish, Vietnamese
	GED or alternative credential	c. How well does this person speak English?
Is this person a citizen of the United States?	COLLEGE OR SOME COLLEGE Some college credit, but less than 1 year of	☐ Very well
Yes, born in the United States → SKIP to 10a Yes, born in Puerto Rico, Guam, the	college credit	☐ Well
U.S. Virgin Islands, or Northern Marianas	1 or more years of college credit, no legren Associate's degree (for example: AA, AS)	Not well
Yes, born abroad of U.S. citizen parent or parents	Bachelor's degree (for example: AA, AS)	Not at all
Yes, U.S. citizen by naturalization – Print year of naturalization	AFTER BACHELOR'S DEGREE	a. Did this person live in this house or apartmen 1 year ago?
	MEd, MSW, MBA	Person is under 1 year old → SKIP to
No, not a U.S. citizen	Professional depression a bachelor's degree (for example 10, 00, DVM, LLB, JD)	question 16 ☐ Yes, this house → SKIP to question 16
When did this person come to live in the United States? Print numbers in boxes. Year	□ Doctorate degree (for example: PhD, EdD)	No, outside the United States and Puerto Rico - Print name of foreign country or U.S. Virgin Islands, Guarn, etc., below; then SkiP to question 16
	Assure question 12 if this person has a	
a. At any time IN THE LAST 3 MONTHS, has this person attended school or college? Include only nursery or preschool, kindergarten.	SK) to question 13.	No, different house in the United States or Puerto Rico
only nursery or preschool, kindergarten, elementary school, home school, and schooling which leads to a high school diploma or a collect	*	b. Where did this person live 1 year ago?
degree. No, has not attended in the last 3 months → SKIP to question 11	This question focuses on this person's BACHELOR'S DEGREE. Please print below the specific major(s) of any BACHELOR'S DEGREES	Address (Number and street name)
Yes, public school, public college	this person has received. (For example: chemical engineering, elementary teacher education,	
Yes, private school, private college, home school	organizational psychology)	Name of city, town, or post office
 What grade or level was this person attending Mark (X) ONE box. 		
Nursery school, preschool		Name of U.S. county or municipie in
Kindergarten		Puerto Rico
Grade 1 through 12 - Specify grade 1 - 12		
		Name of U.S. state or Puerto Rico ZIP Code
College undergraduate years (freshman to senior)		
Graduate or professional school beyond a bachelor's degree (for example: MA or PhD program, or medical or law school)		

Person 1 (continue is this person CURRENTLY covered if following types of health insurance coverage plans? Mark "Yes" or "No" for of coverage in Items a – h.	y any or he	of the	100	Answer question 19 if this person is 15 years old or over. Otherwise, SKIP to the questions for Person 2 on page 12. C. How long has this grandparent been responsible for the(se) grandchild(ren)? If the grandparent is financially responsible for more than one grandchild, answer the question for the grandchild for whom the grandparent has been responsible for the longest period of time.
	Yes	No	Ψ	Because of a physical, mental, or emotional condition, does this person have difficulty
Insurance through a current or former employer or union (of this person or another family member)				doing errands alone such as visiting a doctor's 6 to 11 months office or shopping?
b. Insurance purchased directly from				☐ Voc
an insurance company (by this person or another family member)				No.
c. Medicare, for people 65 and older,			1	What is this person's marital status?
or people with certain disabilities			۳	Has this person ever served on active duty in the U.S. Armed Forces, military Reserves, or Nation
d. Medicald, Medical Assistance, or any kind of government assistance	-	-		Guard? Active duty does not include training for the Widowed Reserves or National Guard, but DOES include
plan for those with low incomes or a disability				Divorced activation, for example, for the Persian Gulf War.
e. TRICARE or other military health care				☐ Separated ☐ Yes, now on active duty
. VA (including those who have ever used or enrolled for VA health care)	1		1	Never married → SKIP to 1 Yes, on active duty during the last 12 months, but not now
THE RESERVE TO SERVE THE PARTY OF THE PARTY			1	In the PAST 12 MONTHS did this person get Yes, on active duty in the past, but not
, Indian Health Service	Ш		T	Yes No during the last 12 months' No, training for Reserves or National Guard
h. Any other type of health insurance or health coverage plan - Specify -				a. Warrieur □ □ only → SKIP to question 28a
-		-		b. Widowed? □ □ No, never served in the military → SKIP to question 29a
No b. Is this person blind or does he/she serious difficulty seeing even whe glasses? Yes No Answer question 18a - c if this personal years old or over. Otherwise, SKIF the questions for Person 2 on page	on is	aring	(B)	Three or more times In what year the this person last get married? Year Year May 1975 to August 1980 Vietnam era (August 1964 to April 1975) March 1961 to July 1964 February 1955 to February 1961 Korean War (July 1950 to January 1955) SKIP to question 25a. August 1990 to August 2001 (including Persian Gulf War) May 1975 to August 1980 Vietnam era (August 1964 to April 1975) March 1961 to July 1964 February 1955 to February 1961 Korean War (July 1950 to January 1955) January 1947 to June 1950 World War II (December 1941 to December 1941)
a. Because of a physical, mental, or a condition, does this person have a difficulty concentrating, remember making decisions? Yes No b. Does this person have serious difficulting or climbing stairs? Yes No	eriou: oring,	e or	3	Has this person given birth to any children in the past 12 months? □ Yes □ No a. Does this person have any of his/her own grandchildren under the age of 18 living in this house or apartment? □ Yas □ No → SKIP to question 26 b. Is this grandparent currently responsible for most of the basic needs of any grandchild(ren) □ No results person have a VA service-connected disability rating? □ Yes (such as 0%, 10%, 20%,, 100%) □ No results person have a VA service-connected disability rating? □ Ves (such as 0%, 10%, 20%,, 100%) □ No results person have a VA service-connected disability rating? □ Opercent □ 10 or 20 percent
c. Does this person have difficulty dibathing? Yes No	ressin	g or		under the age of 18 who live(s) in this house or apertment? □ Yes □ No → SKIP to question 26 □ 30 or 40 percent □ 50 or 60 percent □ 70 percent or higher

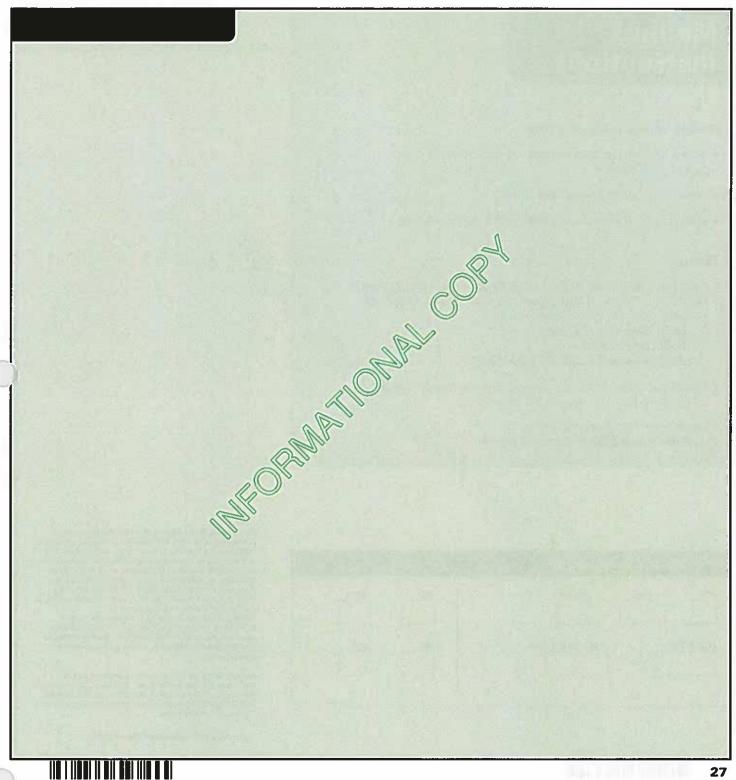
	13190103
Person 1 (continued)	Answer question 32 if you marked "Car, During the LAST 4 WEEKS, has this person been ACTIVELY looking for work?
a. LAST WEEK, did this person work for pay at a job (or business)?	SKIP to question 33.
Yes → SKIP to question 30 No – Did not work (or retired)	32 How many people, including this person,
b. LAST WEEK, did this person do ANY work for pay, even for as little as one hour?	usually rode to work in the car, truck, or van LAST WEEK, could this person have started a job if offered one, or returned to work if recalled?
☐ Yes ☐ No → SKiP to question 35a	Yes, could have gone to work No, because of own temporary illness
At what location did this person work LAST WEEK? If this person worked at more than one	What time did this person usually leave home to go to work LAST WEEK?
location, print where he or she worked most last week.	Hour Minute a.m. When did this person last work, even for a few days?
a. Address (Number and street name)	p.m. Within the past 12 months 1 to 5 years ago → SKIP to L
If the exact address is not known, give a description of the location such as the building	How many minutes did it usually take this person to get from home to work LAST WELK? Question 47
name or the nearest street or intersection. b. Name of city, town, or post office	Minutes 39 a. During the PAST 12 MONTHS (52 weeks), did this person work 50 or more weeks? Count paid time off as work.
	Yes → SKIP to question 40
c. Is the work location inside the limits of that city or town? Yes	K Answer questions 35 3 the person did NOT work last work therwise, SKIP to question 39a. b. How many weeks DID this person work, even for a few hours, including paid vacation, paid sick leave, and military service?
No, outside the city/town limits d. Name of county	a. LAST WEEK, was this person on layoff from a job?
	SKIP to question 35c
e. Name of U.S. state or foreign country	No 27 to 39 weeks 14 to 26 weeks 13 weeks or less
f. ZIP Code	absent from a job or business?
	Yes, on vacation, temporary illness, maternity leave, other family/personal reasons, bad weather, etc. → SKIP to question 38 During the PAST 12 MONTHS, in the WEEKS WORKED, how many hours did this person usually work each WEEK?
How did this person usually get to work LAST	□ No → SKIP to question 36 Usual hours worked each WEEK
WEEK? If this person usually used more than one method of transportation during the trip, mark (X) the box of the one used for most of the distance.	c. Has this person been informed that he or she will be recalled to work within the next 6 months OR been given a date to return to
Car, truck, or van Motorcycle Bus or trolley bus Bicycle	work? ☐ Yes → SKIP to question 37
Streetcar or trolley car Walked	□ No
Subway or elevated Worked at home → SKIP	
Ferryboat Cother method	
L Taxicab	
(A CHARLE MATERIAL CONTRACTOR	
10	

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	Person 1 (continued)		
4	nswer questions 41 46 if this person vorked in the past 5 years. Otherwise, KIP to question 47.	45 What kind of work was this person doing? (For example: registered nurse, personnel manager, supervisor of order department, secretary, accountant)	No TOTAL AMOUNT for past
4 A July	1 - 46 CURRENT OR MOST RECENT JOB CTIVITY. Describe clearly this person's chief bb activity or business last week. If this person ad more than one job, describe the one at thich this person worked the most hours. If this erson had no job or business last week, give information for histher last job or business.	What were this person's most important activities or duties? (For example: patient care, directing hring policies, supervising order cierks, typing and filing, reconciling financial records)	12 months pplemental Security Income (SSI). Yes → S 000
	ias this person – Iark (X) ONE box.	f. An fro	y public assistance or welfare payments in the state or local welfare office.
	an employee of a PRIVATE FOR-PROFIT company or business, or of an individual, for wages, salary, or commissions? an employee of a PRIVATE NOT-FOR-PROFIT,	Mark (X) the "Yes" box for each type of income this person received, and give your best estimate of the TOTAL AMOUNT during the PAST 12 MONTHS. (NOTE: The "past 12 months" is the period from today's date one year ago up through today.)	No TOTAL AMOUNT for past
li	tax-exempt, or charitable organization? a local GOVERNMENT employee (city, county, etc.)?	Mark (X) the "No" box to show types of income NOT received.	12 months tirement, survivor, or disability pensions. NOT include Social Security.
	a state GOVERNMENT employee? a Federal GOVERNMENT employee? SELF-EMPLOYED in own NOT INCORPORATE!	If net income was a loss, mark the "Loss" the right of the dollar amount.	Yes → \$.00
F	 SELF-EMPLOYED in own NOT INCORPORATED business, professional practice, or farm? SELF-EMPLOYED in own INCORPORATED business, professional practice, or farm? 	share for each person - or, if the second possible, report the whole amount to the person and mark the "No" box for the other person.	TOTAL AMOUNT for past 12 months
I	working WITHOUT PAY in family business or farm?	a. Wages, salary commissions, bonuses, reg or tips from altipos. Report amount before und deductions for taxes, bonds, dues, or other items.	y other sources of income received gularly such as Veterans' (VA) payments, employment compensation, child support alimony. Do NOT include lump sum payments
h	or whom did this person work? I now on active duty in the Armed Forces, mark (X) this box → Indicate the branch of the Armed Forces.		ch as money from an inheritance or the sale of a me. Yes → \$
	ame of company, business, or other employer	12 months	No TOTAL AMOUNT for past 12 months
	that kind of business or industry was this? escribe the activity at the location where employed. For example: hospital, newspaper publishing, mail rider house, auto engine manufacturing, bank)	businesses or farm businesses, including proprietorships and partnerships. Report NET income after business expenses. □ Yes → 5 □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	was this person's total income during the "12 MONTHS? Add entries in questions 47a; subtract any losses. If net income was a loss, the amount and mark (X) the "Loss" box next to illar amount.
	this mainly – Mark (X) ONE box.	c. Interest, dividends, net rental income, royalty income, or income from estates and trusts. Report even small amounts credited to an account.	TOTAL AMOUNT for past 12 months
(wholesale trade? retail trade? other (agriculture, construction, service,	Yes → S 00 No TOTAL AMOUNT for past 12 months	
	government, etc.}?	Conti	inue with the questions for Person 2 on the page. If only 1 person is listed on page 2, to page 28 for mailing instructions.

Person 2

The balance of the questionnaire has questions for Person 2, Person 3, Person 4, and Person 5. The questions are the same as the questions for Person 1.



Mailing Instructions

Please make sure you have...

- listed all names and answered the questions on pages 2, 3, and 4
- answered all Housing questions
- answered all Person questions for each person.

Jeffersonville, IN 47199-5240

• make sure the barcode above your address shows in the window of the return envelope.

Thank you for participating in the American Community Survey

For Census Bureau Use						
POP EDIT	PHONE	JIC1	JIC2			
EDIT CLERK	TELEPHONE CLERK	JIC3	JIC4			

The Census Bureau estimates that, for the average household, this form will take 38 minutes to complete, including the time for reviewing the instructions and answers. Send comments regarding this burden estimate or any other aspect of this collection of information. including suggestions for reducing this burden, to: Paperwork Project 0607-0810, U.S. Census Bureau, 4600 Silver Hill Road, AMSD – 3K138, Washington, D.C. 20233. You may e-mail comments to Paperwork@census.gov; use "Paperwork Projec 0607-0810° as the subject. Please DO NOT RETURN your questionnaire to this address. Use the enclosed preaddressed envelope to return your completed questionnaire,

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

Form ACS-1(INFO)(2010)KFI (05-14-2009)

American Community Survey (ACS)

Why We Ask: Place of Birth, Citizenship and Year of Entry

We ask about place of birth, citizenship, and year of entry to provide statistics about citizens and the foreign-born population. These statistics are essential for agencies and policy makers setting and evaluating immigration policies and laws, understanding how different immigrant groups are assimilated, and monitoring against discrimination.

	is person born? ited States – Print name of state.	8 Is th	nis person a citizen of the United States? Yes, born in the United States → SKIP to question 10a
			Yes, born in Puerto Rico, Guam, the U.S. Virgin Islands, or Northern Marianas
	ne United States - Print name of ountry, or Puerto Rico, Guam, etc.		Yes, born abroad of U.S. citizen parent or parents
- Ioraigi co	anay, a raeno meo, daam, etc.		Yes, U.S. citizen by naturalization – Print year of naturalization
			No, not a U.S. citizen
			en did this person come to live in the ted States? Print numbers in boxes.

The questions as they appear on the 2014 ACS paper questionnaire. A question about "foreigners not naturalized" was first included in the Census of 1820, while a question on place of birth originated in 1850, and a year of entry question originated in 1890. These questions were transferred to the ACS when it replaced the Decennial Census long-form in 2005.

Examples of Federal Uses

- Required in the enforcement responsibilities under the Voting Rights Act's bilingual requirements to determine eligible voting populations for analysis and for presentation in federal litigation.
- Required to enforce against discrimination in education, employment, voting, financial assistance, and housing.
- Used in many reporting and research tasks to investigate whether there are differences for citizens and foreign-born individuals in education, employment, home ownership, health, income and many other areas of interest to policymakers.

Examples of Other Uses

State and local agencies use these statistics to understand the needs of all the groups in their communities over time. Some social, economic, or housing trends may have different impacts for different groups; understanding these changes may highlight future social and economic challenges. Advocacy groups use statistics about specific groups to understand current and future challenges and to advocate for policies that benefit their groups.

Census Bureau Administrative Data Inventory

Data access varies by source and requires approval from data ownders

FRD.Data-Linkag Federal, State,	CONTENSOS ROV	T		
Other Governmental, or Third Party	Agency or Program Type	Deta Provider	Bata Type	Years Available
ederal	CNCS	Corporation for National and Community Service	Alumni(AmeriCorps, VISTA, etc.)	2005-2010-2013
ederal	Department of Commerce	U.S. Patent and Trademark Office*	Patent Applications*	1893-2014
ederal	Department of Commerce Department of Homeland Security	Federal Emergency Management Agency (FEMA)	National Flood Insurance Program	2006 - 2015
ederal	Department of Veteran's Affairs	Department of Veteran's Affairs	US Veteran's Data	2013
ederal	Health and Human Services	Administration for Children and Families (ACF)	Child Care and Development Fund (CCDF)	2004 - 2014
	Health and Human Services	Administration for Children and Families (ACF)	Temparary Assistance for Needy Families (TANF)	2000 - 2014
ederal ederal	Health and Human Services	Center for Medicare and Medicaid Services	Consumer Assessment of Healthcare Providers and Systems	2014
	Health and Human Services	Center for Medicare and Medicaid Services	Medicaid Statistical Information System (MSIS)	fy2000 - fy2016q4
ederal		Center for Medicare and Medicaid Services Center for Medicare and Medicaid Services	Medicare Enrollment Database (EDB)	1999 - 2017
ederal	Health and Human Services			
Federal	Health and Human Services	Health and Human Services (HHS)	National Institute of General Medical Sciences	1990-2017
Federal	Health and Human Services	Indian Health Service (IHS)	Patient Registration	1999 - 2017
Federal	Health and Human Services	National Center for Health Statistics (NCHS)	National Death Index linked to Current Population Survey (CPS)	1973-2011
Federal	Housing and Urban Development	Housing and Urban Development (HUD)	Computerized Homes Underwriting Management System (CHUMS)	2000-2010
Federal	Housing and Urban Development	Housing and Urban Development (HUD)	Federal Housing Authority Integrated Data Base	2010-2016
ederal	Housing and Urban Development	Housing and Urban Development (HUD)	Public Indian Housing Information Center (PIC)	2000 - 2016
ederal	Housing and Urban Development	Housing and Urban Development (HUD)	Tenant Rental Assistance Certification Center (TRACS)	1999 - 2016
ederal	Office of Personnel Management	Office of Personnel Management (OPM)	Central Personnel Data File	1990 - 2015
ederal	Selective Service System	Selective Service System (SSS)	Registration File	1999 - 2017
ederal	Social Security Administration	Social Security Administration (SSA)	Death Master File	2000-2016
Federal	Social Security Administration	Social Security Administration (SSA)	Master Beneficiary Record	2015
Federal	Social Security Administration	Social Security Administration (SSA)	Numident	Cumulative from 1998
Federal	Social Security Administration	Social Security Administration (SSA)	SSA Administrative Records Linked to Current Population Survey (CPS)	1991-2001 - 1991-2013
Federal	Social Security Administration	Social Security Administration (SSA)	SSA Administrative Records Linked to Survey of Income and Program Participation (SIPP)	1984-1996 - 1984-2014w1-3
Federal	Social Security Administration	Social Security Administration (SSA)	Supplemental Security Income	2010 - 2015
ederal	Treasury	Internal Revenue Service (IRS)	Business Master Entity Information	(current)
ederal	Treasury	Internal Revenue Service (IRS)	Form 1040 Returns	ty1969 - ty2016
ederal	Treasury	Internal Revenue Service (IRS)	Form 1040, 1040 Schedules C, C/EZ, SE, E; Form 1040-SS, Form 1040-PR	(current)
ederal	Treasury	Internal Revenue Service (IRS)	Form 1041, 1065	ty2007 - ty2016
ederal	Treasury	Internal Revenue Service (IRS)	Form 1099 Returns (Information Returns)	ty2003 - ty2016
Federal	Treasury	Internal Revenue Service (IRS)	Form 1099-R Returns (Information Returns)	ty1995 - ty2016
Federal	Treasury	Internal Revenue Service (IRS)	Form SS-4 for Employer Identification Number	(current)
ederal	Treasury	Internal Revenue Service (IRS)	Form W-2	ty2005 - ty2016
Federal	Treasury	Internal Revenue Service (IRS)	Forms 1120, 1120F, 1120L, 1120-PC, 1120-RiC, 1120-REIT, 990-R (formerly 990), 990-RZ (formerly 990-EZ), 990-PF, 1120-C (formerly 990-C), 6765, 851, 1096, 990-N	(current)
Federal	Treasury	Internal Revenue Service (IRS)	Forms 941, 941PR, 941SS, 943, 943PR, 944, 944-SP, 944-PR, 944-SS	(current)
ederal	United States Postal Service	USPS	National Change of Address (NCOA)	2010 - 2017
Other	Homeless Management Information	L = flat		Houston, TX 2004 - 2015, Los Angeles, CA
Governmental	System	Localities	Houston, TX, Los Angeles, CA	2004 - 2014
Other Governmental	Puerto Rico	Puerto Rico	Tax Data	ty2008 - ty2010
State	Low Income Energy Assistance	Low Income Energy Assistance Program (LEAP)	co	CO 2009-2010 - 2013-2014

State	Permanent Fund Data	Permanent Fund Data	AK	2015
State	Special Supplemental Nutrition Assistance Program for Women, Infants and Children	Special Supplemental Nutrition Assistance Program for Women, Infants and Children (WIC)	AL, AZ, CO, ID, NV, OR, UT, WA, WI	AL 2014 - 2016, AZ 2014 - 2017, CO 2011 -
				2016, ID 2012 - 2015, NV 2006-2014, OR
				2008 - 2016, UT 2014 - 2016, WA 2004 -
				2016, WI 2015 - 2016
State	Supplemental Nutrition Assistance Program	Supplemental Nutrition Assistance Program (SNAP)	AZ, CO, HI, IL, IN, MD, MI, NY, OR, TX, VA	AZ 2009 - 2015, CO 2012 - 2013, HI 2013 -
				2015, IL 2008 - 2016, IN 2004 - 2016, MD
				2009 - 2015, MI 2010 - 2016, NY 2007 -
				2012, OR 2009 - 2014, TX 2008 - 2009, VA
				2009-2013
State	Supplemental Nutrition Assistance	Supplemental Nutrition Assistance Program and		ID 2010 - 2016, KY 2014 - 2015, MS 2017,
	Program and Temporary Assistance for	Temporary Assistance for Needy Families	ID, KY, MS, ND, NJ, NY, TN, UT	ND 2004 - 2016, NJ 2006 - 2018, NY 2013 -
	Needy Families	(SNAP/TANF)		2016, TN 2004 - 2016, UT 2012 - 2016
State	Temporary Assistance for Needy	Townson, Assistance for Alandy Families (TABLE)	AZ, IN, MD, MI	AZ 2009 - 2015, IN 2004 - 2016, MD 2009 -
	Families	Temporary Assistance for Needy Families (TANF)	AZ, IN, MD, MI	2015, MI 2010 - 2016
State	Temporary Assistance for Needy	Temporary Assistance for Needy Families and Child	WI	WI 2008-2009
	Families and Child Care Services	Care Services (TANF/CCS)	***	
State	Unemployment Insurance	Unemployment Insurance (UI)	All States, DC and PR*	2009 - 2017
Third Party	Third Party	Commercial Real Estate Information (REIS)	Commercial-to-residential zoning changes	2014
Third Party	Third Party	Corelogic	Property Tax, Deeds, MLS, Foreclosures	2005-2016 - 2017
Third Party	Third Party	DAR Partners	Household Member and Telephone Data	2015 - 2017
Third Party	Third Party	Experian	Credit Bureau Header Data	2010 - 2011
Third Party	Third Party	First American Data Tree	Property Data	2016 - 2017
Third Party	Third Party	InfoGroup	Household Member Data	2010 - 2011
Third Party	Third Party	Market Data Retrieval (MDR) (A Division of Dun & Bradstreet)	Education Data	2011-2012 - 2016-2017
Third Party	Third Party	Melissa Data	Household Member Data	2010 - 2011
Third Party	Third Party	National Exchange Carrier Association (NECA)	Company Code Assignment (CCA)	2013-2015
Third Party	Third Party	RealtyTrac	Foreclosures	2005 - 2011
Third Party	Third Party	Targus	Household Member and Telephone Data	2010 - 2015
Third Party	Third Party	United Way 211 Data	Greater Cleveland, OH	2011-2015
Third Party	Third Party	VSGI	Household Member and Telephone Data	2010 - 2017

2015 WL 5675832 (U.S.) (Appellate Brief) Supreme Court of the United States.

Sue EVENWEL, et al., Appellants,

v.

Greg ABBOTT, In His Official Capacity as Governor of the State of Texas, et al., Appellees.

No. 14-940. September 25, 2015.

On Appeal from the United States District Court for the Western District of Texas

Brief of Former Directors of the U.S. Census Bureau as Amici Curiae in Support of Appellees

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U.S. Const. art. I, § 2	7
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*1 INTERESTS OF AMICI CURIAE 1

Amici curiae are former directors of the U.S. Census Bureau. As former directors responsible for administering the U.S. Census, amici have a unique and valuable perspective on the practical implications of the rule proposed by Appellants and the limitations of the data on which such a rule would necessarily rely. In amici's view, serious practical concerns counsel against adopting Appellants' proposals to require states to draw districts with equal numbers of either voting age citizens or registered voters.

Amicus curiae Dr. Kenneth Prewitt was the Director of the U.S. Census Bureau from 1998 to 2001. In that capacity, he oversaw the execution of the 2000 decennial Census and development of the American Community Survey. Currently, Dr. Prewitt serves as the Carnegie Professor of Public Affairs and Special Advisor to the President at Columbia University, where he teaches and writes on issues related to the intersection of the Census, politics, and statistics. Prior to serving as Director of the Census, Dr. Prewitt served as Director of the National Opinion Research Center, President of the Social Science Research Council, and Senior Vice President of the Rockefeller Foundation. Dr. Prewitt has

considerable knowledge and experience with the use and limitations of Census data and their effect on the political system.

*2 Amicus curiae Dr. Robert Groves was the Director of the U.S. Census Bureau from 2009 to 2012. During his tenure, he oversaw the 2010 decennial Census and implementation of the American Community Survey. Currently, Dr. Groves is the Executive Vice President and Provost of Georgetown University, where he also serves as a professor in the Math and Statistics Department as well as the Sociology Department. Prior to serving as Director of the Census Bureau, Dr. Groves was a professor at the University of Michigan and Director of its Survey Research Center, and before that a research professor at the University of Maryland's Joint Program in Survey Methodology. Dr. Groves has written extensively on the mode of data collection and its effect on responses, the social and political influences on survey participation, and the effect of privacy concerns on Census data collection. He has significant knowledge and experience related to the use and limitations of Census data and their effect on the political system.

Amicus curiae Dr. Martha Farnsworth Riche was the Director of the U.S. Census Bureau from 1994 to 1998. In that capacity, she oversaw the design of the 2000 decennial Census, as well as the new American Community Survey. Currently, Dr. Riche is affiliated with the Cornell Population Center at Cornell University, and participates in research projects with various Washington-based organizations, most recently on issues of demographic concern to the U.S. military. Prior to serving as Director of the Census Bureau, Dr. Riche directed policy studies for the Population Reference Bureau, and was a founding editor of American Demographics magazine. Dr. Riche has *3 considerable knowledge and experience with the use and limitations of Census data across the public, private, for profit, and not-for-profit sectors.

Amicus curiae Vincent P. Barabba was the Director of the U.S. Census Bureau from 1973 to 1976 and from 1979 to 1980 - the only director to be appointed by presidents of both political parties. After serving as Director of the Census Bureau, Dr. Barabba was appointed by Presidents Reagan and George H.W. Bush to be the U.S. Representative to the Population Commission of the United Nations. He has also served on the board of directors for the Marketing Science Institute, the American Institutes for Research, and the National Opinion Research Center of the University of Chicago. In recognition of his performance in the private and public sectors he has received: An Honorary Doctorate of Laws degree from the Trustees of the California State University, been Inducted into the Market Research Council Hall of Fame, and was awarded The Certificate of Distinguished Service for Contribution to the Federal Statistical System from the Office of Management and Budget. Currently, Dr. Barabba is a member of the California Citizens Redistricting Commission. He has a demonstrated interest in both accurate population statistics and redistricting.

*4 SUMMARY OF ARGUMENT

In order to comply with the equal protection principle of one-person, one-vote, nearly all states and jurisdictions redistrict using total population data based on counts from the most recent decennial U.S. Census. Appellants urge the Court to overthrow this long-settled practice and replace it with one of the two voter-based measures of population they propose - citizen voting age population or registered voters. Beyond the legal and policy flaws with Appellants' argument, serious practical concerns counsel against adopting either of their proposed metrics as a constitutionally mandated means of complying with the one-person, one-vote principle.

As an initial matter, there is no actual count of the number of voting age citizens. In keeping with the manner the Constitution provides for apportioning seats in the U.S. House of Representatives among the states, the Census Bureau counts the number of persons in each state. The Census Bureau does not count the number of citizens. The only voting age citizen data that exists are estimates based on a continual sampling conducted as part of the American Community Survey ("ACS") by the Census Bureau. But ACS was not designed with redistricting in mind. The timing of ACS estimates does not align with the timing of redistricting and ACS estimates are not reported at the small geographic levels redistricters normally use to build districts. Moreover, the geographic areas at which such estimates are available carry large error

margins because of the small sample sizes. These factors make the ACS an inappropriate *5 source of data to support a constitutional rule requiring states to create districts with equal numbers of voting age citizens.

Nor is it possible to accurately obtain a count of voting age citizens by inquiring about citizenship status as part of the Census count. Recent experience demonstrates lowered participation in the Census and increased suspicion of government collection of information in general. Particular anxiety exists among non-citizens. There would be little incentive for non-citizens to offer to the government their actual status; the result would be a reduced rate of response overall and an increase in inaccurate responses. Both would frustrate the actual express obligation the Constitution imposes on the U.S. Census Bureau to obtain a count of the whole number of persons in order to apportion House of Representatives seats among the states.

Finally, Appellants' suggestion that voter registration data be used to draw districts is even more flawed. Studies show that the country's voter registration data is often inaccurate and outdated. And its inaccuracy aside, voter registration is, as this Court has already recognized, a fluctuating and political measure, making it generally a poor candidate for protecting a right to equal representation guaranteed by the Constitution.

Adequate data to support Appellants' positions simply do not exist. The district court's judgment should be affirmed.

*6 ARGUMENT

A theory of how to determine equal protection for purposes of the one-person, one-vote principle is only as good as the data upon which it is built. Appellants urge the Court to adopt a constitutional rule that would require states to draw districts that have equal numbers of eligible voters rather than equal numbers of people. But the available data to implement such a requirement simply cannot bear the weight the Constitution requires. Indeed, such a requirement would in practice lead to serious equal protection violations because of the inherent uncertainty and fluctuation currently present in the various measures proposed by Appellants to tally eligible voters. Moreover, there is strong reason to doubt sufficiently precise data could be obtained to ensure Appellants' theory of equal protection would ever be equal in practice.

An overview of the history and legal framework regarding population data aids in understanding the practical difficulties posed by Appellants' position.

*7 I. States Redistrict Based Upon Decennial Census Data that Counts the "Whole Number of Persons" in Each State and There Is No Count of "Citizens" by the Decennial Census.

A. Legal Framework and History of the Census.

The Constitution contains only one explicit requirement regarding the enumeration of population: to properly apportion the number of seats in the House of Representatives among the states, "the whole number of persons in each State," U.S. Const, amend XIV, § 2, must be enumerated "every ... ten years, in such Manner as [Congress] shall by Law direct," *id.* art. I, § 2. ³

Since the original decennial Census in 1790, Congress has passed a number of laws regarding the Census. ⁴ The discretion afforded the Census Bureau to determine the content and methodology of the Census has grown over time. Originally, U.S. Marshals conducting the Census took an oath to obtain "a just *8 and perfect enumeration," *see* Act of Mar. 1, 1790, §1, 1 Stat. 101. Congress amended this provision in 1810 to require "an actual inquiry at every dwelling-house." Act of Mar. 26, 1810, §1, 2 Stat. 565-66. The current Census Act, enacted in 1954, also required data be collected by personal visit until it was modified first to permit some non-apportionment data to be obtained through statistical sampling, *see*

13 U.S.C. § 195, and then to repeal the requirement that Census data be obtained through personal visits, and thus permit the Census Bureau to obtain responses through the mail, *see* Act of Aug. 31, 1964, Pub. L. No. 88-530, 78 Stat. 737.

Currently, the only statutorily required data point the Census Bureau must obtain is a "tabulation of total population by States," 13 U.S.C. § 141(b), which is necessary to fulfill the constitutional mandate to apportion based on the "whole numbers of persons," U.S. Const. amend. XIV, § 2; see Dep't of Commerce v. U.S. House of Representatives, 525 U.S. 316, 341 (1999) (holding that Census Act requires actual enumeration data, not sample-based counts, to be used for apportionment purposes). Beyond that, the Secretary of Commerce, acting through the Census Bureau and its directors, is granted wide latitude to conduct the Census "in such form and content as he [or she] may determine, including the use of sampling procedures and special surveys. In connection with any such census, the Secretary is authorized to obtain such other census information as necessary." 13 U.S.C. § 141(a).

Exercising the discretion afforded by Congress (and, in turn, conferred upon Congress by the *9 Constitution), the Census Bureau has, in every Census since 1970, asked only a limited number of questions (known as the "short form") as part of the actual enumeration of every person. These "short form" questions are generally limited to information such as name, age, sex, and race. ⁵ From 1970 to 2000, the Census Bureau also sent a "long form" to approximately one in every six households. ⁶ This "long form" was used to collect answers to a wider array of questions, including demographic, economic, social, and housing questions, as well as inquiring about citizenship status. ⁷ The data gathered through the "long form" sampling was used by local, state, and federal agencies to administer a wide range of government programs. *See Dep't of Commerce*, 525 U.S. at 341 (characterizing the Census as the "linchpin of the federal statistical system" (quotation marks omitted)).

*10 Following the 2000 Census, the decennial "long form" was discontinued and was replaced by a continual sampling program called the American Community Survey ("ACS"). ACS collects the same type of information that was included on the long form, but does so on a continuous basis throughout the decade. Each month, about 295,000 addresses are mailed the ACS questionnaire, for a total of 3.5 million households a year, or roughly one in thirty-eight households. The ACS data is then used to generate three sets of estimates, according to the size of the jurisdictions covered: a yearly report for cities and states with over 65,000 people, a three-year report for jurisdictions with over 20,000 people, and a five-year report for all jurisdictions. This practice reflects the small size of the ACS sample compared to the prior decennial long form, and the resultant larger sampling errors. A new version of each report is published every year, with the most recent year's data replacing the oldest year's data in the three- and five-year versions. The smallest geographic unit for which ACS estimates are available *11 is the Census block group level in the five-year report. Unlike short form counts, ACS estimates are never available at the individual Census block level.

B. States Rely on Census Data to Redistrict.

Understandably, states and municipalities do not generally fulfill their requirement to redistrict congressional, state legislative, and other local districts by conducting their own, separate population counts. Rather, they largely rely on Census data to perform their redistricting obligations. See Bd. of Estimate of City of New York v. Morris, 489 U.S. 688 (1989); Reynolds v. Sims, 377 U.S. 533 (1964); Wesberry v. Sanders, 376 U.S. 1 (1964). Indeed, the constitutions and laws of a number of states expressly require that decennial Census data be used to redistrict. See, e.g., N.J. Const. art. IV, § 2, ¶ 1 (requiring state senate seats to be apportioned "as nearly as may be according to the number of their inhabitants as reported in the last preceding decennial census of the United States" (emphasis added)); Pa. Const. art. 2, § 17(a) (requiring redistricting to occur "each year following the Federal *12 decennial census"); Ga. Const. art. 3, § 2 (same); Ill. Const, art. 4, § 3(b) (same); Fla. Stat. § 11.031(1) ("All acts of the Florida Legislature based upon population and all constitutional apportionments shall be based upon the last federal decennial statewide census"); Ill. Comp. Stat., ch. 55, § 2-3001c (defining "[p]opulation" for county board redistricting as "the number of inhabitants as determined

by the last preceding federal decennial census"); see also Karcher v. Daggett, 462 U.S. 725, 738 (1983) (approving the use of decennial Census counts for congressional redistricting, noting that because "the census count represents the best population data available, it is the only basis for good-faith attempts to achieve population equality" (internal quotation marks and citation omitted)).

States and municipalities do, however, generally use their own geographic units - called voter precincts - for purposes of conducting elections in their respective jurisdictions. Each voter precinct is comprised of a number of Census blocks. Congress has facilitated states' reliance on Census data for redistricting by providing that states may submit to the Census Bureau, three years prior to the decennial Census, the geographic boundaries for which they would like Census data to aid them in making redistricting decisions. *See* 13 U.S.C. § 141(c). Thus, states generally provide the Census with voter precinct information, and the Census in turn provides the states with data files that are organized by voter precincts. ¹³

*13 II. Serious Practical Concerns Counsel Against Constitutionally Requiring States to Draw Districts with Equal Numbers of Voting Age Citizens.

A constitutional requirement mandating that states draw legislative districts with equal numbers of voting age citizens would be impossible to accurately implement with currently available data. Moreover, for several reasons, it would be difficult to obtain an accurate actual count, even were one attempted.

A. ACS Citizenship Estimates Cannot Provide the Basis For a Constitutional Equal Protection Rule.

The actual number of voting age citizens in each state is unknown. The only information in existence is ACS's statistical sample-based estimates. In some circumstances, statistical sampling can be preferable to an actual count. See Dep't of Commerce, 525 U.S. at 322-23 ("Some identifiable groups - including certain minorities, children, and renters - have historically had substantially higher undercount rates than the population as a whole."); id. at 354 ("[U]nadjusted headcounts are also subject to error or bias - the very fact that creates the need for a statistical supplement") (Breyer, J., concurring in part, dissenting in part). But *14 the ACS was not designed to provide data to support a constitutional right to districts with equal numbers of voting age citizens.

1. The ACS Estimates Do Not Align with the Timing of Redistricting.

As an initial matter, the ACS estimates do not align with the timing of congressional apportionment or traditional legislative apportionment. States

traditionally redistrict their state legislative districts at, the same time as their congressional districts, using the same decennial Census count that triggered the congressional reapportionment. States thus use the Census count to create population equality among and within the states measured by a single, consistent snapshot in time that persists for the decade. As this Court explained in *Georgia v. Ashcroft*, 539 U.S. 461 (2003), *superseded by statute on other grounds as stated in Alabama Legislative Black Caucus v. Alabama*, 135 S. Ct. 1257 (2015):

When the decennial census numbers are released, States must account for any changes or shifts in population. But before the new census, States operate under the legal fiction that even 10 years later, the plans are constitutionally apportioned. After the new enumeration, no districting plan is likely to be legally enforceable if challenged, given the shifts and changes in a population over 10 years. And if the State has not redistricted in response to the new census figures, a federal court will ensure that the districts comply with the one-person, one-vote mandate before the next election.

*15 *Id.* at 488 n.2. This "legal fiction" is "necessary to avoid constant redistricting, with accompanying costs and instability." *League of United Latin Am. Citizens v. Perry*, 548 U.S. 399, 421 (2006) (opinion of Kennedy, J., joined by Souter, J., and Ginsburg, J.).

Using the ACS voting age citizen estimates would unsettle this system. To begin, only the five-year information could be used because the one- and three-year reports are not statistically reliable at the small geographic units used to draw district boundaries. *See supra* Part I. This poses several problems that seriously undermine the ACS's utility for redistricting.

First, with respect to the ACS five-year survey, eighty percent of the data is already between two and five years old at the time of redistricting. In contrast, redistricting occurs as soon as the population counts currently used by states is released by the Census Bureau. To illustrate, if ACS estimates were used instead of the total population count, a state redistricting in 2021 would be using aggregated estimates spanning from 2015 to 2020. Because the map drawn in 2021 would govern elections through the decade, by 2030, forty percent of the underlying aggregated estimates will be from questionnaires answered fourteen or fifteen years prior. The ACS estimates are therefore a more stale source of information than the total population count currently relied upon by the states.

Second, because the ACS estimates contain five years of sampling, and the age information is not adjusted each year to reflect the passage of a year, many respondents who were between the ages of *16 thirteen and seventeen when their responses were recorded will continue to be excluded from the *voting age* citizen count at the time the estimates are used to draw district lines, despite the fact that they are in fact eighteen or older at that time. *See* Nathaniel Persily, *The Law of the Census: How to Count, What to Count, Whom to Count, and Where to Count Them,* 32 Cardozo L. Rev. 755, 777 (2011). This problem is exacerbated, as discussed above, by the fact that district lines remain in place for a decade, meaning that at the end of the redistricting cycle, a thirty-two-year-old person is not "counted" as a voting age person in their district if she was seventeen when first surveyed.

Third, the share of minorities among people under the age of eighteen greatly exceeds their share of the total population. ¹⁴ As a result, areas with larger minority populations will be disproportionately affected by the use of ACS estimates that are not annually updated to reflect the actual age of respondents at the time the report is released, thus undercounting "eligible voters" among minority communities and therefore overpopulating minority legislative districts.

Together, these issues would result in outdated information governing district lines and entrenched undercounting of young voters, disproportionately affecting minority populations. For these reasons, the *17 use of five-year-old ACS estimates cannot support the constitutional one-person, one-vote requirement.

2. ACS Estimates Are Not Available at the Smallest Geographic Levels, and Some Data is Suppressed to Protect Privacy.

An additional problem is that ACS estimates are not available at the smallest geographical level that is actually used for purposes of redistricting - the Census block. The smallest geographic level at which ACS estimates can accurately be utilized is the block group level. *See Persily*, 32 Cardozo L. Rev. at 777. This would pose significant problem for states seeking to evenly populate districts. "In order to achieve the lowest possible levels of deviation within state legislative and congressional plans, state technicians have repeatedly advised the Census Bureau that they need decennial counts by small-area geography such as voting districts and census blocks." ¹⁵ States need data at granular levels in order to make a good-faith effort to equalize population to the extent possible among districts. *See Karcher*, 462 U.S. at 730 (requiring that, for congressional redistricting, states "make a good-faith effort to achieve precise mathematical equality" (quotation marks omitted)); *Brown v. Thomson*, 462 U.S. 835, 842 (1983) (noting that the Court has permitted "minor deviations from mathematical equality among state legislative districts" (quotation marks omitted)). Without the granular Census block *18 data typically used to balance population between and among districts, states relying

upon ACS voting age citizen estimates likely will be unable to satisfy the standard this Court requires for legislative redistricting.

Moreover, even at the block group level, there are a number of geographical areas where there are too few people to permit the Census Bureau to even release estimates without jeopardizing privacy. Congress has mandated that Census data may only be used for "the statistical purpose for which it is supplied," 13 U.S.C. § 9(a)(1), and that the Census Bureau may not "make any publication whereby the data furnished by any particular ... individual ... can be identified," id. § 9(a)(2). As a result, the Census Bureau suppresses certain estimates that could be linked to identifiable persons in light of the small geographic size of the reporting area. ¹⁶

States depend upon population counts being reported at small geographic units to permit districts to be built that meet the constitutional requirement for equal distribution of population. In addition, having decennial Census counts available at small geographic units makes it easier to follow voter precinct lines or other political subdivision lines, such as city boundaries, particularly where those lines have recently changed by annexations or precinct splits. The ACS voting age citizen estimates are not reported - and in some cases *19 are statutorily prohibited from being reported - at the Census block level. The ACS estimates thus cannot meet the needs of states for redistricting purposes.

3. As a Statistical Sample, ACS Estimates Are Subject to Error That Makes their Use for Line-Drawing Difficult.

As with any survey, the ACS estimates are subject to non-sampling errors (*e.g.*, errors in data coding) and sampling errors (*e.g.*, the chosen sample is non-representative of the actual community). ¹⁷ The ACS reports margins of error at the ninety percent confidence level. ¹⁸ For example, if the ACS estimates reported that a county had 10,000 citizens over the age of eighteen, with a five percent relative error, nine times out of ten (ninety percent of the time) one could be confident that the actual citizen voting age population of the county was between 9,500 and 10,500.

The margin of error grows as the sample size decreases, so the smaller the area, the higher the possibility of error. This could become a significant issue because redistricting decisions are often made on the margins, using very small geographic units to *20 surgically move populations in and out of districts to satisfy the one-person, one-vote requirement. And, as discussed above, the smallest unit - the Census block - is not available with ACS estimates because of sample size limitations.

Take for example Titus County, Texas, where Appellant Sue Evenwel resides. *See* Br. of Appellants at 10. Titus County has eight Census tracts, each with between two and four Census block groups, for a total of twenty-two block groups - the smallest level of geography reported by the ACS. The relative error for the ACS's estimates of voting age citizens for the Titus County block groups range from a low of 14.1 percent to a high of 36.6 percent. Figure 1 below shows the estimates by block group for Titus County.

Figure 1: Titus County, Texas CVAP Estimates with Absolute and Relative Error by Block Group (2009-2013)

Block Group	Est. CVAP with Absolute and Relative Error	Block Group	Est. CVAP with Absolute and Relative Error
9501: #1	1,045 ±213 (20.4%)	9505: #1	640 ±153 (23.9%)
9501: #2	485 ±148 (30.5%)	9505: #2	560 ±149 (26.6%)

9502:	895 ±162 (18.1%)	9506:	750 ±197 (26.3%)
#1	,	#1	` ,
9502:	680 ±116 (17.1%)	9506:	825 ±192 (23.3%)
#2		#2	
9503:	1,445 ±236 (16.3%)	9506:	615 ±154 (25.0%)
#1		#3	
9503:	905 ±204 (22.5%)	9507:	325 ±90 (27.7%)
#2	` ,	#1	` ,
9503:	1,870 ±263 (14.1%)	9507:	315 ±114 (36.2%)
#3	, , ,	#2	
9503:	540 ±177 (32.8%)	9508:	655 ±240 (36.6%)
#4	, ,	#1	, ,
9504:	1,360 ±264 (19.4%)	9508:	575 ±178 (31.0%)
#1	, , ,	#2	` ,
9504:	2,020 ±301 (14.9%)	9508:	815 ±193 (23.7%)
#2	, , ,	#3	` ,
9504:	850 ±210 (24.7%)	9508:	330 ±111 (33.6%)
#3	,	#4	

As Figure 1 shows, even if redistricters could conceivably rely upon block groups to move areas *21 among districts to properly draw boundaries, they would contend with relatively large error margins. For example, if an adjoining district needed to be increased by 330 voting age citizens, Block Group 4 of Census Tract 9508 would be considered. But the most that can be said is that nine times out of ten, one could be confident that there were between 219 and 441 voting age citizens in that area - a 33.6 percent relative error.

The error margins are still relatively high at the next largest geographic unit, the Census tract, as illustrated by Figure 2 below.

Figure 2: Titus County, Texas CVAP Estimates and Error Margins by Census Tract

Census Tract	Est. CVAP	Absolute Error	90% Confidence Range	Relative Error
9501	1,530	±210	1,320 - 1,740	13.7%
9502	1,570	±180	1,390 - 1,750	11.5%
9503	4,755	±297	4,458 - 5,052	6.2%
9504	4,230	±297	3,933 - 4,527	7.0%
9505	1,200	±182	1,018 - 1,382	15.2%
9506	2,190	±217	1,973-2,407	9.9%

9507	635	±123	512 - 758	19.4%
9508	2,375	±237	2,138 - 2,612	10.0%

The relative error ranges from 6.2 to 19.4 percent for the Titus County Census tracts. So, if redistricters needed to move 635 people to a neighboring district, tract 9507 would be an obvious candidate, but using ACS estimates, the most they could know is that nine *22 times out of ten, it would contain between 512 and 758 citizens of voting age. ¹⁹

All of these issues together - the timing issues, the unavailability of estimates at the block level typically used by redistricters, the unavailability of certain estimates because of privacy concerns, and the error margins combine to make the ACS voting age citizen estimates an inappropriate source to support the constitutional one-person, one-vote right.

This is not to say the ACS estimates are inappropriate for other uses. Because it is the only citizenship information that exists, where courts require citizenship information to support legal claims, as some have for cases under Section 2 of the Voting Rights Act, see, e.g., Valdespino v. Alamo Heights Independent School District, 168 F.3d 848, 853 (5th Cir,. 1999), it is the "best population data available," Karcher, 462 U.S. at 738 (quotation marks omitted). It is one thing to use less than perfect data when it is the only data available to meet a statutory evidentiary burden; it is quite another to create and impose a new constitutional rule that must necessarily be built upon that data.

*23 B. Asking Citizenship Status of Every Household Would Lead to Reduced Response Rates and Inaccurate Responses, While Multiplying Privacy and Government Intrusion Fears.

Directly inquiring about citizenship status as part of the short form Census is not a solution to the data problem posed by Appellants' legal theory. Doing so would likely exacerbate privacy concerns and lead to inaccurate responses from non-citizens worried about a government record of their immigration status.

During the past two decades, the Census Bureau has had to contend with significantly increased distrust, based on concerns about government intrusion and privacy. When the 2000 Census was taken, controversy erupted over the Census questions, with congressional leaders and others calling on people to disregard questions they found intrusive. ²⁰ In one survey, 71 percent of respondents said that intrusive questions should go unanswered. ²¹ This problem continued with the 2010 Census - between 2009 and 2010, one survey showed the Census Bureau dropped in its "trust" rating from 75 percent to 39 percent. ²² One *24 Congresswoman publicly proclaimed that her family "will only be indicating the number of people in the household, because 'the Constitution doesn't require any information beyond that.' "²³

A mandatory inquiry into citizenship status is all the more likely to engender privacy concerns, particularly among non-citizens. "The nuanced reasons for the question ... will of course be lost to millions upon millions of Americans. The question will be viewed with suspicion." ²⁴ "[I]t is foolish to expect that census-taking is immune from anxieties that surround such issues as undocumented aliens, immigration enforcement, terrorism prevention, national identity cards, total information awareness, and sharp increases in surveillance generally." ²⁵

In addition to both citizens and non-citizens simply not responding, "[n]on-citizens, mistrustful of the government's promise that their answers to a census question can never be used against them, will misrepresent themselves on the census form." ²⁶

*25 The sum effect would be bad Census data. And any effort to correct for the data would be futile.

The Census Bureau cannot become a quasi-investigatory agency and still perform its basic responsibilities as a statistical agency. Responses to a citizenship question cannot be validated on a case-by-case basis. Although the bureau may devise ways to estimate the magnitude of misrepresentation in responses to a citizenship question at the national level, such an estimate would not likely be robust enough to be used in state-level counts - let alone at the smaller levels of geography relevant to congressional districting, state legislatures, and local government. ²⁷

Finally, because a one-by-one citizenship inquiry would invariably lead to a lower response rate to the Census in general, such an inquiry would seriously frustrate the Census Bureau's ability to conduct the only count the Constitution expressly requires: determining the whole number of persons in each state in order to apportion House seats among the states. *See* U.S. Const, art. II, § 1; *id.* amend XIV, § 2. ²⁸

Neither existing data estimates nor a potential actual count can reliably permit states to draw districts *26 with equal numbers of voting age citizens. As a result, voting age citizen data cannot plausibly serve as a constitutionally-mandated metric for defining the one-person, one-vote principle.

III. Voter Registration Data Would Be an Inappropriate Measure Upon Which to Require Districts To Be Drawn.

Appellants' alternative measure - voter registration data - is also an inappropriate measure by which to require states to draw districts. The data is often inaccurate and unreliable, it is prone to dramatic changes, and it is generally available only at the voting precinct level, not at the smaller Census block level at which states generally draw districts.

Although this Court has before *permitted* a state to draw districts based on voter registration data, it did so only for an interim districting plan with assurances that the data in the particular case did not vary from other population measures. In so doing, the Court expressed considerable doubts about the use of this data, stating:

Use of a registered voter or actual voter basis ... depends ... upon the extent of political activity of those eligible to register and vote. Each is thus susceptible to improper influences by which those in political power might be able to perpetuate underrepresentation of groups constitutionally entitled to participate in the electoral process, or perpetuate a ghost of prior malapportionment. Moreover, fluctuations in the number of registered voters in a given election may be sudden and substantial, caused by such fortuitous factors as a peculiarly *27 controversial election issue, a particularly popular candidate, or even weather conditions.

Burns v. Richardson, 384 U.S. 73, 92-93 (1966) (internal quotation marks omitted) (footnotes omitted). These problems have not changed since 1966 when Burns was decided.

A 2012 study by the Pew Charitable Trust found that approximately 24 million voter registration records in the United States - 1 in 8 - are invalid or inaccurate, including 12 million with incorrect addresses, suggesting voters had moved or the addresses were otherwise incorrect. ²⁹ The study also found 1.8 million deceased still registered, and 2.75 million voters registered in more than one state. ³⁰

Beyond the inaccuracy of voter registration data, state registration data simply is not available at the Census block level. Rather, the smallest geographic unit at which voter registration data is available is the voter precinct level. Thus, redistricters would not be able to move particular Census blocks from district to district and would instead be limited

to moving precincts. These geographic areas are generally too large to accurately draw districts with substantially equal populations.

*28 In light of the serious flaws in voter registration data, it would in most instances be a violation of equal protection for this metric to be used, contrary to Appellants' argument that the Constitution actually should require it. 31

CONCLUSION

For the foregoing reasons, the Court should affirm the decision of the district court.

Footnotes

- Pursuant to Rule 37.6, *amici* affirm that no counsel for a party authored this brief in whole or in part and that no person other than *amici* and their counsel made a monetary contribution to its preparation or submission. The parties' letters of consent to the filing of *amicus* briefs are on file with the Clerk's office.
- Indeed, as Appellants' own brief demonstrates, there is considerable fluctuation and uncertainty even among the multiple measures Appellant proposes as potential constitutional requirements. *See* Br. of Appellants at 9,11-12.
- As historical documents show, this was from the start understood to be a "Census of Inhabitants," without regard to citizenship. *See, e.g.*, Letter from Postmaster General Timothy Pickering to Secretary of State Thomas Jefferson, Dec. 26, 1793, http:// founders.archives.gov/documents/Jefferson/01-27-02-0557 (last visited Sept. 23, 2015) (referring to the "Census of Inhabitants").
- 4 See generally U.S. Census Bureau, Census Instructions, https:// www.census.gov/history/www/through_the_decades/census_instructions/ (last visited September 23, 2015) (providing description of congressional authorizations and instructions provided to U.S. Marshals, enumerators, and inhabitants from 1790 to 2010).
- 5 See U.S. Census Bureau, Index of Questions, https:// www.census.gov/history/www/through_the_decades/index_of_questions/ (last visited Sept. 23, 2015).
- 6 See, e.g., U.S. Census Bureau, Summary File 3: 2000 Census of Population & Housing Chapter 8: Accuracy of the Data 8-3 (July 2007), https://www.census.gov/prod/cen2000/doc/sf3.pdf. Although the total sample size was one in six households, it was not evenly distributed: a greater percentage of households in rural areas were sampled to increase the reliability of the data estimates in such areas. *Id.*
- 7 See U.S. Census Bureau, Index of Questions, https:// www.census.gov/history/www/through_the_decades/index_of_questions/ (listing long form questions for 1970 to 2000) (last visited Sept. 23, 2015).
- 8 See U.S. Census Bureau, American Community Survey Information Guide, http://www.census.gov/acs/www/about_the_survey/acs_information_guide/flipbook/.
- 9 *Id.* at 6, 8.
- 10 See U.S. Census Bureau, A Compass for Understanding and Using American Community Survey Data at 9 (Oct. 2008), https://www.census.gov/content/dam/Census/library/publications/2008/acs/ACSGeneralHandbook.pdf; see id. Appendix 1 at A-1-A-2.
- See id. at 13. For example, if one five-year report aggregates information from 2008 to 2013; the next report will cover 2009 to 2014.
- Id., Appendix 1 at A-2. The Census Bureau has developed different levels of "statistical geography" to report information. The largest is the Census tract; typically each county will contain several tracts, with each tract having an ideal population of 4,000 (ranging from 1,200 to 8,000). See U.S. Census Bureau, 2010 Geographic Terms and Concepts, https:// www.census.gov/geo/reference/terms.html (last visited Sept. 23, 2015). Block groups are clusters of blocks within a tract, and contain between 600 and 3,000 people. Id. The lowest level of geography is the individual Census block, which follows physical features (such as the streets bounding a city block) or non-physical features (such as property lines). Id.
- If the Court holds that the Constitution requires states and local governments to use voting age citizens as the measure for the one-person, one-vote principle, nothing in the Constitution or in the current Census Act would require the Census Bureau to provide this information to states and local governments. Rather, the Court would be requiring states and local governments to obtain this information on their own, in the process abrogating the many state constitutional and statutory provisions linking the state process to the federal Census data.

- 14 See Sandra L. Colby & Jennifer M. Ortman, U.S. Census Bureau, Projections of the Size and Composition of the U.S.. Population: 2014 to 2016 10-11 (Mar. 2015), https://www.census.gov/content/dam/Census/library/publications/2015/demo/p25-1143.pdf.
- Catherine McCully, U.S. Census Bureau, *Designing P.L. 94-171 Redistricting Data for the Year 2020 Census* 7-8 (Dec. 2014), http://www.census.gov/content/dam/Census/library/publications/2014/rdo/pl94-171.pdf.
- See U.S. Census Bureau, American Community Survey: Data Suppression 2, 7 (Nov. 15, 2013), http://www2.census.gov/programs-surveys/acs/tech_docs/data_suppression/ACSO_Data_Suppression.pdf.
- 17 See U.S. Census Bureau, American Community Survey Design and Methodology (January 2014) Chapter 15: Improving Data Quality by Reducing Non-Sampling Error, at 1 (Jan. 30, 2014), http://www2.census.gov/programs-surveys/acs/methodology/design_and_methodology/acs_design_methodology_ch15_2014.pdf.
- U.S. Census Bureau, *Glossary: Confidence interval (American Community Survey,* https://www.census.gov/glossary/#term_ConfidenceintervalAmericanCommunitySurve (last visited Sept. 23, 2015).
- Data for both Figures 1 and 2 is taken from U.S. Census Bureau, Redisricting Data, *Voting Age Population by Citizen and Race (CVAP)*, 2009-2013 American Community Survey 5 Year Estimates, https://www.census.gov/rdo/data/voting_age_population_by_citizenship_and_race_cvap.html (last visited Sept. 23, 2015).
- 20 Kenneth Prewitt, What if We Give a Census and No One Comes?, 304 Sci. Mag. 1452 (June 4, 2004).
- 21 *Id.*
- Andy Greenberg, *Census Paranoia Fueled Distrust in Government Privacy More than NSA Wiretapping*, Forbes, June 30,2010, http://www.forbes.com/sites/firewall/2010/06/30/census-paranoia-fueled-distrust-in-government-privacy-more-than-nsa-wiretapping/.
- Prerana Swami, *Rep. Bachmann Refuses to Fill out 2010 Census*, CBS News (June 18, 2009), http://www.cbsnews.com/news/rep-bachmann-refuses-to-fill-out-2010-census/.
- Counting the Vote: Should Only U.S. Citizens be Included in Apportioning Our Elected Representatives?: Hearing Before Subcomm. on Federalism and the Census of the H. Comm. on Gov't Reform, 109th Cong. 77 (2005) (Statement of Kenneth Prewitt).
- 25 *Id.* at 78.
- 26 *Id.*
- 27 *Id.*
- Appellants offer no explanation for how it could be that the Fourteenth Amendment *forbids* Texas from apportioning seats within the state in the same manner the Fourteenth Amendment *requires* seats to be apportioned among the states.
- Pew Charitable Trust, Inaccurate, Costly, and Inefficient: Evidence that America's Voter Registration System Needs an Upgrade 3-4 (Feb. 2012), http://www.pewtrusts.Org/°/media/legacy/uploadedfiles/ pcs_ assets/2012/PewUpgradingVoterRegistrationpdf.pdf.
- 30 *Id.* at 4.
- The "Non-Suspense Voter Registration" metric offered by Appellants is equally flawed it adds additional potential error related to mailing of notices. *See* Br. of Appellants at 9.

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September 24, 2003

Census 2000 Content Reinterview Survey: Accuracy of Data for Selected Population and Housing Characteristics as Measured by Reinterview

FINAL REPORT

This evaluation reports the results of research and analysis undertaken by the U.S. Census Bureau. It is part of a broad program, the Census 2000 Testing, Experimentation, and Evaluation (TXE) Program, designed to assess Census 2000 and to inform 2010 Census planning. Findings from the Census 2000 TXE Program reports are integrated into topic reports that provide context and background for broader interpretation of results.

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respondents changed answers during the reinterview. It is not surprising that this question displayed high inconsistency. Opinion questions often show high levels of inconsistency because the respondent may change opinions or perceptions between the two interviews. When evaluating such questions, we cannot determine if the results show response error or if they show changes in opinion.

The significant net difference rate suggests that one or both of the model assumptions (independence and replication) have not been met for the "Very well," "Well," and "Not at all" categories.

The inconsistency level for the English-speaking ability question was high in both 2000 and 1990, but their indexes were not significantly different (z = -0.3). Table 22 below provides the inconsistency level and aggregate index of inconsistency for this question by decade.

Table 22. Aggregate response variance measures for English-speaking ability by decade

2000			1990		
Index of inconsistency		<u> </u>	Index of incor	sistency	
Inconsistency level	Estimate	90-percent confidence interval	Inconsistency level	Estimate	90-percent confidence interval
High	59.5	56.8 to 62.5	High	60.3	57.4 to 63.4

Households with non-Hispanic sample persons showed less inconsistency than households with Hispanic sample persons, although both were high. Households with foreign-born sample persons showed less inconsistency than households with native sample persons, although both were high.

Place of birth (CRS 16, Census 13)

Some changes have been made to this question since 1990. Response check boxes were added to distinguish between born in the United States and born outside the United States. Also, separate write-in lines were provided for state of birth and place of birth outside the United States. In 1990, only one write-in line was provided.

The place of birth question requested the CRS respondent to indicate whether the sample person was born inside or outside of the United States. Respondents reported very consistently. The index of inconsistency was 2.7 (2.2 to 3.3) and 0.5 percent (0.4 to 0.5) of respondents changed answers when reinterviewed. Households with male sample persons showed less inconsistency than households with female sample persons, although both were low. Households with native sample persons showed less inconsistency (low) than households with foreign-born sample persons (high). Respondents who reported on mailback forms showed less inconsistency than respondents who reported to enumerators, although both were low.

If the sample person was born in the United States, then the question requested that the respondent report the name of the state in which the sample person was born. If the sample person was born outside of the United States, then the respondent was asked to report the name of the country where the sample person was born. These responses were grouped into 68 categories which are shown in Appendixes C and E. The categories included the 50 states, the District of Columbia, United States territories, and other countries and regions. The aggregate index was 3.2 (3.0 to 3.5) and approximately 3 percent (2.9 to 3.4) of CRS respondents changed answers during the CRS. There was some evidence that one or more of the model assumptions were not met for 12 categories. All subgroups showed low inconsistency. Households with male sample persons showed less inconsistency than households with female sample persons. Households with Hispanic sample persons showed less inconsistency than households with non-Hispanic sample persons. Respondents who reported on mailback forms showed less inconsistency than respondents who reported to enumerators.

We then collapsed the states into four regions of the United States (Northeast, North Central, South, and West), grouping responses into 21 categories. The aggregate index was even lower at 2.3 (2.1 to 2.5). Approximately 1.8 percent (1.6 to 2.0) of CRS respondents changed answers in the reinterview. The net difference rate was significantly different from zero for the "Northeast," "U.S. state not reported," and "Asia" categories suggesting that one or more of the model assumptions were not met.

Citizenship (CRS 17, Census 14)

As in the previous CRS, these data were reported very consistently in 2000. The data were significantly less inconsistent in 2000 than in 1990 (z = -1.3). Table 23 shows the inconsistency level and aggregate index for both decades.

Table 23. Aggregate response variance measures for citizenship by decade

2000			1990		
	Index of inc	onsistency		Index of inc	onsistency
Inconsistency level	Estimate	90-percent confidence interval	Inconsistency level	Estimate	90-percent confidence interval
Low	9.8	9.0 to 10.8	Low	10.9	10.0 to 12.0

In 2000, the aggregate index was 9.8 (9.0 to 10.8) and 1.8 percent (1.7 to 2.0) of CRS respondents changed answers in the reinterview. The categories "Yes, born in Puerto Rico, Guam, the U.S. Virgin Islands, or Northern Marianas" and "Yes, born abroad of American parent or parents" were rare.

The net difference rates were significantly different from zero for the "Yes, U.S. citizen by naturalization" and "No, not a citizen of the United States." This suggests that the model assumptions of independence and replication may not have been met by the reinterview. The CRS found more respondents reported "Yes, U.S. citizen by naturalization" and fewer respondents reported "No, not a citizen of the United States" than on the census.

All subgroups showed low inconsistency. Households with non-Hispanic sample persons showed less inconsistency than households with Hispanic sample persons. Respondents who reported on mailback forms showed less inconsistency than respondents who reported to enumerators.

Year of entry to the U.S. (CRS 18, Census 15)

If the sample person was not born in the United States, then the respondent was asked what year the sample person came to live in the United States. This question has been modified since 1990. For 2000, this was a write-in question, whereas in 1990 ten response intervals were provided.

As shown in Table 24, the question from Census 2000 showed less inconsistency than the question from the 1990 census (z = -2.5).

Table 24. Aggregate response variance measures for year of entry by decade

2000			1990		
	Index of inc	consistency	- manda-	Index of inc	consistency
Inconsistency level	Estimate	90-percent confidence interval	Inconsistency level	Estimate	90-percent confidence interval
Low	18.9	17.2 to 20.8	Moderate	23.0	21.1 to 25.2

We grouped the responses to this question into ten categories which are shown in Appendixes C and E. These data were reported with low inconsistency. The aggregate index was 18.9 (17.2 to 20.8) and 16.4 percent (14.9 to 18.0) of respondents changed answers between the census and the CRS. The net difference rates were statistically significant for the "1970 to 1974," "1960 to 1964," and "Before 1950" categories suggesting that the reinterview was not an independent replication of the census.

Households with female sample persons showed less inconsistency (low) than households with male sample persons (moderate). Households with non-Hispanic sample persons showed less inconsistency (low) than households with Hispanic sample persons (moderate). Respondents who reported on mailback forms showed less inconsistency (low) than respondents who reported to enumerators (moderate).

Migration (CRS 19a, 19b, Census 16a, 16b)

The CRS asked two migration questions. These questions ask about place of residence on April 1, 1995. Both questions have been slightly modified since 1990.

Live at current residence on April 1, 1995 (CRS 19a, Census 16a)

This question asked if the sample person lived at their current residence on April 1, 1995. For 2000, a separate write-in line was added for places outside the United States, whereas in 1990 this was combined with the United States write-in line.

Respondents answered this question with moderate inconsistency. The aggregate index of inconsistency was 22.2 (21.4 to 22.9). The index was low for the "Person is under 5 years old" category and moderate for the "Yes, this house," "No, outside the United States," and "No, different house in the United States" categories. The rare category "No, outside th United States" had the highest index, at 40.2 (36.7 to 44.0).

Approximately 12 percent (11.7 to 12.5) of CRS respondents changed answers. Among the respondents that changed answers when reinterviewed, approximately 70 percent (67.9 to 71.2) changed between "Yes, this house" and "No, different house in the United States." The net difference rate was statistically different from zero for the "Yes, this house" and "No, different house in the United States" categories. The significant net difference rates show us that one or both of the model assumptions, independence and replication, were not met.

Households with non-Hispanic sample persons showed less inconsistency than households with Hispanic sample persons, although both were moderate. Households with native sample persons showed less inconsistency than households with foreign-born sample persons, although both were moderate. Respondents who reported on mailback forms showed less inconsistency than respondents who reported to enumerators, although both were moderate.

Where lived in U.S. on April 1, 1995 (CRS 19b, Census 16b)

If the sample person was reported as living in a different house in the United States on April 1, 1995, then the respondent was asked where the sample person lived. Some changes have been made to this question. The respondent was asked for the zip code and the sequence of city, county, and state write-in lines were reordered for 2000.

After the respondent reported the city, town, or post office of where the sample person lived on April 1, 1995, they were then asked if the sample person lived inside the limits of that city or town. Respondents answered this question with high inconsistency. The index of inconsistency was 52.1 (49.4 to 55.1) and 16.1 percent (15.2 to 17.0) of respondents changed answers when reinterviewed. Approximately 56 percent (53.1 to 59.1) of the respondents that changed answers switched from "No" in the census to "Yes" in the CRS. The net difference rate was statistically significant for this question suggesting that at least one of the model assumptions was not met. The reinterview found more "Yes" responses.

Households with non-Hispanic sample persons showed less inconsistency than households with Hispanic sample persons, although both were high. Households with native sample persons showed less inconsistency than households with foreign-born sample persons, although both were high.

• Place of residence on April 1, 1995

If the sample person did not live at their current residence on April 1, 1995, then the respondent was asked to report the state or country where the sample person lived. These responses were grouped into the 68 categories shown in Appendixes C and E. These data were reported very consistently. The categories included the 50 states, the District of Columbia, United States territories, and other countries and regions. The aggregate index of inconsistency was 4.4 (3.9 to 4.9) and approximately 4 percent (3.7 to 4.7) of CRS respondents changed answers. The net difference rate for the "Arizona," "Colorado," and "Tennessee" categories were significantly different from zero suggesting that the reinterview was not independent and/or did not replicate the census conditions very well. All subgroups showed low inconsistency. Households with Hispanic sample persons showed less inconsistency than households with non-Hispanic sample persons.

We then collapsed the states into four regions of the United States (Northeast, North Central, South, and West), grouping responses into 21 categories. The aggregate index was even lower at 3.0 (2.5 to 3.5). Approximately 2 percent (1.9 to 2.6) of respondents changed answers in the reinterview.

Disability (CRS 20a, 20b, 21a, 21b, 21c, 21d, Census 17a, 17b, 18a, 18b, 18c, 18d)

On the census and the CRS there were two disability questions with subparts, which resulted in a total of six disability items. The 2000 questions changed significantly from the 1990 questions. New 2000 questions covered the major life activities of seeing and hearing and the ability to perform physical and mental tasks. Unless otherwise stated, these questions collected data on the disability of children five years and over as well as adults. The 1990 questions collected data only for persons 15 years and over.

Sensory impairment (CRS 20a, Census 17a)

This question asked the respondent if the sample person had any blindness, deafness, or a severe vision or hearing impairment. These data were reported with moderate inconsistency between the census and the reinterview. The aggregate index of inconsistency was 47.2 (44.2 to 50.5) and 3.7 percent (3.5 to 4.0) of respondents changed answers when reinterviewed. Of the respondents that changed answers, approximately 63 percent (59.4 to 65.8) switched from "No" to "Yes." The net difference rate for the "Yes" category was statistically different from zero. This shows us that one or both of the model assumptions were not met. There were more "Yes" responses given during the CRS than the census.

Households with non-Hispanic sample persons showed less inconsistency (moderate) than households with Hispanic sample persons (high). Respondents who reported on mailback forms showed less inconsistency (moderate) than respondents who reported to enumerators (high).

January 30, 2003

Census 2000 Mail Response Rates

FINAL REPORT

This evaluation reports the results of research and analysis undertaken by the U.S. Census Bureau. It is part of a broad program, the Census 2000 Testing, Experimentation, and Evaluation (TXE) Program, designed to assess Census 2000 and to inform 2010 Census planning. Findings from the Census 2000 TXE Program reports are integrated into topic reports that provide context and background for broader interpretation of results.

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EXECUTIVE SUMMARY

The response rate is a measure that represents the percentage of addresses eligible for Nonresponse Followup that returned questionnaires prior to the designation of the Nonresponse Followup universe. Response rates are the result of a combination of the level of respondent cooperation in Census 2000, the housing unit vacancy rate, and the quality of the Decennial Master Address File.

Preliminary analysis indicates that self-enumerated returns have a lower imputation rate than enumerator returns.¹ Due to the higher level of data quality and the lower cost associated with self-enumerated responses relative to enumerator-collected responses, it is important for response rates to be as high as possible.

The mail response rate is defined as the number of mail returns received prior to the cut date for the Nonresponse Followup universe divided by the total number of housing units in mailback areas that were eligible for Nonresponse Followup. The final response rate is similar but includes all mail returns through the end of the year. Mail returns included in the response rates are actual paper questionnaires, interviews during the Telephone Questionnaire Assistance program, Internet data captures, Be Counted forms, and Coverage Edit Followup returns.

The mail response rate is different from the mail return rate. The mail return rate is essentially a measure of the percentage of occupied housing units that returned their questionnaires by April 18, 2000. It is a more useful rate for determining respondent cooperation and not as good as the response rate for measuring the Nonresponse Followup workload. The denominator of the mail return rate is calculated from the Hundred percent Census Edited File with the reinstated housing units. It includes all occupied housing units in mailback type of enumeration areas that were added to the address file prior to Nonresponse Followup and had addresses that were delivered by the United States Postal Service or during the Census Bureau delivery operation. The response rate denominator is larger than the return rate denominator, largely because the response rate denominator includes vacant housing units, Undeliverable As Addressed addresses, some addresses deleted in Update/Leave and Urban Update/Leave delivery, and deleted in either Nonresponse Followup or Coverage Improvement Followup.

¹U.S. Bureau of the Census, 2001b, Study Plan for B.1: Evaluation of the Analysis of the Imputation Process for 100 Percent Household Population Items, Decennial Statistical Studies Division Census 2000 Procedures and Operations Memorandum Series #Y-1, October 1, 2001.

What were the National Mail Response Rates?

The mail response rate as of April 18, 2000 was 64.3 percent, which was slightly lower than the 1990 mail response rate of 65.0 percent.² This rate represents 75,608,035 mail returns that were received by April 18, 2000 out of a response rate denominator of 117,661,748 households. Another 3,703,140 questionnaires were returned after April 18, resulting in a final response rate of 67.4 percent, as of December 31, 2000.

Reflecting the higher response burden of the long form questionnaire, the short form mail response rate of 66.4 percent was 12.5 percentage points higher than the long form mail response rate of 53.9 percent. In 1990, the mail response rate for short forms and long forms were 65.9 percent and 60.6 percent, respectively.³

Approximately 14.3 percent of mail returns were long forms, a substantially lower percentage than the overall 17.1 percent sampling rate. However, many residents with long forms held onto them and returned them after April 18. After that date, a larger proportion of long forms were returned than short forms. The final response rate was 69.1 percent for short forms and 59.4 percent for long forms.

Mailout/Mailback areas had a mail response rate of 65.4 percent, which is higher than either the Update/Leave areas mail response rate of 59.3 percent or the Urban Update/Leave areas mail response rate of 50.5 percent. Final response rates by type of enumeration area were 68.5 percent for Mailout/Mailback, 62.6 percent for Update/Leave, and 54.8 percent for Update/Leave.

Most questionnaires were returned in the period between March 15, when questionnaires in Mailout/Mailback areas were mailed, and March 28. There were slight surges in the number of mail returns corresponding to the delivery of reminder postcards beginning on March 20 and on Census Day (April 1). These two surges in response were more pronounced for long forms than short forms.

Between the initial cut for the Nonresponse Followup universe on April 10 and the final cut on April 18, 2,535,382 questionnaires (2.2 percent) were received. Had the final Nonresponse Followup cut been on April 10, the Nonresponse Followup workload would have increased by this number of housing units.

²U.S. Bureau of the Census, 1991, 1990 Census Mailback Questionnaire Check-in Rates, Decennial Planning Division, March 14, 1991.

³U.S. Burcau of the Census, 1991, 1990 Census Mailback Questionnaire Check-in Rates, Decennial Planning Division, March 14, 1991.

The cut for the Nonresponse Followup universe was as of April 18; an additional 1,052,712 returns were received between April 18 and April 25, representing 28.4 percent of the mail returns checked in after April 18. These returns represent a potential decrease in the Nonresponse Followup workload of 2.5 percent, resulting in a potential cost savings of over \$28.4 million. Therefore, work needs to be done to determine what is the optimal date for determining the Nonresponse Followup universe, by considering the cost benefits versus the operational challenges to other operations. In addition, research should be conducted to determine a more efficient way of updating the Nonresponse Followup lists.

After April 18, the number of mail returns declined until very few forms were being received by May 6. For the total return rate, 3,703,140 mail returns were checked in after April 18. This was an increase in the return rate of 3.1 percentage points. The last date on which questionnaires were checked in was October 19, 2000. The last date on which enough forms were received that resulted in an increase in the rate was June 15 for short forms and June 29 for long forms.

The mail response rate was compared with the mail return rate. The mail return rate as of April 18, was 74.1 percent, 9.9 percentage points higher than the mail response rate. The difference between the two rates is greater for short forms than long forms and greater for Urban Update/Leave and Update/Leave areas than for Mailout/Mailback areas.

The final response rate was compared to the final return rate. The final return rate is similar to the mail return rate but includes all mail returns through the end of the year 2000. The total final return rate was 78.4 percent, 11.0 percentage points higher than the final response rate of 67.4 percent. This is a greater difference than the difference in the mail response and return rates. The difference between the final return and the final response rates for long forms is about the same as the difference for short forms. However, the difference between the final return rate and the final response rate is greater in Urban Update/Leave and Update/Leave areas than in Mailout/Mailback areas.

1. BACKGROUND

This evaluation provides the response rates for Census 2000 and an analysis of the rates at the national level. The mail response rate is a measure of the Nonresponse Followup (NRFU) workload that identifies the percentage of Census 2000 addresses on the address file for mailback areas that were eligible for NRFU and returned their questionnaires by April 18, 2000. The final response rate is similar but also includes mail returns through the end of the year. This report also examines response rate differentials for long and short forms and for different types of enumeration areas.

1.1 Previous Censuses

Mail response rates were first measured for the 1970 Census. In 1970, the mail response rate was 78.3 percent. The mail response rate by form type is not available for the 1970 Census.

In 1980, the mail response rate was 75.0 percent, which is a decrease from the 1970 mail return rate. Similar to 1970, the mail response rate by form type is not available for the 1980 Census. The decrease in return rate from 1970 to 1980 was the beginning of a trend of decline in respondent cooperation, as a decrease in response rates also occurred between the 1980 and the 1990 censuses.

In the 1990 Census, the United States Postal Service (USPS) was the primary vehicle for delivering census questionnaires. Based on a master address list, the Census Bureau mailed questionnaires to about 86.2 million housing units in areas designated as being Mailout/Mailback (MO/MB). Occupants were asked to complete the forms and mail them back in the provided postage paid envelope. In areas designated as Update/Leave (U/L), enumerators visited approximately 10.3 million housing units, verified addresses, and left questionnaires for occupants to complete and mail back in the provided postage paid envelope (U.S. Bureau of the Census, 1999a).

In the 1990 Census, both a questionnaire and a mail reminder card were delivered to all housing units in the Mailout/Mailback universe. The reminder card was delivered on March 30, approximately seven days after the questionnaire mailout. Census Day was officially April 1.

The mail response rate was defined as the ratio of the number of housing units returning a census questionnaire by mail to the total number of housing units that were on the address file to receive a census questionnaire delivered by mail or by a census enumerator.

The date for the mail return rate varied by District Office (DO) type (Type 1, 2, 2A, and 3). District Offices are similar to Local Census Offices in 2000. There were 449 stateside DOs in 1990. Of these, 103 were Type 1 DOs, which were located in urban areas. Type 2 DOs were located in small cities, suburbs, and rural areas, accounting for 276 of the 449 DOs. Seventy-nine of these were Type 2A, which handled the Update/Leave operation in addition to

the Mailout/Mailback Questionnaires. Most of the 70 Type 3 DOs were located in rural, sparsely settled areas, and few were located in small cities. The date for the mail return rates in 1990 was April 19 for Type 1 DOs and April 28 for Type 2, 2A, and 3 (U.S. Bureau of the Census, 1991).

For the 1990 Census the overall mail response rate was approximately 65.0 percent (U.S. Bureau of the Census, 1991). The mail response rate was 65.9 percent for short forms and 60.6 percent for long forms, resulting in a difference of 5.3 percentage points between form types (U.S. Bureau of the Census, 1991).

1.2 Census 2000 Dress Rehearsal

The Census 2000 Dress Rehearsal was conducted in three areas: Sacramento, California; Columbia, South Carolina, and 11 surrounding counties; and Menominee County, Wisconsin, including the Menominee American Indian Reservation. Each site was selected because of its demographic and geographic characteristics to provide experience with some of the expected Census 2000 environments. The Sacramento site was entirely Mailout/Mailback, South Carolina site was a mixture of Mailout/Mailback and Update/Leave addresses, and the Menominee site was entirely Update/Leave.

There were four components of the Mailout/Mailback delivery: an advance letter, an initial questionnaire, a reminder card, and a "blanket" replacement questionnaire (mailed to all addresses). These items used first-class postage and were distributed by the USPS as part of the regular postal routes. The advance letter was mailed to each address between March 24 and 27, 1998. The initial questionnaire was mailed between March 28 and 31. The reminder card was sent to housing units between April 3 and 6. Replacement questionnaires were mailed between April 15 and 17. Census Day was officially April 18.

The Update/Leave methodology involved Census Bureau enumerators delivering questionnaires at the same time they updated maps and the list of addresses. The Update/Leave delivery of questionnaires took place between March 14 and April 10, 1998. In ZIP codes that consisted entirely of Update/Leave housing units, the USPS delivered an advance letter to "postal patrons" using third-class postage.

Under both methodologies, respondents were asked to mail back their questionnaires in provided postage paid envelopes.

Short and long form questionnaires were included in both delivery methodologies. Every housing unit received either a short or a long form. The long form sampling rate for the dress rehearsal varied within site.

Response rate was defined to include in its numerator the number of housing units in the mailback universe that returned a questionnaire that was not blank. The response rate denominator included the number of housing units in the mailback universe that were either

mailed a questionnaire or - in Update/Leave areas - received one delivered by a census enumerator. Housing units with an undeliverable status were included in these denominators.

Table 1 contains the mail response rates for the three Dress Rehearsal test sites by form type (short versus long). Dress Rehearsal response rates are typically lower than those for the census. This is due to the fact that the dress rehearsal does not have a "census environment." A "census environment" allows for a higher response rate due to the publicity surrounding the census.

Table 1. Dress Rehearsal Mail Response Rates

		Form	Туре	
Site	Total	Short	Long	
Sacramento	53.0 %	55.4 %	40.7 %	
South Carolina	53.4 %	55.4 %	43.7 %	
Menominee	39.4 %	40.6 %	32.4 %	

1.3 Census 2000

In Census 2000, the questionnaire Mailout/Mailback system was the primary means of census taking. Cities, towns, and suburban areas with city-style addresses (house number and street name) as well as rural areas where city-style addresses are used for mail delivery comprised the Mailout/Mailback areas. Update/Leave areas consisted of addresses that are predominantly not city-style. Census enumerators delivered addressed questionnaires to Update/Leave housing units. Update/Leave enumerators also made any necessary corrections or additions to census maps and address lists as they delivered the questionnaires. In both delivery methodologies, the housing units were provided with first-class postage paid envelopes for returning their questionnaires.

1.3.1 Types of Mailback Questionnaires

Census 2000 included two types of questionnaires for mailback:

- A short form was delivered to approximately 83 percent of all housing units. This form allowed the respondent to list up to 12 household members. It provided space for reporting the basic population and housing data (i.e. name, relationship, age, sex, race, Hispanic origin, and tenure) for up to six household members and the housing unit.
- A long form was delivered to a sample approximately 17 percent of all housing units. This form allowed the respondent to list up to 12 household members. It included all the questions on the short form, as well as additional housing unit questions and additional person questions for up to six household members.

There is one difference between the Mailout/Mailback questionnaire and the Update/Leave questionnaire. The Update/Leave questionnaire gave the respondent the opportunity to correct address information.

1.3.2 Multiple Mailing Strategy

The Census Bureau used a mail strategy consisting of multiple contacts for Census 2000 in Mailout/Mailback areas. These contacts were:

- an advance notice letter to every mailout address that alerted households that the census form would be sent to them soon,
- a questionnaire to every mailout address, and
- a postcard to every mailout address that served as a thank you for respondents who had mailed back their questionnaire or as a reminder to those who had not.

This multiple mailing strategy used first-class postage for all mailing pieces in Mailout/Mailback areas. The volume for Mailout/Mailback areas was approximately 100 million pieces for each mailing.

There was also a mailout strategy used in Update/Leave areas for advance notice letters and reminder postcards. Advance notice letters were mailed to Update/Leave housing units that had "good" addresses using first-class mail. Reminder cards were sent to housing units in ZIP codes that consist entirely of Update/Leave housing units. The reminder postcards were addressed to "Residential Customer" and delivered using third-class postage. Consequently, some housing units received the advance notice letter and not the reminder card, some received the reminder card and not the advance notice letter, some received both, and some received neither. The expected volume for Update/Leave areas was about 22 million questionnaires (U.S. Bureau of the Census, 2001a).

1.3.3 Key Dates in Mailback Schedule

Mailout/Mailback Enumeration Areas:

Event	<u>Date</u>
Advance notice letter delivered	March 6 - March 8
Mailout of Questionnaire	March 13 - March 15
Delivery of Reminder Cards	March 20 - March 22
Census Day	April 1
Cut for Nonresponse Followup (NRFU)	April 11
Late Cut for NRFU	April 18

Update/Leave Enumeration Areas:

Event
Delivery of Advance Notice Letters
Delivery of Questionnaires
Delivery of Reminder Cards
Census Day
Initial Cut for NRFU
Late Cut for NRFU

Date
March 1 - March 3
March 3 - March 30
March 27 - March 29
April 1
April 11
April 18

1.3.4 Delivery of Questionnaires in Other Languages

The Census Bureau mailed census forms in five other languages (Chinese, Korean, Spanish, Tagalog, and Vietnamese) to housing units that requested them. The advance notice letter provided the respondent with the opportunity to make this request.

2. METHODOLOGY

The data files used to calculate the mail response rates are:

- Decennial Master Address File (DMAF)
- Decennial Response File Stage 2 (DRF-2)

2.1 Decennial Master Address File (DMAF)

The primary file used to calculate the mail response rates was the DMAF. We used this file to identify the housing units to include in the response rates. The DMAF contained variables that were used to limit the response rate denominator to housing units in mailback areas which were NRFU eligible. The MAILD variable from the DMAF identifies the date on which a mail return questionnaire was checked into the Data Capture Centers (DCCs). The DMAF also contains information on which form type (short versus long) was designated for each address. The definitions of the DMAF variables can be found in Appendix A.

2.2 Decennial Response File Stage 2 (DRF-2)

The DRF-2 is the file representing the capture of questionnaire data from Census 2000 and was used to determine which housing units had a valid mail return. We created a variable called DC_DRF from the RSOURCE variable on the DRF-2 to identify those addresses with a mail return. The DC_DRF variable was created based on all returns for an address on the DRF-2. This variable was merged onto the Decennial Statistical Studies Division's (DSSD's) version of the DMAF in order to calculate the response rates. For information on how this variable was

defined, see Appendix B. The definitions of the DRF-2 variables used in calculating response rates can also be found in Appendix B.

2.3 Calculation of the Mail Response Rate

The mail response rate denominator included housing units in mailback areas that were eligible for NRFU. The mail response rate numerator included housing units in the denominator that had a valid mail return and a mail return check-in date of April 18, 2000 (the date of the cut for the NRFU universe) or earlier (variable MAILD, values of '0101' through '0418', inclusive). Addresses with a valid mail return but no MAILD date (MAILD values of '0000', '0099', and '2000') were included in the mail response rate numerator if they did not have a NRFU or Coverage Improvement Followup (CIFU) data capture as determined using the DRF-2. The mail response rate was calculated for the geographic levels of tract, county, and state by summing the housing units up to each geographic level, dividing the numerator by the denominator, and rounding to the nearest tenth of a percentage point. The national mail response rate was created by summing the state numerators and denominators to the national level.

2.3.1 Mail Response Rate Denominator

Several criteria were used to identify addresses on the DMAF for the mail response rate denominator. Only housing units (GQFLG= 0 or 3) in mailback areas (Type of Enumeration Area (TEA) variable, values of 1, 2, 6, 7, or 9) were included in the denominator. Additionally, only addresses that were not pre-identified as having inadequate addresses for the mailout were included in the denominator (UAA variable \$\neq 8). One of the DMAF variables, NRFU Universe (NRU variable, values of 1, 2, 3, or 4) was used to climinate addresses not eligible for NRFU from the response rate denominator. The definitions of these DMAF variables can be found in Appendix A.

Separate mail response rate denominators were created for each of the three TEAs, for each of the two form types (short versus long), and for each TEA by form type. The three TEAs are Mailout/Mailback (TEA variable value of 1 or 6), Update/Leave (value of 2 or 9) and Urban Update Leave (UU/L) (value of 7). Questionnaire form type was determined using the ASAM variable (value of 1 for short form and 6 for long forms).

2.3.2 Mail Response Rate Numerator

For a housing unit to be in the mail response rate numerator, it had to be a mail return that was in the response rate denominator. Mail returns were determined using the DC_DRF variable from the DRF-2. An address had a valid mail return if this variable indicated that it had a data capture in the form of a paper mail return, an Internet return, a Be Counted form, a Telephone Questionnaire Assistance (TQA) return, or a Coverage Edit Followup (CEFU) return.

The MAILD variable from the DMAF was used to determine the date of a mail return's check-in. If the MAILD variable indicated that a return for the housing unit was received on or before April 18, 2000 ('0101'≤MAILD ≤'0418'), then the address also was in the mail response rate numerator.

There were some addresses with mail returns according to DC_DRF but no MAILD date (values of '0000', '0099', or '2000'). These addresses were assigned to the mail response rate numerator based on whether or not they had data captures in the NRFU or CIFU operations (DC_DRF variable digits 6 or 7). Only addresses with no mail returns on April 18, 2000 were supposed to be included in those two followup operations. Therefore, addresses with neither a NRFU nor a CIFU data capture were assigned to the mail response rate numerator.

2.4 Calculation of the Final Response Rate

Like the mail response rate, the final response rate is a measure of respondent participation in Census 2000. The difference is that the final response rate is not restricted to mail returns received before the cut for the NRFU universe. As with the mail response rates, the final response rates were calculated by dividing the numerator by the denominator and rounding to the nearest tenth of a percentage point.

2.4.1 Final Response Rate Denominator

The final response rates have the same denominators calculated from the DMAF as the mail response rates (see Section 2.3.1).

2.4.2 Final Response Rate Numerator

The final response rate numerator was calculated by including all valid mail returns as determined by the DC_DRF variable from the DRF-2 that were in the response rate denominator. Most of these mail returns had MAILD check-in dates between January 1 and October 19, 2000 (October 19 was the last day we received a mail return). Mail returns with no MAILD date which the DC_DRF variable showed with NRFU or CIFU data captures were assigned to the final response rate and not the mail response rate.

2.5 Calculation of the Daily Response Rates

The daily response rates were calculated in a manner similar to the mail and final response rates. For the cumulative daily response rates, the denominators were the same for all rates. The numerators for each date of the year 2000 were calculated by limiting the numerators to addresses with mail return check-in dates on or before the particular date. For instance, the daily cumulative response rate numerator for May 5 was limited to addresses with a MAILD value less than or equal to '0505'. As previously stated, the final date on which questionnaires with a MAILD date were received was October 19 (MAILD='1019'). To determine the daily increase

in the response rate, the numerators were calculated by limiting the numerators to addresses with mail return check-in dates on a particular date. For those mail returns in the denominator that did not have a valid MAILD date on the DMAF, we assigned a date of either April 18 or December 31 based on the existence of a NRFU or CIFU data capture. If these mail returns had neither a NRFU nor a CIFU data capture, then they were assigned a date of April 18. Those mail returns with either a NRFU or a CIFU data capture were assigned to the December 31 response rate.

2.6 Application of Quality Assurance Procedures

Quality Assurance procedures were applied to the design, implementation, analysis, and preparation of this report. A description of the procedures used is provided in the "Census 2000 Evaluation Program Quality Assurance Process."

3. LIMITATIONS

3.1 Missing Check-in Dates for Some Mail Returns

Appendix C shows a table with nineteen categories into which all addresses in the response rate denominator can be grouped based on their values for the DRF-2 variable DC_DRF and the DMAF variable MAILD. The rows of data in the table depend on the values of the DC_DRF variable from the DRF-2. The columns in the table are the values of MAILD on the DMAF.

There were 418,845 valid mail returns (0.4 percent of the response rate denominator) for which the DMAF variable MAILD did not indicate a check-in date (cells 1A, 1B, 2A, 2B, 6A, 6B, 7A, and 7B of the table). These returns were assigned to either the mail response rate or the final response rate based on whether or not their addresses also had a NRFU and CIFU return. Housing units with a valid mail return, no check-in date, and no data capture for NRFU or CIFU were assigned a date of April 18 and included in the mail response rate. These 11,188 mail returns are shown in cells 1A, 2A, 6A, and 7A of the table. Mail returns without a valid MAILD value and with a data capture for NRFU or CIFU were assigned a date of December 31 and only included in the final response rate. These 407,657 housing units are shown in cells 1B, 2B, 6B, and 7B of the table. The other problem with the MAILD variable is that it only reflects the date of check-in at the DCC, not the date on which a questionnaire was completed, mailed, or even the date on which the form was received by the DCC.

3.2 No Precise Cut-off Date for Nonresponse Followup Universe

A housing unit was counted toward the mail response rate numerator if MAILD indicated a check-in date prior to the late cut for NRFU. That date was set at April 18, 2000 but users of the rates should keep in mind that there was some noise in the data with respect to the date since the NRFU universe was generated on a flow basis. That is, the NRFU universe of all housing units

was not set instantaneously at midnight of April 18. The actual cut might have fallen on either side of that date for some housing units.

3.3 Housing Units in Denominator Not in Mailout

Some housing units on the DMAF from Mailout/Mailback and Update/Leave areas were added after the mailback universe was set. Hence, they are being counted toward the response rate denominator but did not have a chance to respond by mailback means prior to the late cut for NRFU.

3.4 Issues with Comparison of Results to Previous Censuses

The definition of mail response rate for Census 2000 is not exactly the same as that from previous censuses. These differences are the following:

- The TEAs in previous censuses were defined differently than those in 2000 and included different parts of the country.
- The timing of the mailout and the cut for NRFU were different for each of the 1970, 1980, 1990, and 2000 censuses.

Specifically for comparing 2000 to 1990:

• Like the 2000 final response rates, 1990 mail response rates at the state, county, and tract levels in 1990 were calculated based on all returns during the year. The 1990 national response rate was calculated with returns through the cut for NRFU.

3.5 Form Type of Mail Returns Based on Form Type in Mailout

Since this report does not analyze item non-response on valid mail returns, it is possible that some long forms that were returned did not contain complete data. The response rate analysis by form type was done based on which form the addresses were sent by the Census Bureau.

4. RESULTS

4.1 What were the Response Rates for the Nation?

The results presented in this report are for the fifty states and the District of Columbia. They do not include the response rate for Puerto Rico. There were 117,661,748 housing units in mailback areas in Census 2000 that were eligible for NRFU and to which the USPS or the Census Bureau attempted to deliver questionnaires. This number is the national response rate denominator. Of this number, 20,082,777 housing units or 17.1 percent of the housing units received a long form

questionnaire. Thus, the sampling rate for the long forms was slightly above one in six or 16.7 percent.

Table 2 shows the total mail response rates and these rates by form type based on mail returns received on or before April 18, 2000. The data presented in the table are grouped into three TEAs - MO/MB (TEAs 1 and 6), U/L (TEAs 2 and 9), and UU/L (TEA 7). The national mail response rate was 64.3 percent, meaning that 75,608,035 housing units returned their questionnaires in time to avoid the necessity of enumeration in Nonresponse Followup. This mail response rate is less than one percentage point below the mail response rate of 65.0 percent in the 1990 Census (U.S. Bureau of the Census, 1991). The numerators and denominators for the mail response rates by TEA can be found in Appendix D.

The table shows that 66.4 percent or 64,792,554 housing units who received short forms returned them by April 18, 2000. In contrast, only about 53.9 percent of housing units who were delivered long forms returned them by that date. This 12.5 percentage point discrepancy means that a higher proportion of the data was collected by Census Bureau interviewers in NRFU on long forms than was the case for short form households. For information about the quality of data collected during NRFU for long forms and short forms, see Census 2000 Evaluation B.1: Analysis of the Imputation Process for 100 Percent Household Population Item (U.S. Bureau of the Census, 2001b). Approximately 14.3 percent of mail returns were long forms, a substantially lower percentage than the overall 17.1 percent sampling rate.

Table 2. National Mail Response Rates as of April 18, 2000 by Form Type and Type of Enumeration Area for the Fifty States and the District of Columbia

		Form Type		
	Total	Short	Long	Difference
TOTAL	64.3%	66.4%	53.9%	12.5%
Mailout/Mailback	65.4%	67.3%	54.6%	12.7%
Update/Leave	59.3%	61.9%	51.9%	10.0%
Urban Update/Leave	50.5%	52.2%	41.2%	11.0%

Source: DMAF and DRF-2.

The difference in response rates by form type is not surprising, given the difference in response burden between the short form and the long form. The short form only included seven questions. Person one was asked for name, age, sex, race, Hispanic ethnicity, and tenure. In addition to name, age, sex, race, and Hispanic ethnicity, persons two through six were also asked relationship to person one. In comparison, the long form had a total of 53 questions on a variety of topics including income, utilities, ancestry, and occupation. This gap between short form mail response rates and long form mail response rates varies by TEA, with MO/MB households having the greatest difference in response rates by form type and households in U/L areas having the smallest gap.

Another noticeable variation in response rates is that housing units in MO/MB areas returned a much greater proportion (65.4 percent) of their forms than those in U/L (59.3 percent) and, especially, UU/L (50.5 percent) areas. One explanation for this difference is that MO/MB areas are generally more prosperous and have greater exposure to media advertising the census than more sparsely populated U/L areas and inner-city UU/L areas. Another potential explanation is the delivery schedule for U/L and UU/L areas is longer than the schedule for MO/MB (March 3-30 vs. March 13-15). Residents in U/L and UU/L areas that received their questionnaires at the end of the delivery schedule had less time to fill them out then residents in MO/MB areas that received their questionnaires at the end of the MO/MB schedule. Additionally, there are often problems with postal delivery in UU/L and U/L areas and those households were less likely to receive the advance notice and reminder postcard. As a result of this discrepancy, a smaller proportion of residents of U/L and UU/L areas were self-enumerated than residents of primarily urban and suburban MO/MB areas with city-style addresses. For the mail response rates by form type for each of the fifty states, the District of Columbia, and Puerto Rico, see U.S. Bureau of the Census, 2002b.

Table 3 shows the final response rates as of December 31, 2000 by TEA and form type. The number of households in mailback areas that returned their questionnaires after April 18, 2000 was 3,703,140, increasing the final response rate by 3.1 percentage points over the mail response rate. The final response rate of 67.4 percent indicates the percentage of addresses in mailback areas that returned their questionnaires by the end of the year. Note the last form which was received and processed was October 19, 2000.

Table 3. National Final Mail Response Rates as of December 31, 2000 by Form Type and Type of Enumeration Area for the Fifty States and the District of Columbia

		<u>Forn</u>	туре	_
Type of Enumeration	Total	Short	Long	Difference
TOTAL	67.4%	69.1%	59.4%	9.6%
Mailout/Mailback	68.5%	70.0%	60.4%	9.6%
Update/Leave	62.6%	64.6%	57.0%	7.6%
Urban Update/Leave	54.8%	56.1%	47.5%	8.7%

Source: DMAF and DRF-2.

Most of the patterns in the response rates revealed in Table 3 are similar to those in Table 2, though final response rates for all groups are, of course, higher. Short form final response rates (69.1 percent) are higher than long form final response rates (59.4 percent) and this difference is greatest in MO/MB areas. The MO/MB areas have the highest final response rate (68.5 percent) among TEAs and UU/L areas have the lowest (54.8 percent). One noteworthy difference between final and mail response rates is that the discrepancy between short form response rates and long form response rates is substantially lower for final response rates (9.6 percent) than for mail response rates (12.5 percent). Many households with long forms returned those forms at a

later date than households who received short forms. The form type gap decline in the final response rates was true for all TEAs.

Table 4 compares the mail response rates and the final response rates for the national total and for each of the three TEAs. The data reveal that there was a greater increase in UU/L and U/L areas between April 18 and the end of the year than in MO/MB areas. Thus, the gap among the TEAs that is evident in the mail response rates is not as great for the final response rates. The MO/MB mail response rate is 6.1 percentage points higher than the U/L mail response rate, while the MO/MB final response rate is about 5.9 percentage points higher than the U/L final response rate.

Table 4. Comparison of Mail Response Rates as of April 18, 2000 and Final Response Rates as of December 31, 2000 by Type of Enumeration Area for the Fifty States and the District of Columbia

	A	s of:	T. Live KE streets in
Type of Enumeration	4/18/2000	12/31/2000	Difference
TOTAL	64.3%	67.4%	3.1%
Mailout/Mailback	65.4%	68.5%	3.1%
Update/Leave	59.3%	62.6%	3.3%
Urban Update/Leave	50.5%	54.8%	4.3%

Source: DMAF and DRF-2.

In Table 5, we compare mail response rates and final response rates by TEA for short forms. The patterns of these data are similar to those observed in Table 4, although the increase from mail response rates to final response rates (2.7 percent) is smaller for short forms than for the overall response rates (3.1 percent).

Table 5. Comparison of Mail Response Rates as of April 18, 2000 and Final Response Rates as of December 31, 2000 for Short Forms by Type of Enumeration Area for the Fifty States and the District of Columbia

	As o	f:	-
	4/18/2000	12/31/2000	Difference
TOTAL	66.4%	69.1%	2.7%
Mailout/Mailback	67.3%	70.0%	2.7%
Update/Leave	61.9%	64.6%	2.6%
Urban Update/Leave	52.2%	56.1%	4.0%

Source: DMAF and DRF-2.

Table 6 shows the same rates as Tables 4 and 5, but for long forms. It is clear that a particularly large proportion of long form households in all areas returned mailback questionnaires after April 18, as compared to the short forms (Table 5).

Table 6. Comparison of Mail Response Rates as of April 18, 2000 and Final Response Rates as of December 31, 2000 for Long Forms by Type of Enumeration Area for the Fifty States and the District of Columbia

		As of:	
	4/18/2000	12/31/2000	Difference
TOTAL	53.9%	59.4%	5.6%
Mailout/Mailback	54.6%	60.4%	5.7%
Update/Leave	51.9%	57.0%	5.1%
Urban Update/Leave	41,2%	47.5%	6.3%

Source: DMAF and DRF-2.

4.2 What were the Daily Response Rates?

Figure 1, as shown in Appendix E, shows the cumulative mail response rates by form type for each day from March 3 until April 18, 2000. These dates correspond to the start of questionnaire delivery by Census Bureau staff in U/L areas and the cut for the NRFU universe, respectively. Addresses for which mail returns were received after April 18 were still visited by enumerators in NRFU. The x-axis on the figure shows the date and the y-axis shows the cumulative response rate for each date. The light-shaded line indicates the response rates for long forms, the medium-shaded line for short forms, and the thickest and darkest line is the total cumulative daily response rate. The data for Figures 1-4 can be found in Appendices F and G. Appendix F shows the daily increase and cumulative mail returns for both the response rate numerator and the response rate, as well as key census dates. Appendix G-1 shows the same data for short forms and Appendix G-2 for long forms.

As indicated by Figure 1, the response rates gradually increased after the beginning of U/L delivery until about March 15. On that date, the mailout of questionnaires (March 13 through 15) in MO/MB areas caused a surge in the response rates as a large majority of households received their questionnaires and many began to return them. Due to the time required for the USPS to deliver mail, there is approximately a two day lag between the date that householders mailed their forms and their check-in at the DCCs. As expected, based on the lower overall response rates for long forms, the line indicating long form response rates increases more gradually than the lines for total and short form response rates. Within a week of the mailout of questionnaires, a substantial gap is evident between long form response rates and the higher short form and total response rates. Since most questionnaires are short forms, it is not surprising that the pattern of returns for short forms is parallel but slightly higher than that for the total response rate.

Aside from the initial surge in mail returns beginning March 15, the general pattern evidenced in Figure 1 is one in which the response rate increased rapidly for a few weeks and then began to level off. A second period of accelerated returns after the March 15 to 17 period occurred around March 20 with declines in the slope of the lines after March 23 and March 28. By the cut for the

NRFU universe on April 18, the increase in the response rates has become gradual, indicating that most households who are likely to return their forms had done so on that date.

Figure 2 (see Appendix E) better reveals some of the patterns mentioned above. This figure shows the daily increase of the response rates rather than the cumulative rates for each date from March 3 through April 18, 2000. As in Figure 1, different lines indicate the mail returns for the total and for each form type. This figure reveals certain interesting patterns in the daily return of questionnaires. As described before, a higher proportion of short form mail returns were received at earlier dates. Due to the greater amount of time and effort in filling out the long form, many long form households took longer to return their questionnaires. The initial peak period of returns after the mailout was much greater for short forms than long forms and occurred on earlier days. On March 15, 2.8 percent of short forms were returned and 1.0 percent of long forms were checked in. Two days later, on March 17, 4.6 percent of short forms were checked in and 1.9 percent of long forms were received.

As Figures 1 and 2 show, most short form mail returns came in between March 15 and March 28. Long forms were returned in the greatest numbers between March 20 and April 1. In fact, contrary to the short form pattern, the March 27/28 spike in returns was relatively much greater for long forms than the March 16/17 spike. For most of the period after March 28, long forms were actually being returned at a higher rate than short forms and the gap between the cumulative response rates for the two form types decreased. This is clear in Figure 2 which shows the line for long forms to be higher than that for short forms for almost every date after March 28. This indicates that a late cut for NRFU (April 18) resulted in a lower long form workload for NRFU, as compared to an April 10 date, and resulted in reducing the respondent burden. However, the rate of returns for both form types was well below one percent for every date after April 10.

The data indicate an increase in mail returns after the reminder postcards were mailed between March 20 and March 22. For both long forms and short forms, the greatest increase in mail response rates occurred on these dates and the days immediately following. The DCCs received short form returns at an especially high rate from March 20 through 23, with a peak daily increase of 5.2 percentage points on March 22, 2000. For long forms, this peak occurred from March 21 through 24 with the greatest daily increase of 4.2 percentage points on March 23 and 24.

Figure 2 also indicates that households, particularly those with long forms, exhibited some tendency to hold their questionnaires until Census Day (April 1, 2000). Figure 2 shows a major spike in long form returns and a smaller increase in short form returns on April 3 and 4, two days after Census Day. Between the initial cut for NRFU on April 10 and the final cut on April 18, households continued to send in mail returns at a substantial, though relatively low and dwindling, rate. During that period, 626,467 long forms or 3.1 percent of long forms were returned and 1,908,915 short forms or 2.0 percent of short forms were checked in. Without a final NRFU universe cut on April 18, the NRFU workload would have been increased by this number of housing units.

Figure 3 (see Appendix E) shows the increase in response rates by form type for the entire year of 2000. The left side of this figure is the same as Figure 1, but Figure 3 extends the timeline of cumulative mail returns from April 18 to December 31. The figure reveals that the response rates leveled off after April 18 with a gradually flattening slope for all three lines. The pattern was similar for the different form types although the gap in rates between long and short forms gradually narrowed as time passed. For the total response rate, 3,703,140 mail returns were checked in after April 18. These forms resulted in an increase in the response rate of 3.1 percentage points. Between April 18 and the end of the year, the short form response rate increased by 2.6 percentage points (2,588,285 housing units) and the long form increased by 5.6 percentage points (1,114,855 housing units). For nearly every single date after March 28, the daily percentage increase in response rate was greater for long forms than for short forms. As Appendices F and G show, the last confirmed date on which questionnaires were checked in was October 19, 2000, when three short forms were received. Prior to that day, 50 short forms and 13 long forms were checked in to the DCCs on September 15. The last date for which we have check-ins which resulted in a rate increase was June 15 for short forms when the short form response rate reached 68.7 percent. For long forms, this date was June 29 when the long form response rate leveled off at 58.9 percent.

Figure 4, as shown in Appendix E, is an extension of Figure 2 through the end of 2000. It shows the daily increase in the response rates by form type for the entire year. After April 18, the number of mail returns continued to decline until very few forms were being received by May 6. As noted above, a relatively higher increase was observed for long forms than short forms for these mail returns in late April, May, and June. The figure shows several small weekly peaks on Fridays in May when a substantial number of forms were checked in to the DCCs. It appears that shipments of mail returns may have arrived at the DCCs on Fridays or that the DCC staff may have held mail returns during the week to check in on Friday. The largest single-day receipt of mail returns after April 18 was on June 15 when 95,721 long forms and 146,022 short forms were checked in.

The final increase in the response rates that appears on Figure 4 is on December 31, 2000. Those 407,657 questionnaires are the mail returns for which no mail return check-in date was recorded and for which there was a NRFU or CIFU data capture in addition to a mail return data capture. Since only mail returns received after April 18 could be in the NRFU or CIFU workloads, we determined that these mail returns came in after that date. We assigned a check-in date of December 31 to these mail returns and they were included in the final response rate. Mail returns without a check-in date that were not in the NRFU and CIFU universe were assigned a date of April 18 and included in the mail response rate.

The data presented in Figure 4 and in Appendices F and G show the potential effect on the NRFU workload of using a later cut date for the NRFU universe. In between April 19 and April 25, 1,052,712 mail returns were checked in, representing 28.4 percent of the returns received after April 18. If the final NRFU cut had occurred one week later, around April 25 instead of April 18, then the NRFU workload would have been reduced by 1,052,712 housing

units, or about 2.5 percent of the NRFU workload. This reduction in the workload would have saved close to \$28.4 million, given that the cost of enumerating one housing unit in NRFU is just under \$27 (see U.S. Bureau of the Census, 2002c). Since mail returns that were received after April 18 were disproportionately long forms, the savings were potentially even greater. If the cut for the NRFU universe had been delayed one more week until May 2, then the NRFU workload would have been reduced by approximately 598,000 additional housing units. However, a later start of the NRFU operation, despite a lower workload, could result in greater scheduling challenges.

Some of the daily fluctuation of mail returns observed in Figures 2 and 4 can be explained by the effect of the day of the week. More questionnaires were checked in on Thursdays (17.7 percent of all mail returns during the year), Fridays (16.4 percent), and Wednesdays (16.3 percent) than on other days of the week. Relatively few questionnaires came in on Sundays (9.3 percent) and Saturdays (11.0 percent). The dearth of check-ins on Sunday is probably the result of the fact that the USPS does not normally deliver mail on Sunday and that the DCCs worked fewer hours on weekends and thus checked in fewer forms on those days. Also, if respondents held their questionnaires until the beginning of a work week (Monday) to mail, then their forms would likely have arrived Wednesday or Thursday at the DCCs, explaining the increase in check-ins on those days.

4.3 How much did the Response Rates Differ from Census 2000 Return Rates?

Table 7 compares the mail response rates for Census 2000 to the mail return rates. Mail return rate is essentially a measure of the percentage of occupied housing units that returned their questionnaires by April 18, 2000. It is a more useful rate for determining respondent cooperation and not as good as the response rate for measuring the NRFU workload. The denominator of the mail return rate is calculated from the Hundred percent Census Edited File with the reinstated housing units (HCEF_D'). It includes all occupied housing units in mailback TEAs that were added to the address file prior to NRFU and had addresses that were delivered by the USPS or during the Census Bureau delivery operation. The March 2001 MAF extract provided information on which addresses were added prior to NRFU. The response rate denominator (117,661,748 housing units) is larger than the return rate denominator (101,398,131), largely because the response rate denominator includes vacant housing units, Undeliverable As Addressed (UAA) addresses, some addresses deleted in U/L and UU/L delivery, and deleted in either NRFU or CIFU. The return rate numerator (75,163,020 housing units) is calculated similarly to the response rate numerator (75,608,035 housing units). For more information on mail return rates and their calculation see U.S. Bureau of the Census, 2002b.

The first column of data in Table 7 shows the mail response rates broken down by total, form type, TEA, and form type and TEA. The next column shows the equivalent mail return rates and the last column shows the difference between the two rates. The total national mail return rate was 74.1 percent, 9.9 percentage points higher than the mail response rate. The difference

between the two rates is greater for short forms than long forms and greater for UU/L and U/L than for MO/MB areas.

Table 7. Mail Response and Mail Return Rates as of April 18, 2000 by Form Type and Type of Enumeration for the Fifty States and the District of Columbia

<u> </u>		Ra	ite	
		Response	Return	Difference
TOTAL		64.3%	74.1%	9.9%
Form Type	Short	66.4%	76.4%	10.0%
	Long	53.9%	63.0%	9.2%
Type of	Mailout/Mailback	65.4%	75.1%	9.7%
	Update/Leave	59.3%	69.6%	10.3%
	Urban Update/Leave	50.5%	63.7%	13.1%
Form Type	Short			
and Type of	Mailout/Mailback	67.3%	77.2%	9.9%
Enumeration	Update/Leave	61.9%	72.3%	10.4%
	Urban Update/Leave	52.2%	65.7%	13.5%
	Long			
	Mailout/Mailback	54.6%	63.4%	8.8%
	Update/Leave	51.9%	61.9%	10.0%
	Urban Update/Leave	41.2%	52.3%	11.1%

Source: HCEF D', DMAF, DRF-2, and March 2001 MAF Extract.

Table 8 compares the final return and final response rates by form type and TEA. The final return rate is similar to the mail return rate but includes all mail returns through the end of the year 2000. The total final return rate was 78.4 percent (79,530,100 housing units), 11.0 percentage points higher than the 67.4 percent (79,311,175) final response rate. This is a greater difference than the difference in the mail response and return rates. The differences between final return and response rates are about the same for both form types and are greater in UU/L and U/L areas than in MO/MB areas.

Table 8. Final Response and Final Return Rates as of December 31, 2000 by Form Type and Type of Enumeration for the Fifty States and the District of Columbia

	for fine property of	Ra	te	<u> </u>
		Response	Return	Difference
TOTAL		67.4%	78.4%	11.0%
Form Type	Short	69.1%	80.1%	11.0%
	Long	59.4%	70.5%	11.1%
Type of	Mailout/Mailback	68.5%	78.6%	10.1%
Enumeration	Update/Leave	62.6%	77.9%	15.3%
	Urban Update/Leave	54.8%	70.8%	16.0%
Form Type	Short			
and Type of	Mailout/Mailback	70.0%	80.1%	10.1%
Enumeration	Update/Leave	64.6%	79.9%	15.4%
	Urban Update/Leave	56.1%	72.3%	16.2%
	Long			
	Mailout/Mailback	60.4%	69.9%	9.5%
	Update/Leave	57.0%	72.1%	15.1%
	Urban Update/Leave	47.5%	62.5%	15.0%

Source: HCEF_D', DMAF, DRF-2, and March 2001 MAF Extract.

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Appendix A: Decennial Master Address File (DMAF) Variable Definitions

ST Collection FIPS State Code

COU Collection FIPS County Code

TRACT Collection Census Tract

MAFID MAF and DMAF ID

characters 1-2 = state code when the MAF ID was assigned characters 3-5 = county code when the MAF ID was assigned

characters 6-12 = control ID

TEA Type of Enumeration Area

1 = Mailout Mailback

2 = Update Leave

3 = List Enumerate

4 = Remote List Enumerate

5 = Rural Update Enumerate

6 = Military in Update Leave Area

7 = Urban Update Leave

8 = Urban Update Enumerate

9 = Update Leave (converted from TEA 1)

GQFLG Group Quarters Housing Unit Flag

0 = Housing Unit

1 = Special Place

2 = Group Quarters

3 = GQ Embedded Housing Unit

ASAM A Priori Sample

1 = Short Form

6 = Long Form

NRU Nonresponse Followup Universe

0 = Universe not set

1 = Not in NRFU; data received (This indicates that a form was checked in; it

does not guarantee that the form has any data.)

2 = Not in NRFU; but NRD, NRS, NRC and NRPOP will be set by

Update/Enumerate or List/Enumerate

3 = In NRFU, Nonresponse

4 = In NRFU, Too late for mailout

DC_DRF(12) Source of Data Capture⁴

- 0 = None
- 1 = Some Data Capture

The types of data capture for housing units are -

- (1) Mail Return (RSOURCE: 1, 4 10)
- (2) Telephone Questionnaire Assistance (TQA) (RSOURCE: 31)
- (3) Internet (RSOURCE: 30)
- (4) Be Counted Form (BCF) (RSOURCE: 11, 12)
- (5) CEFU Data Capture (RSOURCE: 34 36)
- (6) NRFU Data Capture (RSOURCE: 17 21)
- (7) CIFU Data Capture (RSOURCE: 22 24)
- (8) TQA/BCF (RSOURCE: 3, 32, 33)
- (9) List Enumerate/Update Enumerate (RSOURCE: 13 16)
- (10) Group Quarters (RSOURCE: 25 29)
- (11) Orphans (RSOURCE: 37)
- (12) Other (RSOURCE: -1)

MAILD

Mail Return Check-in Month and Day

0000 = No Mail Return Check-in

0099 = Reverse Check-in

0101 - 1231 = Check-in Day of 1" Return

2000 = Check-in, Date Unknown

UAA

Undeliverable As Addressed (UAA)

- 0 = No UAA check-in
- 1 = UAA check-in in NPC only
- 2 = UAA check-in in NPC; in LCO check-in; no LCO check-out
- 3 = UAA check-in in NPC; no LCO check-in; in LCO check-out
- 4 = UAA check-in in NPC; in LCO check-in; in LCO check-out
- 5 = No UAA check-in in NPC; in LCO check-in; no LCO check-out
- 6 = No UAA check-in in NPC; no LCO check-in; in LCO check-out
- 7 = No UAA check-in in NPC; in LCO check-in; in LCO check-out
- 8 = Not enough Address information Excluded from the Mailout

⁴This is a DRF2 variable and is based on the RSOURCE variable from the DRF-2. It was appended to the DMAF SAS dataset produced by the DSSD.

Appendix B: Decennial Response File Stage 2 (DRF-2) Variable Definitions

RST Collection FIPS State Code

RUID Unit ID Number (DMAF)

characters I-2 = state (when MAF ID was assigned)

characters 3-5 = county characters 6-12 = sequence ID

RSOURCE Source of Return

-1 = Not Computed

1 = Paper mail back questionnaire from mail out

2 = Paper mail back questionnaire from TQA mail out WITH ID

3 = Paper mail back questionnaire from TQA mail out with NO ID

4 = Paper mail back questionnaire from Update Leave

5 = Paper mail back questionnaire from Update Leave ADD

6 = Paper mail back questionnaire from Update Leave SUBSTITUTE

7 = Paper mail back questionnaire from Urban Update Leave

8 = Paper mail back questionnaire from Urban Update Leave ADD

9 = Paper mail back questionnaire from Urban Update Leave SUBSTITUTE

10 = Paper mail back questionnaire from Request for Foreign Language

11 = Paper mail back questionnaire from BCF marked as whole household

12 = Paper mail back questionnaire from BCF partial household (i.e., NOT marked as whole household)

13 = Paper enumerator questionnaire from List Enumerate

14 = Paper enumerator questionnaire from Update Enumerate

15 = Paper enumerator questionnaire from Update Enumerate ADD

16 = Paper enumerator questionnaire from Update Enumerate SUBSTITUTE

17 = Paper enumerator questionnaire from Nonresponse Followup (NRFU)

18 = Paper enumerator questionnaire from NRFU ADD

19 = Paper enumerator questionnaire from NRFU SUBSTITUTE

20 = Paper enumerator questionnaire from NRFU Whole Household Usual Home Elsewhere (WHUHE)

21 = Paper enumerator questionnaire from NRFU In-mover

22 = Paper enumerator questionnaire from Coverage Improvement Followup (CIFU)

23 = Paper enumerator questionnaire from CIFU ADD

24 = Paper enumerator questionnaire from CIFU SUBSTITUTE

25 = Paper enumerator questionnaire from T-Night

26 = Paper questionnaire for UHE from Service-based Enumeration (SBE) (Individual Census Questionnaire (ICQ))

27 = Paper questionnaire for UHE from Group Quarters (GQ) enumeration (Individual Census Questionnaire (ICQ))

28 = Paper questionnaire for UHE from Military GQ enumeration (Military Census Report (MCR))

29 = Paper questionnaire for UHE from Shipboard GQ enumeration (Shipboard Census Report (SCR))

- 30 = Electronic short form from IDC
- 31 = Electronic TQA reverse-CATI short form
- 32 = Electronic TQA reverse-CATI BCF for whole household
- 33 = Electronic TOA reverse-CATI BCF for partial household
- 34 = Electronic Coverage Edit Followup (CEFU) from long or short form
- 35 = Electronic CEFU from BCF for whole household
- 36 = Electronic CEFU from IDC
- 37 = Paper enumerator continuation form unlinked "orphan"

DC_DRF(12) Source of Data Capture

- 0 = None
- 1 = Some Data Capture

The types of data capture for housing units are -

- (1) Mail Return (RSOURCE: 1, 4 10)
- (2) Telephone Questionnaire Assistance (TQA) (RSOURCE: 31)
- (3) Internet (RSOURCE: 30)
- (4) Be Counted Form (BCF) (RSOURCE: 11, 12)
- (5) CEFU Data Capture (RSOURCE: 34 36)
- (6) NRFU Data Capture (RSOURCE: 17 21)
- (7) CIFU Data Capture (RSOURCE: 22 24)
- (8) TQA/BCF (RSOURCE: 3, 32, 33)
- (9) List Enumerate/Update Enumerate (RSOURCE: 13 16)
- (10) Group Quarters (RSOURCE: 25 29)
- (11) Orphans (RSOURCE: 37)
- (12) Other (RSOURCE: -1)

Appendix C: Nineteen Response Categories of Housing Units in the Response Rate Denominator

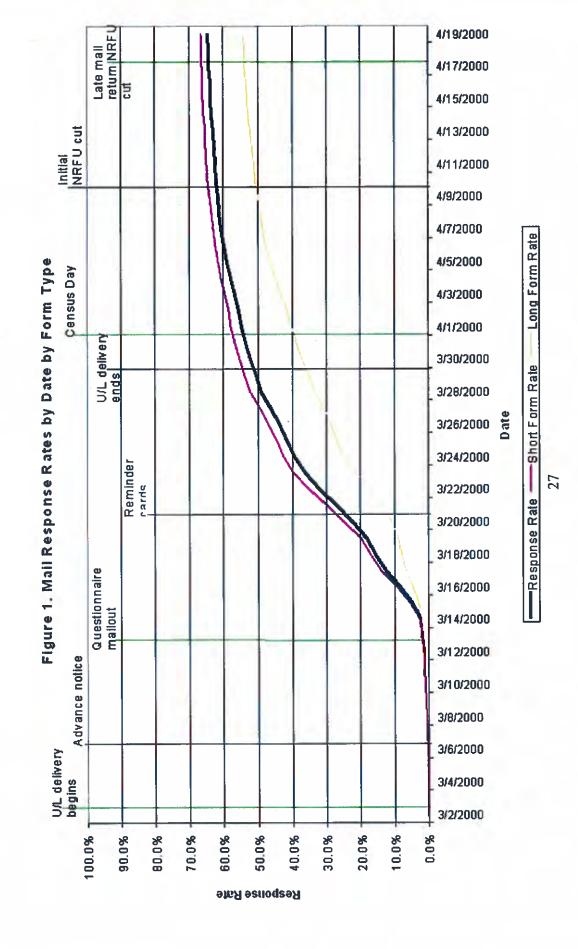
						Mail Check in Date (MAILD)	(MAILD)		
	Data Capture Flags (DC_DRF from DRF-2)	No Mail Check i (0000 or 2000)	No Mail Check in (0000 or 2000)	Reverse Check in (0099)	Check in 99)	Mail Returns Jan 1 - Apr 10 (0101 - 0410)	Late Mail Returns Apr 11 - Apr 18 (0411 - 0418)	Late Late Mail Returns Apr 19 - Dec 31 (0419 - 1231)	Total
	Paner Mail Rehim or	1A*	1B*	2A*	2B*	e,	4	5	
Mail	Tope or Internet or Be Counted or TQA/Be Counted	1,939	401,666	8,657	2,646	71,943,511	2,460,317	3,247,472	78,066,208
Keturns		6A*	6B*	7A*	7B*	80	6	10	
	CEFU	13	2,592	579	753	1,129,142	63,877	48,011	1,244,967
N	NR FIT or CIFIL or		_	7	12	13	14	15	
Mail Returns	No Data Capture or Other Data Capture	28,27	770,977	987,902	902	122,671	6,020	8,963,003	38,350,573
	Total	28,67	28,677,187	1,000	1,000,537	73,195,324	2,530,214	12,258,486	117,661,748
*	A - Neither NRFU nor CIFU data capture	FU data cap		B-Either NI	RFU or CIF	B-Either NRFU or CIFU data capture			

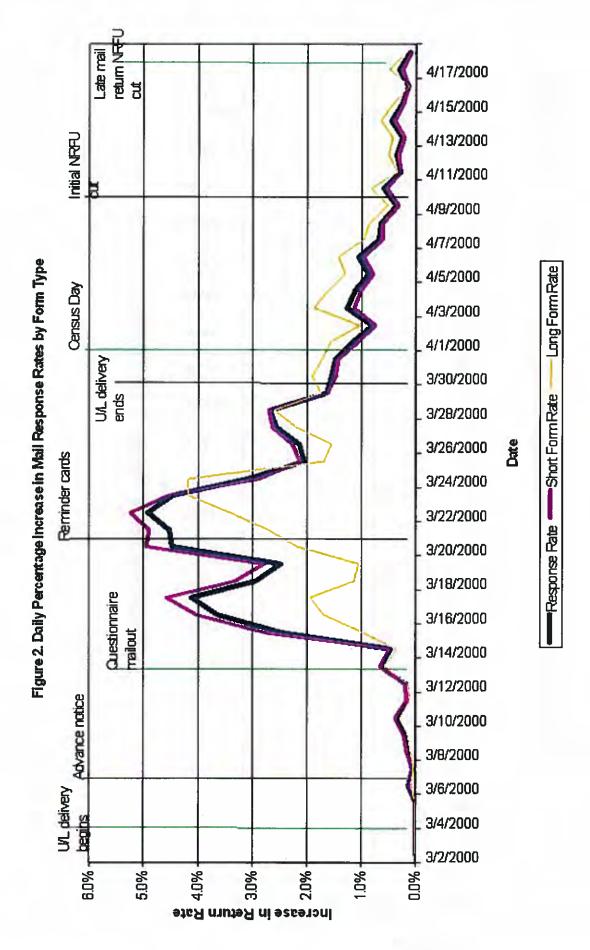
Appendix D: Response Rate Numerators and Denominators

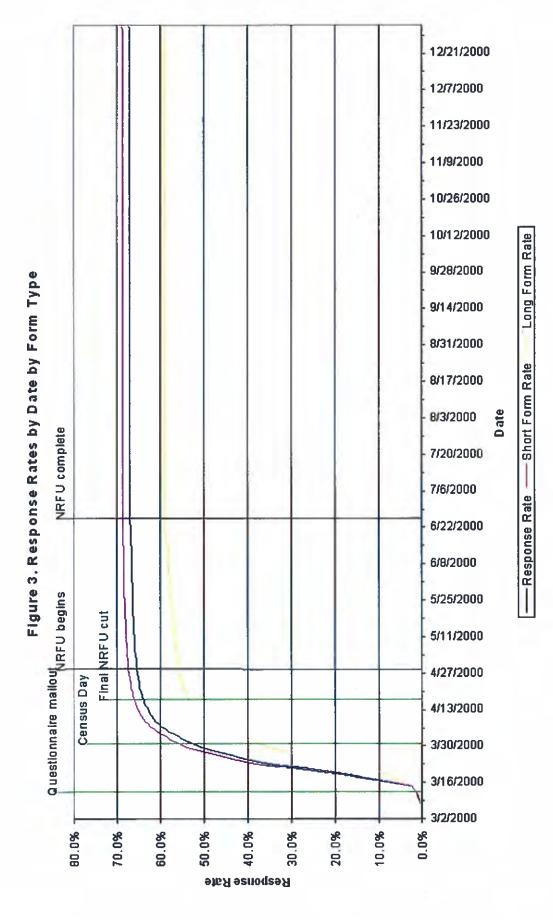
		Numera	Numerator-April 18, 2000	, 2000	Numerato	Numerator-December 31, 2000	11, 2000		Denominator	
		¥.3	For	Form Type		Form Type	ype	1	Form	Form Type
	State	Total	Short	Long	Total	Short	Long	Total	Short	Long
	TOTAL	TOTAL 75,608,035 64,792,554 10,815,481	64,792,554	10,815,481	79,311,175	67,380,839 11,930,336	11,930,336	117,661,748	117,661,748 97,578,971 20,082,777	20,082,777
	Mailout/ Mailback	62,890,520	62,890,520 54,955,537 7,934,983	7,934,983	65,887,892	57,119,451	8,768,441	96,184,164	96,184,164 81,658,117 14,526,047	14,526,047
Type of Update	Update/ Leave	12,591,087	12,591,087 9,726,223 2,864,864	2,864,864	13,286,080	10,142,192 3,143,888	3,143,888	21,227,339	21,227,339 15,708,543 5,518,796	5,518,796
	Urban Update/ Leave	126,428	110,794	15,634	137,203	119,196	18,007	250,245	212,311	37,934

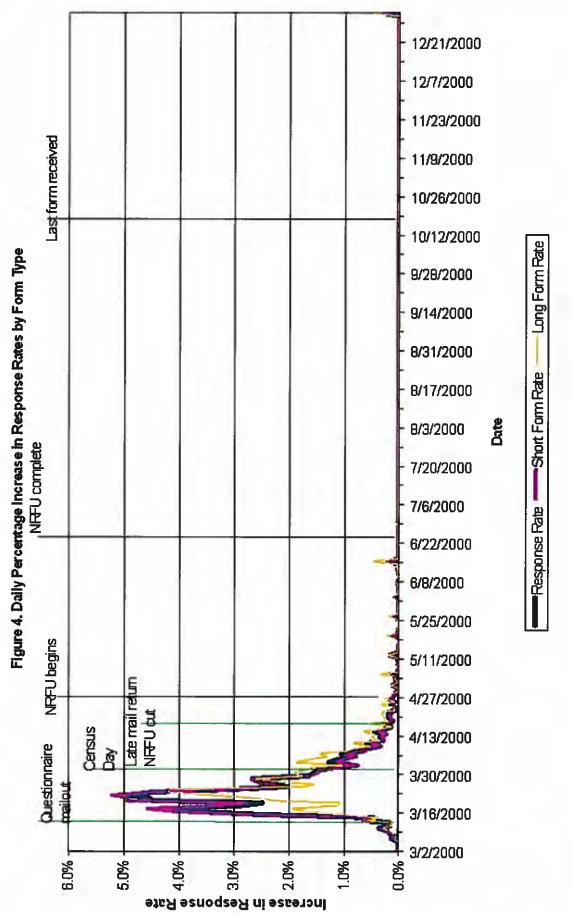
Source: DMAF and DRF-2
Note: National totals do not include Puerto Rico.

Appendix E: Four Figures Illustrating the Mail Response Rates as of April 18, 2000 and the Final Mail Response Rates as of December 31, 2000 by Day and Form Type and Daily Percentage Increase in Response Rates by Day and Form Type









Appendix F: Mail Response Numerators and Rates by Day

Day Thursday Friday Saturday Sunday						
ay ay				Daily		
Thursday Friday Saturday Sunday	Date	Daily Increase	Cumulative	Increase	Cumulative	Key dates
Friday Saturday Sunday	03/02/2000		0	%0.0	%0.0	
Saturday Sunday	03/03/2000	1,397	1,397	%0.0	%0 0	U/L delivery begins
Sunday	03/04/2000	69	1,462	0.0%	%0.0	
•	03/05/2000	52	1,514	%0.0	%0.0	
Monday	03/06/2000	149,634	151,148	0.1%	0.1%	Advance notice delivery begins
Tuesday	03/07/2000	62,469	213,617	0.1%	0.2%	
Wednesday	03/08/2000	176,971	390,588	0.2%	0.3%	Advance notice delivery ends
Thursday	03/09/2000	235,918	626,506	0.2%	0.5%	
Friday	03/10/2000	422,723	1,049,229	0.4%	0.9%	
Saturday	03/11/2000	180,427	1,229,656	0.2%	1.0%	
Sunday	03/12/2000	217,372	1,447,028	0.2%	1.2%	
Monday	03/13/2000	756,539	2,203.567	0.6%	1.9%	Questionnaire mailout delivery begins
Tuesday	03/14/2000	550,444	2,754,011	0.5%	2.3%	
Wednesday	03/15/2000	2,915,464	5,669,475	2.5%	4.8%	Questionnaire mailout delivery ends
Thursday	03/16/2000	4,269,016	9,938,491	3.6%	8.4%	
Friday	03/17/2000	4,851,766	14,790,257	4.1%	12.6%	
Saturday	03/18/2000	3,454,841	18,245,098	2.9%	15.5%	
Sunday	03/19/2000	2,923,374	21,168,472	2.5%	18.0%	
Monday	03/20/2000	5,262,381	26,430,853	4.5%	22.5%	Reminder card delivery begins
Tuesday	03/21/2000	5,326,760	31,757,613	4.5%	27.0%	
Wednesday	03/22/2000	5,791,069	37,548,682	4.9%	31.9%	Reminder card delivery ends
Thursday	03/23/2000	5,250,239	42,798,921	4.5%	36.4%	
Friday	03/24/2000	3,627,566	46,426,487	3.1%	39.5%	
Saturday	03/25/2000	2,420,556	48,847,043	2.1%	41.5%	
Sunday	03/26/2000	2,511,970	51,359,013	2.1%	43.7%	
Monday	03/27/2000	2,993,679	54,352,692	2.5%	46.2%	

Appendix F: Mail Response Numerators and Rates by Day

Day Date Daily Increase Cumulative Increase Increase Cumulative Increase			Moil Dognoneo N	Immorator	Moil Do	mongo Doto	
Date Daily Increase Cumulative Increase Cumulative Key date y 03/28/2000 3,141,074 57,493,766 2.7% 48.9% sday 03/29/2000 1,939,206 59,432,972 1.6% 50.5% ay 03/30/2000 1,829,908 61,262,880 1.6% 50.5% ay 03/31/2000 1,744,944 63,007,824 1.5% 52.1% y 04/01/2000 1,349,946 64,373,194 1.2% 55.5% y 04/02/2000 1,490,946 66,807,494 0.8% 55.8% y 04/02/2000 1,320,770 64,373,194 1.2% 55.9% y 04/02/2000 1,320,770 64,373,194 0.9% 58.8% y 04/06/2000 1,334,302 69,162,562 0.9% 58.8% ay 04/08/2000 1,334,302 69,162,562 0.9% 58.8% y 04/10/2000 1,334,302 69,162,562 0.9% 58.8% y			Mail Nespouse in	umerator	Mall Re	spouse wate	
Date Daily Increase Cumulative Increase Cumulative Key date y 03/28/2000 3,141,074 57,493,766 2.7% 48,9% Key date sday 03/29/2000 1,399,206 59,423,972 1.6% 50.5% 48,9% ay 03/29/2000 1,399,208 61,262,880 1.6% 52.1% 48,9% ay 04/01/2000 1,744,944 63,007,824 1.5% 53.6% 54.7% y 04/02/2000 1,365,370 64,373,194 1.2% 54.7% 54.7% y 04/02/2000 1,490,946 66,316,262 0.9% 55.8% 54.7% y 04/04/2000 1,490,946 66,318,260 0.9% 55.8% 55.8% y 04/04/2000 1,233,153 70,395,715 1.0% 55.8% 55.8% y 04/06/2000 1,233,153 70,395,715 1.0% 55.8% 54.7% y 04/06/2000 1,233,153 71,935,60 0.5% 62.7%					Daily		
y 03/28/2000 3,141,074 57,493,766 2.7% 48.9% sday 03/28/2000 1,939,206 59,42,372 1.6% 50.5% ay 03/30/2000 1,829,908 61,262,880 1.6% 50.5% ay 03/31/2000 1,346,344 63,007,224 1.5% 53.1% y 04/01/2000 1,365,370 64,373,194 1.2% 54.7% y 04/02/2000 1,490,946 66,807,490 1.3% 55.8% y 04/04/2000 1,034,325 63,16,544 0.8% 55.5% y 04/06/2000 1,034,325 65,316,544 0.8% 55.8% y 04/06/2000 1,034,325 69,125,562 0.9% 58.8% sday 04/06/2000 1,034,302 69,125,562 0.9% 58.8% y 04/07/2000 1,034,302 61,104 0.7% 60.5% y 04/07/2000 1,034,302 71,301,263 0.4% 61.2% y 04/11/2000	Day	Date	Daily Increase	Cumulative	Increase	Cumulative	Key dates
sday 03/29/2000 1,939,206 59,432,972 1.6% 50.5% ay 03/30/2000 1,829,908 61,262,880 1.6% 52.1% y 04/01/2000 1,744,944 63,007,824 1.5% 53.6% y 04/03/2000 1,365,370 64,373,194 1.2% 55.5% y 04/04/2000 1,490,946 66,807,490 1.3% 56.8% y 04/04/2000 1,320,770 68,128,260 1.1% 57.9% ay 04/04/2000 1,034,322 69,162,562 0.9% 58.8% ay 04/06/2000 1,233,153 70,395,715 1.0% 59.8% y 04/08/2000 1,233,153 70,395,715 1.0% 60.5% y 04/10/2000 80,075 71,195,790 0.7% 60.2% y 04/10/2000 419,715 72,380,762 0.4% 61.5% y 04/11/2000 691,891 73,072,653 0.6% 62.1% ay 04/11/2000 342,541 73,415,194 0.3% 62.4% by 04/11/2000 302,181 74,129,700 0.3% 63.7% c) 04/15/2000 305,789 74,958,300 0.3% 64.1% by 04/15/2000 305,789 74,958,300 0.3% 64.1% by 04/15/2000 305,789 75,683 0.3% 64.4% by 04/15/2000 209,683,38 75,818,393 0.2% 64.4% by 04/12/2000 209,633,578 75,126,006 0.1% 64.8% by 04/12/2000 209,633,578 76,312,74 0.1% 64.9% by 04/12/2000 209,633,578 76,312,74 0.1% 64.9% by 04/21/2000 209,633,578 76,312,74 0.1% 64.9%	Tuesday	03/28/2000	3,141,074	57,493,766	2.7%	48.9%	
ay 03/30/2000 1,829,908 61,262,880 1.6% 52.1% (3/31/2000 1,744,944 63.007,824 1.5% 53.6% (3/31/2000 1,744,944 63.007,824 1.5% 53.6% (3/31/2000 1,744,944 63.007,824 1.5% 54.7% (3/40/2000 943,350 65,316,544 0.8% 55.5% (3/30,2000 1,490,946 66,8128,260 1.1% 57.9% (3/30,2000 1,320,770 68,128,260 1.1% 57.9% (3/30,2000 1,320,770 68,128,260 1.1% 57.9% (3/30,2000 1,334,302 69,162,562 0.9% 58.8% (3/30,2000 1,334,302 69,162,562 0.9% 58.8% (3/30,2000 1,334,302 69,162,562 0.9% 58.8% (3/30,2000 1,334,302 69,162,562 0.9% 60.5% (3/30,2000 1,334,302 69,162,562 0.9% (3/30,2000 1,3% (3/	Wednesday	03/29/2000	1,939,206	59,432,972	1.6%	50.5%	
1y 04/11/2000 1,744,944 63,007,824 1.5% 53.6% 1y 04/01/2000 1,365,370 64,373,194 1.2% 53.6% 1y 04/01/2000 1,365,370 64,373,194 1.2% 55.5% 2y 04/04/2000 1,490,946 66,807,490 1.3% 56.8% 3y 04/04/2000 1,034,00 63,128,260 1.1% 57.9% 3y 04/06/2000 1,034,00 66,807,490 1.3% 58.8% 3y 04/06/2000 1,233,153 70,395,715 1.0% 59.8% 3y 04/07/2000 800,075 71,195,790 0.7% 60.5% 3y 04/10/2000 60,1891 73,072,653 0.6% 62.1% 3y 04/11/2000 342,541 73,415,194 0.3% 62.7% 3y 04/11/2000 314,18,194 0.3% 63.4% 3y 04/11/2000 312,441 74,652,511 0.4% 61.8% 3y 04/11/2000 323,441<	Thursday	03/30/2000	1,829,908	61,262,880	1.6%	52.1%	U/L delivery ends
ty 04/01/2000 1,365,370 64,373,194 1.2% 54.7% ty 04/02/2000 943,350 65,316,544 0.8% 55.5% y 04/02/2000 1,490,946 66,807,490 1.3% 55.5% y 04/04/2000 1,320,770 68,128,260 1.1% 57.9% sday 04/04/2000 1,034,302 69,162,562 0.9% 58.8% ay 04/04/2000 1,233,153 70,395,715 1.0% 59.8% ay 04/06/2000 1,233,153 70,395,715 1.0% 59.8% y 04/09/2000 1,233,153 70,395,715 0.7% 60.5% y 04/09/2000 419,715 72,380,762 0.4% 61.2% y 04/10/2000 691,891 73,072,653 0.6% 62.1% y 04/11/2000 342,541 74,15,194 0.3% 62.4% y 04/11/2000 362,441 74,526,889 0.3% 62.4% y 04/14/2000	Friday	03/31/2000	1,744,944	63,007,824	1.5%	53.6%	
y 04/02/2000 943,350 65,316,544 0.8% 55.5% 56.8% 94,034 04,03/2000 1,490,946 66,807,490 1.3% 56.8% 56.8% 94,03/2000 1,490,946 66,807,490 1.3% 56.8% 56.8% 94,02/2000 1,320,770 68,128,260 1.1% 57.9% 57.9% ay 04/06/2000 80,075 71,195,790 0.7% 60.5% 91.2% 94,040/2000 80,075 71,195,790 0.7% 60.5% 91.2% 94,04/02/2000 419,715 72,380,447 0.6% 61.2% 91.8% 91 73,072,653 0.6% 62.1% 91.9% 94/11/2000 91,891 73,072,653 0.6% 62.1% 92.4% 92.2% 92.4% 92.4% 92.2% 92.4% 92.2% 92.4% 92.4% 92.2% 92.4% 92.2% 92.4% 92.2%	Saturday	04/01/2000	1,365,370	64,373,194	1.2%	54.7%	Census Day
y 04/03/2000 1,490,946 66,807,490 1.3% 56.8% y 04/04/2000 1,320,770 68,128,260 1.1% 57.9% sday 04/05/2000 1,320,770 68,128,260 1.1% 57.9% ay 04/05/2000 1,034,302 69,162,562 0.9% 58.8% ay 04/05/2000 1,233,153 70,395,715 1.0% 59.8% ay 04/07/2000 800,075 71,195,790 0.7% 60.5% y 04/10/2000 765,257 71,961,047 0.6% 61.2% y 04/11/2000 419,715 72,380,762 0.4% 61.5% y 04/11/2000 342,541 73,415,194 0.3% 62.1% sday 04/13/2000 31,695 73,826,889 0.3% 62.7% ay 04/14/2000 32,441 74,525,511 0.4% 63.4% y 04/14/2000 32,441 74,525,511 0.4% 63.4% y 04/14/2000	Sunday	04/02/2000	943,350	65,316,544	%8.0	55.5%	
y 04/04/2000 1,320,770 68,128,260 1.1% 57.9% sday 04/05/2000 1,034,302 69,162,562 0.9% 58.8% ay 04/06/2000 1,033,153 70,395,715 1.0% 59.8% sy 04/06/2000 1,233,153 70,395,715 1.0% 59.8% sy 04/07/2000 800,075 71,195,790 0.7% 60.5% sy 04/09/2000 419,715 72,380,762 0.4% 61.2% y 04/10/2000 691,891 73,072,653 0.6% 62.1% y 04/11/2000 342,541 73,415,194 0.3% 62.4% sday 04/12/2000 302,181 74,129,070 0.3% 62.7% ay 04/15/2000 302,181 74,553,310 0.3% 63.7% y 04/15/2000 305,78 74,553,300 0.3% 64.1% y 04/15/2000 305,78 75,478,036 0.3% 64.4% y 04/18/2000	Monday	04/03/2000	1,490,946	66,807,490	1.3%	56.8%	
sday 04/05/2000 1,034,302 69,162,562 0.9% 58.8% ay 04/06/2000 1,233,153 70,395,715 1.0% 59.8% ay 04/07/2000 800,075 71,195,790 0.7% 60.5% v 04/08/2000 765,257 71,961,047 0.6% 61.2% v 04/09/2000 419,715 72,380,762 0.4% 61.5% y 04/11/2000 691,891 73,072,653 0.6% 62.1% y 04/11/2000 342,541 73,415,194 0.3% 62.4% sday 04/11/2000 342,541 73,415,194 0.3% 62.4% y 04/11/2000 302,181 74,129,070 0.3% 62.4% ay 04/14/2000 302,181 74,129,070 0.3% 63.4% y 04/15/2000 305,789 74,958,300 0.3% 63.4% y 04/16/2000 167,706 75,126,006 0.1% 64.1% y 04/18/2000	Tuesday	04/04/2000	1,320,770	68,128,260	1.1%	57.9%	
ay 04/06/2000 1,233,153 70,395,715 1.0% 59.8% ay 04/07/2000 800,075 71,195,790 0.7% 60.5% vy 04/08/2000 765,257 71,961,047 0.6% 61.2% v 04/09/2000 419,715 72,380,762 0.4% 61.5% y 04/10/2000 691,891 73,072,653 0.6% 62.1% y 04/11/2000 342,541 73,415,194 0.3% 62.4% sday 04/12/2000 411,695 73,826,889 0.3% 62.4% ay 04/14/2000 302,181 74,129,070 0.3% 62.7% ay 04/14/2000 302,181 74,129,070 0.3% 63.0% ay 04/15/2000 305,789 74,958,300 0.3% 63.4% by 04/16/2000 167,706 75,126,006 0.1% 64.3% Late mail y 04/18/2000 129,999 75,608,035 0.2% 64.4% 64.6%	Wednesday	04/05/2000	1,034,302	69,162,562	0.9%	58.8%	
04/07/2000 800,075 71,195,790 0.7% 60.5% 1y 04/08/2000 765,257 71,961,047 0.6% 61.2% 1y 04/09/2000 419,715 72,380,762 0.4% 61.5% y 04/10/2000 691,891 73,072,653 0.6% 62.1% y 04/11/2000 342,541 73,415,194 0.3% 62.4% y 04/13/2000 411,695 73,826,889 0.3% 62.7% ay 04/13/2000 302,181 74,129,070 0.3% 63.0% od/14/2000 523,441 74,529,070 0.3% 63.4% od/15/2000 305,789 74,958,300 0.3% 64.1% y 04/15/2000 365,789 75,478,036 0.1% 64.1% y 04/15/2000 352,030 75,478,036 0.1% 64.1% y 04/15/2000 129,999 75,608,035 0.1% 64.4% sday 04/20/2000 210,358 76,243,929 0.2% </td <td>Thursday</td> <td>04/06/2000</td> <td>1,233,153</td> <td>70,395,715</td> <td>1.0%</td> <td>59.8%</td> <td></td>	Thursday	04/06/2000	1,233,153	70,395,715	1.0%	59.8%	
ty 04/08/2000 765,257 71,961,047 0.6% 61.2% v 04/09/2000 419,715 72,380,762 0.4% 61.5% y 04/10/2000 691,891 73,072,653 0.6% 62.1% y 04/11/2000 342,541 73,415,194 0.3% 62.4% sday 04/13/2000 411,695 73,826,889 0.3% 62.7% ay 04/14/2000 302,181 74,129,070 0.3% 63.2% v 04/14/2000 523,441 74,552,511 0.4% 63.4% v 04/15/2000 365,789 75,126,006 0.1% 63.8% v 04/15/2000 352,030 75,478,036 0.3% 64.1% y 04/18/2000 129,999 75,608,035 0.1% 64.3% y 04/19/2000 129,999 75,818,393 0.2% 64.4% sday 04/20/2000 209,631 76,028,024 0.2% 64.8% y 04/22/2000	Friday	04/07/2000	800,075	71,195,790	0.7%	60.5%	
v 04/09/2000 419,715 72,380,762 0.4% 61.5% y 04/10/2000 691,891 73,072,653 0.6% 62.1% y 04/11/2000 342,541 73,415,194 0.3% 62.4% sday 04/12/2000 411,695 73,826,889 0.3% 62.7% ay 04/14/2000 302,181 74,129,070 0.3% 62.7% ay 04/14/2000 302,789 74,958,300 0.3% 63.4% y 04/15/2000 365,789 74,958,300 0.3% 63.4% y 04/15/2000 352,030 75,126,006 0.1% 64.1% Late mail y 04/18/2000 352,030 75,478,036 0.3% 64.4% 64.4% sday 04/19/2000 210,358 75,818,393 0.2% 64.4% Late mail sy 04/20/2000 210,358 76,243,929 0.2% 64.6% 64.6% y 04/20/2000 215,905 76,243,929 0.2%	Saturday	04/08/2000	765,257	71,961,047	%9.0	61.2%	
y 04/10/2000 691,891 73,072,653 0.6% 62.1% y 04/11/2000 342,541 73,415,194 0.3% 62.4% sday 04/12/2000 411,695 73,826,889 0.3% 62.7% ay 04/13/2000 302,181 74,129,070 0.3% 63.2% 1y 04/14/2000 305,789 74,958,300 0.3% 63.4% 1y 04/15/2000 305,789 74,958,300 0.3% 63.2% y 04/16/2000 167,706 75,126,006 0.1% 63.8% y 04/17/2000 352,030 75,478,036 0.3% 64.1% y 04/18/2000 129,999 75,608,035 0.1% 64.3% Late mail sday 04/19/2000 210,358 75,818,393 0.2% 64.6% ay 04/20/2000 215,905 76,243,929 0.2% 64.8% ty 04/22/2000 68,345 76,312,274 0.1% 64.9%	Sunday	04/09/2000	419,715	72,380,762	0.4%	61.5%	
y 04/11/2000 342,541 73,415,194 0.3% 62.4% sday 04/12/2000 411,695 73,826,889 0.3% 62.7% 62.7% ay 04/13/2000 302,181 74,129,070 0.3% 63.2% 63.0% 04/14/2000 302,181 74,129,070 0.3% 63.2% 63.2% 04/15/2000 305,789 74,958,300 0.3% 63.7% 63.7% 04/15/2000 167,706 75,126,006 0.1% 63.8% 04/17/2000 352,030 75,478,036 0.1% 64.1% 64.3% sday 04/19/2000 210,358 75,818,393 0.2% 64.4% 64.6% 04/20/2000 209,631 76,028,024 0.2% 64.8% 64.8% 04/21/2000 68,345 76,12,74 0.1% 64.9%	Monday	04/10/2000	168,169	73,072,653	%9.0	62.1%	Initial NRFU cut
ay 04/12/2000 411,695 73,826,889 0.3% 62.7% ay 04/13/2000 302,181 74,129,070 0.3% 63.0% 63.0% 04/14/2000 523,441 74,652,511 0.4% 63.4% 63.4% 04/15/2000 305,789 74,958,300 0.3% 63.8% 63.7% 04/16/2000 167,706 75,126,006 0.1% 63.8% 94/17/2000 352,030 75,478,036 0.3% 64.1% 9.3% 04/18/2000 129,999 75,608,035 0.1% 64.8% 64.6% ay 04/21/2000 209,631 76,028,024 0.2% 64.6% 64.6% 04/21/2000 68,345 76,312,274 0.1% 64.9%	Tuesday	04/11/2000	342,541	73,415,194	0.3%	62.4%	
ay 04/13/2000 302,181 74,129,070 0.3% 63.0% y 04/14/2000 305,789 74,958,300 0.3% 63.4% y 04/15/2000 305,789 74,958,300 0.3% 63.7% y 04/17/2000 352,030 75,126,006 0.1% 64.1% y 04/17/2000 352,030 75,478,036 0.1% 64.3% y 04/18/2000 210,358 75,608,035 0.1% 64.4% sday 04/20/2000 209,631 76,028,024 0.2% 64.6% 04/21/2000 215,905 76,243,929 0.2% 64.8% y 04/22/2000 68,345 76,312,274 0.1% 64.9%	Wednesday	04/12/2000	411,695	73,826,889	0.3%	62.7%	
1y 04/14/2000 523,441 74,652,511 0.4% 63.4% 1y 04/15/2000 305,789 74,958,300 0.3% 63.7% 1y 04/16/2000 167,706 75,126,006 0.1% 63.8% y 04/17/2000 352,030 75,478,036 0.3% 64.1% y 04/18/2000 129,999 75,608,035 0.1% 64.3% sday 04/19/2000 210,358 75,818,393 0.2% 64.4% ay 04/20/2000 209,631 76,028,024 0.2% 64.8% 04/21/2000 68,345 76,243,929 0.2% 64.8% y 04/22/2000 68,345 76,312,274 0.1% 64.9%	Thursday	04/13/2000	302,181	74,129,070	0.3%	63.0%	
iy 04/15/2000 305,789 74,958,300 0.3% 63.7% y 04/16/2000 167,706 75,126,006 0.1% 63.8% y 04/17/2000 352,030 75,478,036 0.3% 64.1% y 04/18/2000 129,999 75,608,035 0.1% 64.3% sday 04/19/2000 210,358 75,818,393 0.2% 64.4% ay 04/20/2000 209,631 76,028,024 0.2% 64.6% 04/21/2000 215,905 76,243,929 0.2% 64.8% y 04/22/2000 68,345 76,312,274 0.1% 64.9%	Friday	04/14/2000	523,441	74,652,511	0.4%	63.4%	
y 04/16/2000 167,706 75,126,006 0.1% 63.8% y 04/17/2000 352,030 75,478,036 0.3% 64.1% ly 04/18/2000 129,999 75,608,035 0.1% 64.3% sday 04/19/2000 210,358 75,818,393 0.2% 64.4% ay 04/20/2000 209,631 76,028,024 0.2% 64.6% 04/21/2000 68,345 76,212,274 0.1% 64.9%	Saturday	04/15/2000	305,789	74,958,300	0.3%	63.7%	
y 04/17/2000 352,030 75,478,036 0.3% 64.1% y 04/18/2000 129,999 75,608,035 0.1% 64.3% sday 04/19/2000 210,358 75,818,393 0.2% 64.4% ay 04/20/2000 209,631 76,028,024 0.2% 64.6% 04/21/2000 215,905 76,243,929 0.2% 64.8% ay 04/22/2000 68,345 76,312,274 0.1% 64.9%	Sunday	04/16/2000	167,706	75,126,006	0.1%	63.8%	
y 04/18/2000 129,999 75,608,035 0.1% 64.3% sday 04/19/2000 210,358 75,818,393 0.2% 64.4% ay 04/20/2000 209,631 76,028,024 0.2% 64.6% 04/21/2000 215,905 76,243,929 0.2% 64.8% ay 04/22/2000 68,345 76,312,274 0.1% 64.9%	Monday	04/17/2000	352,030	75,478,036	0.3%	64.1%	
sday 04/19/2000 210,358 75,818,393 0.2% ay 04/20/2000 209,631 76,028,024 0.2% 04/21/2000 215,905 76,243,929 0.2% ay 04/22/2000 68,345 76,312,274 0.1%	Tuesday	04/18/2000	129,999	75,608,035	0.1%	64.3%	Late mail return NRFU cut
ay 04/20/2000 209,631 76,028,024 0.2% 04/21/2000 215,905 76,243,929 0.2% ay 04/22/2000 68,345 76,312,274 0.1%	Wednesday	04/19/2000	210,358	75,818,393	0.2%	64.4%	
ay 04/22/2000 215,905 76,243,929 0.2% ay 04/22/2000 68,345 76,312,274 0.1%	Thursday	04/20/2000	209,631	76,028,024	0.2%	64.6%	
04/22/2000 68,345 76,312,274 0.1%	Friday	04/21/2000	215,905	76,243,929	0.2%	64.8%	
	Saturday	04/22/2000	68,345	76,312,274	0.1%	64.9%	

Appendix F: Mail Response Numerators and Rates by Day

		T ACTION OF THE TAT		TATE TO TAKE	IVIALI AVESDOLISE IVALE	
				Daily		
Day	Date	Daily Increase	Cumulative	Increase	Cumulative	Key dates
Sunday	04/23/2000	81,653	76,393,927	0.1%	64.9%	
Monday	04/24/2000	175,577	76,569,504	0.1%	65.1%	
Tuesday	04/25/2000	91,243	76,660,747	0.1%	65.2%	
Wednesday	04/26/2000	207,548	76,868,295	0.2%	65.3%	
Thursday	04/27/2000	108,341	76,976,636	0.1%	65.4%	NRFU begins
Friday	04/28/2000	90,307	77,066,943	0.1%	65.5%	
Saturday	04/29/2000	28,058	77,095,001	%0.0	65.5%	
Sunday	04/30/2000	1,157	77,096,158	%0.0	65.5%	
Monday	05/01/2000	139,211	77,235,369	0.1%	65.6%	
Tuesday	05/02/2000	23,404	77,258,773	%0.0	65.7%	
Wednesday	05/03/2000	76,067	77,334,840	0.1%	65.7%	
Thursday	05/04/2000	92,806	77,427,646	0.1%	65.8%	
Friday	05/05/2000	126,560	77,554,206	0.1%	65.9%	
Saturday	02/06/2000	29,679	77,583,885	%0.0	65.9%	
Sunday	05/07/2000	1,912	77,585,797	%0.0	65.9%	
Monday	05/08/2000	24,577	77,610,374	%0*0	%0.99	
Tuesday	05/09/2000	9,107	77,619,481	%0.0	%0.99	
Wednesday	05/10/2000	15,482	77,634,963	%0.0	%0*99	
Thursday	05/11/2000	40,721	77,675,684	%0.0	%0.99	
Friday	05/12/2000	190,053	77,865,737	0.2%	66.2%	
Saturday	05/13/2000	4,321	77,870,058	%0.0	66.2%	
Sunday	05/14/2000	8,041	77,878,099	%0.0	66.2%	
Monday	05/15/2000	3,937	77,882,036	%0.0	66.2%	
Tuesday	05/16/2000	11,945	77,893,981	%0.0	66.2%	
Wednesday	05/17/2000	17,286	77,911,267	%0.0	66.2%	
Thursday	05/18/2000	34,993	77,946,260	%0.0	66.2%	

Appendix F: Mail Response Numerators and Rates by Day

		Key dates																										
Mail Response Rate		Cumulative	66.4%	66.4%	66.4%	66.4%	66.4%	66.4%	66.4%	66.5%	66.5%	%9:99	%9.99	%9'99	%9'99	%9'99	%9.99	%9.99	%2'99	66.7%	%2'99	.66.7%	%2'99	%2'99	92.29	%2.99	%8.99	%8.99
Mail Resp	Daily	Increase	0.1%	0.0%	0.0%	0.0%	0.0%	%0.0	0.0%	0.1%	0.0%	0.0%	0.0%	%0.0	%0.0	0.0%	0.1%	%0.0	0.0%	%0.0	%0.0	0.0%	%0.0	%0.0	%0.0	%0.0	%0.0	%0.0
umerator		Cumulative	78,080,673	78,108,952	78,115,325	78,125,090	78,133,400	78,151,670	78,185,023	78,283,321	78,296,735	78,303,536	78,304,593	78,312,457	78,320,392	78,337,523	78,404,825	78,419,364	78,426,244	78,435,259	78,445,190	78,469,921	78,502,876	78,520,574	78,529,024	78,534,961	78,555,812	78,566,501
Mail Response Numerator		Daily Increase	134,413	28,279	6,373	9,765	8,310	18,270	33,353	98,298	13,414	6,801	1,057	7,864	7,935	17,131	67,302	14,539	088'9	9,015	9,931	24,731	32,955	17,698	8,450	5,937	20,851	10,689
		Date	05/19/2000	05/20/2000	05/21/2000	05/22/2000	05/23/2000	05/24/2000	05/25/2000	05/26/2000	05/27/2000	05/28/2000	05/29/2000	05/30/2000	05/31/2000	06/01/2000	06/02/2000	06/03/2000	06/04/2000	06/05/2000	06/06/2000	06/07/2000	06/08/2000	06/09/2000	06/10/2000	06/11/2000	06/12/2000	06/13/2000
		Day	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday

Appendix F: Mail Response Numerators and Rates by Day

		Vial Response Numerator	umerator	IVI AIII IKE	IVIAII KESDONSE Kare	
				Daily		
Day	Date	Daily Increase	Cumulative	Increase	Cumulative	Key dates
Wednesday	06/14/2000	11,928	78,578,429	%0.0	%8'99	
Thursday	06/15/2000	241,743	78,820,172	0.2%	%0.79	
Friday	06/16/2000	9,857	78,830,029	%0.0	67.0%	
Saturday	06/17/2000	3,672	78,833,701	%0.0	%0.79	
Sunday	06/18/2000	3,127	78,836,828	%0.0	%0'.29	
Monday	06/19/2000	4,632	78,841,460	%0.0	%0'.29	
Tuesday	06/20/2000	3,883	78,845,343	0.0%	%0'.29	
Wednesday	06/21/2000	3,705	78,849,048	%0.0	%0'.29	
Thursday	06/22/2000	3,425	78,852,473	%0.0	%0.79	
Friday	06/23/2000	2,496	78,854,969	%0.0	%0'.29	
Saturday	06/24/2000	1,067	78,856,036	%0.0	%0′.29	
Sunday	06/25/2000	493	78,856,529	%0.0	%0.79	
Monday	06/26/2000	2,612	78,859,141	%0.0	%0'.29	NRFU complete
Tuesday	06/27/2000	1,953	78,861,094	%0.0	%0"19	
Wednesday	06/28/2000	2,239	78,863,333	%0.0	%0'.29	
Thursday	06/29/2000	24,147	78,887,480	%0.0	%0'.29	
Friday	06/30/2000	1,580	78,889,060	%0.0	%0′.29	
Saturday	07/01/2000	765	78,889,825	%0.0	%0′.29	
Sunday	07/02/2000	127	78,889,952	%0.0	%0.79	
Monday	07/03/2000	1	78,889,952	%0.0	%0.79	
Tuesday	07/04/2000		78,889,952	%0.0	%0'19	
Wednesday	07/05/2000	ŧ	78,889,952	%0.0	%0.79	
Thursday	04/06/2000	•	78,889,952	%0.0	67.0%	
Friday	04/01/2000	•	78,889,952	%0.0	%0′.29	
Saturday	04/08/2000	9	78,889,952	%0.0	%0′.29	
Sunday	02/00/2000	•	78.889.952	%0.0	%0.79	

Appendix F: Mail Response Numerators and Rates by Day

		Key dates																								za.		
Mail Response Rate		Cumulative	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%	67.1%
Mail Res	Daily	Increase	0.0%	%0.0	0.0%	0.0%	0.0%	0.0%	%0.0	0.0%	0.0%	%0.0	0.0%	%0.0	0.0%	0.0%	0.0%	0.0%	%0.0	0.0%	%0.0	0.0%	0.0%	0.0%	%0.0	0.0%	0.0%	%0.0
umerator		Cumulative	78,892,098	78,892,098	78,892,098	78,892,447	78,892,447	78,892,447	78,892,447	78,892,447	78,892,447	78,892,447	78,892,447	78,892,447	78,898,999	78,900,106	78,900,106	78,900,106	78,900,106	78,900,106	78,900,607	78,900,607	78,900,607	78,900,740	78,900,740	78,900,740	78,900,740	78,900,740
Mail Response Numerator		Daily Increase	2,146	•	•	349	•	•	•	•			•	•	6,552	1,107	•	•	•	•	501	10	ı	133	•	•	•	
		Date	04/10/2000	07/11/2000	07/12/2000	07/13/2000	07/14/2000	07/15/2000	07/16/2000	07/17/2000	07/18/2000	07/19/2000	07/20/2000	07/21/2000	07/22/2000	07/23/2000	07/24/2000	07/25/2000	07/26/2000	07/27/2000	04/28/2000	07/29/2000	07/30/2000	07/31/2000	08/01/2000	08/02/2000	08/03/2000	08/04/2000
		Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday

Appendix F: Mail Response Numerators and Rates by Day

		The second secon	INTERIOR PROPERTY AND INTERIOR	TATESTIT TANK	TATALL INCOMPANION AND A	
				Daily		
Day	Date	Daily Increase	Cumulative	Increase	Cumulative	Key dates
Saturday	08/05/2000	•	78,900,740	%0.0	67.1%	
Sunday	08/06/2000		78,900,740	0.0%	67.1%	
Monday	08/01/2000		78,900,740	0.0%	67.1%	
Tuesday	08/08/2000	1	78,900,740	0.0%	67.1%	
Wednesday	08/09/2000	602	78,901,342	0.0%	67.1%	
Fhursday	08/10/2000	1	78,901,342	%0.0	67.1%	
Friday	08/11/2000	•	78,901,342	%0.0	67.1%	
Saturday	08/12/2000	•	78,901,342	0.0%	67.1%	
Sunday	08/13/2000	•	78,901,342	%0.0	67.1%	
Monday	08/14/2000	t	78,901,342	0.0%	67.1%	
Tuesday	08/15/2000	•	78,901,342	%0.0	67.1%	
Wednesday	08/16/2000	289	78,901,631	0.0%	67.1%	
Thursday	08/17/2000	•	78,901,631	%0.0	67.1%	
Friday	08/18/2000	715	78,902,346	%0.0	67.1%	
Saturday	08/19/2000	957	78,903,303	%0.0	67.1%	
Sunday	08/20/2000	•	78,903,303	%0.0	67.1%	
Monday	08/21/2000	•	78,903,303	%0.0	67.1%	
Fuesday	08/22/2000	•	78,903,303	%0.0	67.1%	
Wednesday	08/23/2000	•	78,903,303	%0.0	67.1%	
Fhursday	08/24/2000	•	78,903,303	0.0%	67.1%	
Friday	08/25/2000	∞	78,903,311	0.0%	67.1%	
Saturday	08/26/2000	1	78,903,311	%0.0	67.1%	
Sunday	08/27/2000	•	78,903,311	%0.0	67.1%	
Monday	08/28/2000	1	78,903,311	%0.0	67.1%	
Tuesday	08/29/2000	•	78,903,311	0.0%	67.1%	
Wednesday	08/30/2000		78.903.311	0.0%	67.1%	

Appendix F: Mail Response Numerators and Rates by Day

		Moil Domongo A	I managed to a	Medine	D. A.	
		Mali Kesponse Numerator	umerator	Mall Ke	Mail Response Rate	
				Daily		
Day	Date	Daily Increase	Cumulative	Increase	Cumulative	Key dates
Thursday	08/31/2000	•	78,903,311	0.0%	67.1%	
Friday	09/01/2000	•	78,903,311	%0.0	67.1%	
Saturday	09/02/2000	141	78,903,452	%0.0	67.1%	
Sunday	09/03/2000	•	78,903,452	0.0%	67.1%	
Monday	09/04/2000	•	78,903,452	0.0%	67.1%	
Fuesday	09/05/2000	•	78,903,452	0.0%	67.1%	
Wednesday	09/06/2000	•	78,903,452	0.0%	67.1%	
Thursday	09/01/2000	•	78,903,452	0.0%	67.1%	
Friday	09/08/2000	•	78,903,452	0.0%	67.1%	
Saturday	09/09/2000	•	78,903,452	0.0%	67.1%	
Sunday	09/10/2000	•	78,903,452	%0.0	67.1%	
Monday	09/11/2000	•	78,903,452	%0.0	67.1%	
Tuesday	09/12/2000	•	78,903,452	%0.0	67.1%	
Wednesday	09/13/2000	•	78,903,452	0.0%	67.1%	
Thursday	09/14/2000	•	78,903,452	0.0%	67.1%	
Friday	09/15/2000	63	78,903,515	0.0%	67.1%	
Saturday	09/16/2000	ı	78,903,515	0.0%	67.1%	
Sunday	09/17/2000	•	78,903,515	%0.0	67.1%	
Monday	09/18/2000	4	78,903,515	0.0%	67.1%	
Tuesday	09/19/2000	1	78,903,515	0.0%	67.1%	
Wednesday	09/20/2000	•	78,903,515	0.0%	67.1%	
Thursday	09/21/2000		78,903,515	0.0%	67.1%	
Friday	09/22/2000	•	78,903,515	0.0%	67.1%	
Saturday	09/23/2000	•	78,903,515	0.0%	67.1%	
Sunday	09/24/2000	•	78,903,515	0.0%	67.1%	
Monday	09/25/2000		78,903,515	0.0%	67.1%	

Appendix F: Mail Response Numerators and Rates by Day

Day Date Tuesday 09/26 Wednesday 09/27 Thursday 09/28 Friday 09/29 Saturday 09/30 Sunday 10/01		Mail Majorise Municiator	unici ator	TATELLE TATELLE	MAIN INCOMING TABLE	
sday ay ay				Doile		
sday ay ay	<u>و</u>	Daily Increase	Cumulative	Dany	Cumulative	Key dates
sday ay ay	09/26/2000	,	78,903,515	%0.0	67.1%	
ay a	09/27/2000	•	78,903,515	0.0%	67.1%	
ay.	09/28/2000	•	78,903,515	%0.0	67.1%	
ay '	09/29/2000		78,903,515	%0.0	67.1%	
	09/30/2000	•	78,903,515	0.0%	67.1%	
	10/01/2000	•	78,903,515	0.0%	67.1%	
Monday 10/0	0/02/2000	•	78,903,515	%0.0	67.1%	
	0/03/2000	•	78,903,515	%0.0	67.1%	
Wednesday 10/0	0/04/2000	•	78,903,515	%0.0	67.1%	
1	0/05/2000	1	78,903,515	%0.0	67.1%	
	0/06/2000	•	78,903,515	%0.0	67.1%	
ay 1	0/02//2000	•	78,903,515	%0.0	67.1%	
_	0/08/2000	•	78,903,515	0.0%	67.1%	
1	0/09/2000		78,903,515	%0.0	67.1%	
Tuesday 10/1	10/10/2000	•	78,903,515	%0.0	67.1%	
day	10/11/2000		78,903,515	%0.0	67.1%	
Thursday 10/1	10/12/2000		78,903,515	%0.0	67.1%	
	10/13/2000	•	78,903,515	%0.0	67.1%	
ay 1	.0/14/2000	•	78,903,515	%0.0	67.1%	
Sunday 10/1	.0/15/2000	i	78,903,515	%0.0	67.1%	
Monday 10/1	.0/16/2000		78,903,515	%0.0	67.1%	
Tuesday 10/1	.0/17/2000	•	78,903,515	0.0%	67.1%	
Wednesday 10/1	.0/18/2000	•	78,903,515	%0.0	67.1%	
Thursday 10/1	10/19/2000	3	78,903,518	%0.0	67.1%	Last mail return with check-in date received
Sunday 12/2	12/31/2000	407,657	79,311,175	0.3%	67.4%	

Source: DMAF and DRF-2.

Note: Rates are based on a response rate denominator of 117,661,748 housing units.

Note: No forms with a valid check-in date were received after October 19, 2000. Mail returns from addresses which also were enumerated in NRFU or CIFU with no check-in date were assigned a date of December 31, 2000.

Note: Rates do not include Puerto Rico.

Appendix G-1: Mail Response Numerators and Rates for Short Forms

		Mail Response Numerator	e Numerator	Respo	Response Rate	
				Daily		
Day	Date	Daily Increase	Cumulative	Increase	Cumulative	Key dates
Thursday	03/02/2000	•		0.0%	%0.0	
Friday	03/03/2000	1,392	1,392	0.0%	%0.0	U/L delivery begins
Saturday	03/04/2000	92	1,457	0.0%	%0.0	
Sunday	03/05/2000	52	1,509	%0.0	0.0%	
Monday	03/06/2000	132,094	133,603	0.1%	0.1%	Advance notice delivery begins
Tuesday	03/07/2000	54,851	188,454	0.1%	0.2%	
Wednesday	03/08/2000	157,425	345,879	0.2%	0.4%	Advance notice delivery ends
Thursday	03/09/2000	207,263	553,142	0.2%	%9.0	
Friday	03/10/2000	365,553	918,695	0.4%	0.9%	
Saturday	03/11/2000	156,911	1,075,606	0.2%	1.1%	
Sunday	03/12/2000	187,111	1,262,717	0.2%	1.3%	
Monday	03/13/2000	642,139	1,904,856	0.7%	2.0%	Questionnaire mailout delivery begins
Tuesday	03/14/2000	477,701	2,382,557	0.5%	2.4%	
Wednesday	03/15/2000	2,717,701	5,100,258	2.8%	5.2%	Questionnaire mailout delivery ends
Thursday	03/16/2000	3,929,051	9,029,309	4.0%	9.3%	
Friday	03/17/2000	4,462,221	13,491,530	4.6%	13.8%	
Saturday	03/18/2000	3,226,454	16,717,984	3.3%	17.1%	
Sunday	03/19/2000	2,710,376	19,428,360	2.8%	19.9%	
Monday	03/20/2000	4,825,753	24,254,113	4.9%	24.9%	Reminder card delivery begins
Tuesday	03/21/2000	4,785,396	29,039,509	4.9%	29.8%	
Wednesday	03/22/2000	5,107,438	34,146,947	5.2%	35.0%	Reminder card delivery ends
Thursday	03/23/2000	4,412,890	38,559,837	4.5%	39.5%	
Friday	03/24/2000	2,790,988	41,350,825	2.9%	42.4%	
Saturday	03/25/2000	2,080,348	43,431,173	2.1%	44.5%	
Sunday	03/26/2000	2,200,925	45,632,098	2.3%	46.8%	
Monday	03/27/2000	2,553,064	48,185,162	2.6%	49.4%	

Appendix G-1: Mail Response Numerators and Rates for Short Forms

		Mail Response Numerator	e Numerator	Respo	Response Rate	
				Daily		
Day	Date	Daily Increase	Cumulative	Increase	Cumulative	Key dates
Tuesday	03/28/2000	2,616,985	50,802,147	2.7%	52.1%	
Wednesday	03/29/2000	1,586,934	52,389,081	1.6%	53.7%	
Thursday	03/30/2000	1,446,048	53,835,129	1.5%	55.2%	U/L delivery ends
Friday	03/31/2000	1,398,330	55,233,459	1.4%	26.6%	
Saturday	04/01/2000	1,049,115	56,282,574	1.1%	57.7%	Census Day
Sunday	04/02/2000	735,306	57,017,880	0.8%	58.4%	
Monday	04/03/2000	1,113,753	58,131,633	1.1%	29.6%	
Tuesday	04/04/2000	994,482	59,126,115	1.0%	%9.09	
Wednesday	04/05/2000	771,809	59,897,924	0.8%	61.4%	
Thursday	04/06/2000	945,438	60,843,362	1.0%	62.4%	
Friday	04/07/2000	071,170	61,450,532	%9.0	63.0%	
Saturday	04/08/2000	593,514	62,044,046	%9 *0	63.6%	
Sunday	04/09/2000	314,340	62,358,386	0.3%	63.9%	
Monday	04/10/2000	525,253	62,883,639	0.5%	64.4%	Initial NRFU cut
Tuesday	04/11/2000	273,694	63,157,333	0.3%	64.7%	
Wednesday	04/12/2000	312,637	63,469,970	0.3%	65.0%	
Thursday	04/13/2000	216,264	63,686,234	0.2%	65.3%	
Friday	04/14/2000	392,869	64,079,103	0.4%	65.7%	
Saturday	04/15/2000	223,567	64,302,670	0.5%	65.9%	
Sunday	04/16/2000	140,207	4,442,877	0.1%	%0.99	
Monday	04/17/2000	255,300	64,698,177	0.3%	66.3%	
Tuesday	04/18/2000	94,377	64,792,554	0.1%	66.4%	Late mail return NRFU cut
Wednesday	04/19/2000	159,543	64,952,097	0.2%	%9.99	
Thursday	04/20/2000	152,556	65,104,653	0.2%	66.7%	
Friday	04/21/2000	153,237	65,257,890	0.2%	%6.99	
Saturday	04/22/2000	54,291	65,312,181	0.1%	%6*99	

Appendix G-1: Mail Response Numerators and Rates for Short Forms
Mail Response Numerator

		Mail Respo	Mail Response Numerator	Resno	Response Rate		
				Daily			
Day	Date	Daily Increase	e Cumulative	Increase	Cumulative	Key dates	
Sunday	04/23/2000	561,192	5 65,373,976	0.1%	67.0%		
Monday	04/24/2000	111,230	0 65,485,206	0.1%	67.1%		
Tuesday	04/25/2000	75,580	0 65,560,786	0.1%	67.2%		
Wednesday	04/26/2000	157,419		0.2%	67.3%		
Thursday	04/27/2000	78,608		0.1%	67.4%	NRFU	NRFU begins
Friday	04/28/2000	62,802		0.1%	67.5%)
Saturday	04/29/2000	27,293		0.0%	67.5%		
Sunday	04/30/2000	932		0.0%	67.5%		
Monday	05/01/2000	109,058		0.1%	%9′29		
Tuesday	05/02/2000	20,26		0.0%	67.7%		
Wednesday	05/03/2000	62,649	9 66,079,811	0.1%	67.7%		
Thursday	05/04/2000	75,532	2 66,155,343	0.1%	67.8%		
Friday	05/05/2000	61,303	3 66,216,646	0.1%	%6'.29		
Saturday	02/06/2000	24,327		%0.0	%6'.29		
Sunday	05/07/2000	1,246	6 66,242,219	%0.0	%6'.29		
Monday	05/08/2000	13,180	0 66,255,399	0.0%	%6'.29		
Tuesday	05/09/2000	7,161	1 66,262,560	0.0%	%6'.29		
Wednesday	05/10/2000	13,167		0.0%	%6'.29		
Thursday	05/11/2000	26,125	5 66,301,852	0.0%	%6'.29		
Friday	05/12/2000	146,001	_	0.1%	68.1%		
Saturday	05/13/2000	2,697	7 66,450,550	0.0%	68.1%		
Sunday	05/14/2000	3,434	4 66,453,984	0.0%	68.1%		
Monday	05/15/2000	2,699	9 66,456,683	0.0%	68.1%		
Tuesday	05/16/2000	8,423	3 66,465,106	0.0%	68.1%		
Wednesday	05/17/2000	11,631	1 66,476,737	%0.0	68.1%		
Thursday	05/18/2000	21,719	9 66,498,456	%0.0	68.1%		

Appendix G-1: Mail Response Numerators and Rates for Short Forms

		Mail Respons	Mail Response Numerator	Respo	Response Rate	
				Daily		
Day	Date	Daily Increase	Cumulative	Increase	Cumulative	Key dates
Friday	05/19/2000	91,378	66,589,834	0.1%	68.2%	
Saturday	05/20/2000	14,615	66,604,449	0.0%	68.3%	
Sunday	05/21/2000	3,953	66,608,402	0.0%	68.3%	
Monday	05/22/2000	5,180	66,613,582	%0.0	68.3%	
Tuesday	05/23/2000	4,344	66,617,926	%0.0	68.3%	
Wednesday	05/24/2000	11,828	66,629,754	%0.0	68.3%	
Thursday	05/25/2000	22,708	66,652,462	%0.0	68.3%	
Friday	05/26/2000	59,220	66,711,682	0.1%	68.4%	
Saturday	05/27/2000	8,691	66,720,373	0.0%	68.4%	
Sunday	05/28/2000	3,811	66,724,184	%0.0	68.4%	
Monday	05/29/2000	755	66,724,939	%0.0	68.4%	
Tuesday	05/30/2000	4,966	66,729,905	%0*0	68.4%	
Wednesday	05/31/2000	4,865	66,734,770	%0.0	68.4%	
Thursday	06/01/2000	960'6	66,743,866	0.0%	68.4%	
Friday	06/02/2000	39,681	66,783,547	0.0%	68.4%	
Saturday	06/03/2000	6,885	66,790,432	0.0%	68.4%	
Sunday	06/04/2000	4,099	66,794,531	%0.0	68.5%	
Monday	06/05/2000	5,358	66,799,889	%0.0	68.5%	
Fuesday	06/06/2000	6,827	66,806,716	%0.0	68.5%	
Wednesday	06/07/2000	14,982	66,821,698	%0.0	68.5%	
Fhursday	06/08/2000	16,036	66,837,734	%0.0	68.5%	
Friday	06/09/2000	8,888	66,846,622	0.0%	68.5%	
Saturday	06/10/2000	4,308	66,850,930	%0.0	68.5%	
Sunday	06/11/2000	2,981	66,853,911	%0.0	68.5%	
Monday	06/12/2000	13,022	66,866,933	0.0%	68.5%	
Tuesday	06/13/2000	5,597	66,872,530	%0.0	68.5%	

Appendix G-1: Mail Response Numerators and Rates for Short Forms

		Mail Response Numerator	e Numerator	Respo	Response Rate	
				Daily		
Day	Date	Daily Increase	Cumulative	Increase	Cumulative	Key dates
Wednesday	06/14/2000	7,890	66,880,420	0.0%	68.5%	
Thursday	06/15/2000	146,022	67,026,442	0.1%	68.7%	
Friday	06/16/2000	4,348	67,030,790	0.0%	68.7%	
Saturday	06/17/2000	2,280	67,033,070	0.0%	68.7%	
Sunday	06/18/2000	1,281	67,034,351	0.0%	68.7%	
Monday	06/19/2000	1,531	67,035,882	0.0%	68.7%	
Tuesday	06/20/2000	2,168	67,038,050	0.0%	68.7%	
Wednesday	06/21/2000	2,270	67,040,320	0.0%	68.7%	
Thursday	06/22/2000	2,300	67,042,620	0.0%	68.7%	
Friday	06/23/2000	1,388	67,044,008	0.0%	68.7%	
Saturday	06/24/2000	289	67,044,695	0.0%	68.7%	
Sunday	06/25/2000	269	67,044,964	0.0%	68.7%	
Monday	06/26/2000	1,695	67,046,659	0.0%	68.7%	NRFU complete
Tuesday	06/27/2000	1,217	67,047,876	0.0%	68.7%	•
Wednesday	06/28/2000	1,557	67,049,433	%0.0	68.7%	
Thursday	06/29/2000	11,067	67,060,500	0.0%	68.7%	
Friday	06/30/2000	086	67,061,480	0.0%	68.7%	
Saturday	07/01/2000	620	67,062,100	%0.0	68.7%	
Sunday	07/02/2000	<i>L</i> 9	67,062,167	%0.0	68.7%	
Monday	07/03/2000	•	67,062,167	0.0%	68.7%	
Tuesday	07/04/2000	•	67,062,167	%0.0	68.7%	
Wednesday	07/05/2000	•	67,062,167	0.0%	68.7%	
Thursday	04/06/2000	1	67,062,167	0.0%	68.7%	
Friday	04/01/2000	1	67,062,167	0.0%	68.7%	
Saturday	04/08/2000		67,062,167	0.0%	68.7%	
Sunday	02/00/2000		67,062,167	0.0%	68.7%	

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Appendix G-1: Mail Response Numerators and Rates for Short Forms

		Key dates																	i									
Response Rate	2. 13	Cumulative	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%
	Daily	Increase	0.0%	%0.0	%0.0	0.0%	%0.0	%0.0	%0.0	%0.0	%0:0	%0.0	%0.0	%0:0	%0:0	%0.0	%0.0	%0.0	%0.0	%0.0	%0.0	%0.0	0.0%	%0.0	%0.0	%0.0	%0.0	%0.0
Mail Response Numerator		Cumulative	67,070,097	67,070,097	67,070,097	67,070,097	67,070,447	67,070,447	67,070,447	67,070,447	67,070,447	67,070,447	67,070,447	67,070,656	67,070,656	67,071,175	67,071,723	67,071,723	67,071,723	67,071,723	67,071,723	67,071,723	67,071,728	67,071,728	67,071,728	67,071,728	67,071,728	67,071,728
		Daily Increase	8	•	1	ı	350	•	•	r		•	•	209	•	519	548	1	ı	•	•	•	5	•	1	•	•	
		Date	08/05/2000	08/06/2000	08/07/2000	08/08/2000	08/09/2000	08/10/2000	08/11/2000	08/12/2000	08/13/2000	08/14/2000	08/15/2000	08/16/2000	08/17/2000	08/18/2000	08/19/2000	008/20/2000	08/21/2000	08/22/2000	08/23/2000	08/24/2000	08/25/2000	08/26/2000	08/27/2000	08/28/2000	08/29/2000	08/30/2000
		Day	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday

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		Mail Response Numerator	e Numerator	Respo	Response Rate	
				Daily		
Day	Date	Daily Increase	Cumulative	Increase	Cumulative	Key dates
Thursday	08/31/2000	3	67,071,728	%0.0	68.7%	
Friday	09/01/2000	4	67,071,728	0.0%	68.7%	
Saturday	09/02/2000	104	67,071,832	0.0%	68.7%	
Sunday	09/03/2000	•	67,071,832	0.0%	68.7%	
Monday	09/04/2000	1	67,071,832	0.0%	68.7%	
uesday	09/05/2000		67,071,832	0.0%	68.7%	
Wednesday	09/06/2000		67,071,832	%0.0	68.7%	
Thursday	09/02/2000	•	67,071,832	%0.0	68.7%	
Friday	09/08/2000		67,071,832	%0.0	68.7%	
Saturday	09/09/2000	•	67,071,832	%0.0	68.7%	
Sunday	09/10/2000		67,071,832	%0.0	68.7%	
Monday	09/11/2000		67,071,832	%0.0	68.7%	
Fuesday	09/12/2000	1	67,071,832	%0.0	68.7%	
Wednesday	09/13/2000	ı	67,071,832	%0.0	68.7%	
Thursday	09/14/2000	•	67,071,832	%0.0	68.7%	
Friday	09/15/2000	50	67,071,882	%0.0	68.7%	
Saturday	09/16/2000	•	67,071,882	%0.0	68.7%	
Sunday	09/17/2000	•	67 071 882	%0.0	68.7%	
Monday	09/18/2000	•	67,071,882	%0.0	68.7%	
Fuesday	09/19/2000		67,071,882	%0.0	68.7%	
Wednesday	09/20/2000	•	67,071.882	%0.0	68.7%	
Fhursday	09/21/2000	9	67,071,882	0.0%	68.7%	
Friday	09/22/2000		67,071,882	%0.0	68.7%	
Saturday	09/23/2000	1	67,071,882	%0.0	68.7%	
Sunday	09/24/2000		67,071,882	%0.0	68.7%	
Monday	09/25/2000	,	67,071,882	0.0%	68.7%	

Appendix G-1: Mail Response Numerators and Rates for Short Forms

		Key dates																78.						i i		Last mail return with check-in date received		
Response Rate	=	Cumulative	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	69.1%	
Respon	Daily	Increase	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	%0.0	%0.0	0.0%	0.0%	0.0%	%0.0	0.0%	%0.0	%0.0	%0.0	0.0%	0.3%	
e Numerator	2	Cumulative	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,882	67,071,885	67,380,839	
Mail Response Numerator	=	Daily Increase	•	•	•	=	•	•	•	200	1	3	•	•			•		•	•	1	•	•	•	•	33	308,954	
		Date	09/26/2000	09/27/2000	09/28/2000	09/29/2000	09/30/2000	10/01/2000	10/02/2000	10/03/2000	10/04/2000	10/05/2000	10/06/2000	10/07/2000	10/08/2000	10/09/2000	10/10/2000	10/11/2000	10/12/2000	10/13/2000	10/14/2000	10/15/2000	10/16/2000	10/17/2000	10/18/2000	10/19/2000	12/31/2000	and DRF-2
		Day	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Sunday	Source: DMAF and DRF-2

Source: DMAF and DRF-2.

Note: Short form return rates are based on a denominator of 97,578,971.

Note: No forms with a valid check-in date were received after October 19, 2000. Mail returns from addresses which also were enumerated in NRFU or CIFU with no check-in date were assigned a date of December 31, 2000.

Note: Rates do not include Puerto Rico.

Appendix G-2: Mail Response Numerators and Rates for Long Forms

Day						
Day				Daily		
	Date	Daily Increase	Cumulative	Increase	Cumulative	Key dates
Thursday	03/02/2000		٠	%0.0	0.0%	
Friday	03/03/2000	5	5	%0.0	%0.0	U/L delivery begins
Saturday	03/04/2000		5	%0.0	%0.0	
Sunday	03/05/2000	•	5	%0.0	%0.0	
Monday	03/06/2000	17,540	17,545	0.1%	0.1%	Advance notice delivery begins
Tuesday	03/07/2000	7,618	25,163	%0.0	0.1%	
Wednesday	03/08/2000	19,546	44,709	0.1%	0.2%	Advance notice delivery ends
Thursday	03/09/2000	28,655	73,364	0.1%	0.4%	
Friday	03/10/2000	57,170	130,534	0.3%	%9.0	
Saturday	03/11/2000	23,516	154,050	0.1%	0.8%	
Sunday	03/12/2000	30,261	184,311	0.2%	%6.0	
Monday	03/13/2000	114,400	298,711	%9.0	1.5%	Questionnaire mailout delivery begins
Tuesday	03/14/2000	72,743	371,454	0.4%	1.8%	
Wednesday	03/15/2000	197,763	569,217	1.0%	2.8%	Questionnaire mailout delivery ends
Thursday	03/16/2000	339,965	909,182	1.7%	4.5%	
Friday	03/17/2000	389,545	1,298,727	1.9%	6.5%	
Saturday	03/18/2000	228,387	1,527,114	1.1%	7.6%	
Sunday	03/19/2000	212,998	1,740,112	1.1%	8.7%	
Monday	03/20/2000	436,628	2,176,740	2.2%	10.8%	Reminder card delivery begins
Tuesday	03/21/2000	541,364	2,718,104	2.7%	13.5%	
Wednesday	03/22/2000	683,631	3,401,735	3.4%	16.9%	Reminder card delivery ends
Thursday	03/23/2000	837,349	4,239,084	4.2%	21.1%	
Friday	03/24/2000	836,578	5,075,662	4.2%	25.3%	
Saturday	03/25/2000	340,208	5,415,870	1.7%	27.0%	
Sunday	03/26/2000	311,045	5,726,915	1.5%	28.5%	
Monday	03/27/2000	440,615	6,167,530	2.2%	30.7%	
Tuesday	03/28/2000	524,089	6,691,619	2.6%	33.3%	
Wednesday	03/29/2000	352,272	7,043,891	1.8%	35.1%	
Thursday	03/30/2000	383,860	7,427,751	1.9%	37.0%	U/L delivery ends
Friday	03/31/2000	346,614	7,774,365	1.7%	38.7%	

Appendix G-2: Mail Response Numerators and Rates for Long Forms

Mail Response Numerator

		Mail Respon	Mail Response Numerator	Respor	Response Rate	
		1	WI DE LEE	Daily		
Day	Date	Daily Increase	Cumulative	Increase	Cumulative	Key dates
Saturday	04/01/2000	316,255	8,090,620	1.6%	40.3%	Census Day
Sunday	04/02/2000	208,044	8,298,664	1.0%	41.3%	
Monday	04/03/2000	377,193		1.9%	43.2%	
Tuesday	04/04/2000	326,288		1.6%	44.8%	
Wednesday	04/05/2000	262,493	9,264,638	1.3%	46.1%	
Thursday	04/06/2000	287,715		1.4%	47.6%	
Friday	04/07/2000	192,905		1.0%	48.5%	
Saturday	04/08/2000	171,743	50	0.9%	49.4%	
Sunday	04/09/2000	105,375	-	0.5%	49.9%	
Monday	04/10/2000	166,638		0.8%	50.7%	Initial NRFU cut
Tuesday	04/11/2000	68,847		0.3%	51.1%	
Wednesday	04/12/2000	99,058		0.5%	51.6%	
Thursday	04/13/2000	85,917		0.4%	52.0%	
Friday	04/14/2000	130,572		0.7%	52.6%	
Saturday	04/15/2000	82,222		0.4%	53.1%	
Sunday	04/16/2000	27,499		0.1%	53.2%	
Monday	04/17/2000	96,730	10,779,859	0.5%	53.7%	
Tuesday	04/18/2000	35,622	10,815,481	0.2%	53.9%	Late mail return NRFU cut
Wednesday	04/19/2000	50,815		0.3%	54.1%	
Thursday	04/20/2000	57,075	10,923,371	0.3%	54.4%	
Friday	04/21/2000	62,668	10,986,039	0.3%	54.7%	
Saturday	04/22/2000	14,054	11,000,093	0.1%	54.8%	
Sunday	04/23/2000	19,858	11,019,951	0.1%	54.9%	
Monday	04/24/2000	64,347	11,084,298	0.3%	55.2%	
Tuesday	04/25/2000	15,663	11,099,961	0.1%	55.3%	
Wednesday	04/26/2000	50,129	11,150,090	0.2%	55.5%	
Thursday	04/27/2000	29,733	11,179,823	0.1%	55.7%	NRFU begins
Friday	04/28/2000	27,505	11,207,328	0.1%	55.8%	
Saturday	04/29/2000	765	11,208,093	%0.0	55.8%	
Sunday	04/30/2000	225	11,208,318	%0.0	55.8%	

Appendix G-2: Mail Response Numerators and Rates for Long Forms

		TARREST AND TARREST AND THE PROPERTY OF THE PR	Tamer aron			
				Daily		
Day	Date	Daily Increase	Cumulative	Increase	Cumulative	Key dates
Monday	05/01/2000	30,153	11,238,471	0.2%	26.0%	7
Tuesday	05/02/2000	3,140	11,241,611	0.0%	26.0%	
Wednesday	05/03/2000	13,418	11,255,029	0.1%	26.0%	
Thursday	05/04/2000	17,274	11,272,303	0.1%	56.1%	
Friday	05/05/2000	65,257	11,337,560	0.3%	56,5%	
Saturday	05/06/2000	5,352	11,342,912	0.0%	56.5%	
Sunday	05/07/2000	999	11,343,578	0.0%	56.5%	
Monday	05/08/2000	11,397	11,354,975	0.1%	56.5%	
Fuesday	05/09/2000	1,946	11,356.921	0.0%	26.6%	
Wednesday	05/10/2000	2,315	11,359,236	0.0%	26.6%	
Thursday	05/11/2000	14,596	11,373,832	0.1%	26,6%	
Friday	05/12/2000	44,052	11,417,884	0.2%	56.9%	
Saturday	05/13/2000	1,624	11,419,508	%0.0	56.9%	
Sunday	05/14/2000	4,607	11,424,115	0.0%	26.9%	
Monday	05/15/2000	1,238	11,425,353	0.0%	56,9%	
Tuesday	05/16/2000	3,522	11,428,875	0.0%	26.9%	
Wednesday	05/17/2000	5,655	11,434,530	0.0%	26.9%	
Thursday	05/18/2000	13,274	11,447.804	0.1%	57.0%	
Friday	05/19/2000	43,035	11,490,839	0.5%	57.2%	
Saturday	05/20/2000	13,664	11,504,503	0.1%	57.3%	
Sunday	05/21/2000	2,420	11,506,923	0.0%	57,3%	
Monday	05/22/2000	4,585	11,511,508	0.0%	57.3%	
Fuesday	05/23/2000	3,966	11,515,474	%0.0	57.3%	
Wednesday	05/24/2000	6,442	11,521,916	%0.0	57.4%	
Thursday	05/25/2000	10,645	11,532,561	0.1%	57.4%	
Friday	05/26/2000	39,078	11,571,639	0.2%	27.6%	
Saturday	05/27/2000	4,723	11,576,362	0.0%	27.6%	
Sunday	05/28/2000	2,990	11,579,352	%0.0	57.7%	
Monday	05/29/2000	302	11,579,654	%0.0	57.7%	
Tuesday	0000/02/20	2 909	11 582 552	%U U	%L L S	

Appendix G-2: Mail Response Numerators and Rates for Long Forms

Day Date Daily Increase Cumulative Increase		Tel 88 1	Mail Response	Response Numerator	Respon	Response Rate	
Date Daily Increase Cumulative Increase Cumulative Increase Cumulative Key dates asday 06/01/2000 3,070 11,585,622 0.0% 57.7% Key dates ay 06/02/2000 27,621 11,585,622 0.0% 57.7% Key dates by 06/02/2000 27,621 11,585,522 0.0% 57.9% S7.9% by 06/02/2000 27,621 11,535,370 0.0% 57.9% S7.9% y 06/05/2000 3,104 11,638,474 0.0% 57.9% S7.9% y 06/05/2000 3,104 11,638,474 0.0% 58.0% S8.0% y 06/05/2000 3,104 11,638,474 0.0% 58.0% S8.0% y 06/09/2000 4,142 11,638,474 0.0% 58.0% S8.0% y 06/10/2000 4,142 11,631,403 0.0% 58.0% S8.0% y 06/10/2000 4,142 11,631,503 0.0% </th <th></th> <th></th> <th></th> <th></th> <th>Daily</th> <th>-</th> <th></th>					Daily	-	
sclay 95/31/2000 3,070 11,585,622 0.0% 57.7% ay 06/01/2000 27,621 11,533,657 0.0% 57.7% y 06/02/2000 27,621 11,631,713 0.0% 57.9% y 06/04/2000 2,781 11,631,713 0.0% 57.9% y 06/04/2000 3,657 11,633,370 0.0% 57.9% y 06/06/2000 3,104 11,631,713 0.0% 57.9% y 06/06/2000 3,104 11,633,474 0.0% 57.9% sday 06/07/2000 3,674 11,648,233 0.0% 58.0% sy 06/07/2000 3,104 11,648,234 0.0% 58.0% sy 06/10/2000 4,142 11,648,235 0.0% 58.1% y 06/10/2000 4,142 11,648,90 0.0% 58.2% y 06/11/2000 4,142 11,648,90 0.0% 58.2% y 06/11/2000 4,142 <th< th=""><th>Day</th><th>Date</th><th></th><th>Cumulative</th><th>Increase</th><th>Cumulative</th><th>Key dates</th></th<>	Day	Date		Cumulative	Increase	Cumulative	Key dates
ay 06/01/2000 8,035 11,593,657 0.0% 57.7% of 06/03/2000 7,621 11,628,132 0.1% 57.9% 57.9% 7.0% 7.0% 7.0% 7.0% 7.0% 7.0% 7.0% 7.0	Wednesday	05/31/2000	3,070	11,585,622	%0.0	57.7%	
y 06/02/2000 27,621 11,621,278 0.1% 57.9% y 06/03/2000 7,654 11,631,713 0.0% 57.9% y 06/03/2000 3,677 11,631,713 0.0% 57.9% y 06/06/2000 3,104 11,631,713 0.0% 57.9% y 06/06/2000 3,104 11,631,713 0.0% 57.9% y 06/06/2000 3,104 11,633,710 0.0% 57.9% ay 06/09/2000 8,810 11,648,223 0.0% 58.0% y 06/10/2000 4,142 11,673,952 0.0% 58.2% y 06/10/2000 4,142 11,673,094 0.0% 58.2% y 06/11/2000 2,956 11,681,050 0.0% 58.2% y 06/13/2000 4,038 11,693,371 0.0% 58.2% y 06/14/2000 5,090 11,793,730 0.0% 58.8% y 06/14/2000 5,509 11,793,	Thursday	06/01/2000	8,035	11,593,657	%0.0	57.7%	
1y 06/03/2000 7,654 11,628,932 0.0% 57.9% γ 06/04/2000 2,781 11,628,932 0.0% 57.9% γ 06/04/2000 3,657 11,633,474 0.0% 57.9% γ 06/06/2000 3,149 11,648,223 0.0% 57.9% y 06/08/2000 3,149 11,648,223 0.0% 58.0% ay 06/09/2000 16,919 11,648,223 0.0% 58.1% ay 06/10/2000 4,142 11,648,223 0.0% 58.1% y 06/11/2000 2,725 11,681,592 0.0% 58.2% y 06/11/2000 2,925 11,688,879 0.0% 58.2% y 06/11/2000 4,142 11,688,879 0.0% 58.2% y 06/11/2000 4,142 11,699,971 0.0% 58.2% y 06/11/2000 5,922 11,699,371 0.0% 58.8% y 06/11/2000 5,922 11,9	Friday	06/02/2000	27,621	11,621,278	0.1%	57.9%	
y 06/04/2000 2,781 11,631,713 0.0% 57.9% y 06/05/2000 3,657 11,635,370 0.0% 57.9% y 06/05/2000 3,104 11,635,474 0.0% 58.0% sday 06/05/2000 9,749 11,648,223 0.0% 58.0% ay 06/09/2000 8,810 11,648,223 0.0% 58.0% sy 06/10/2000 4,142 11,648,223 0.0% 58.1% y 06/10/2000 4,142 11,655,142 0.0% 58.2% y 06/11/2000 2,956 11,693,971 0.0% 58.2% y 06/11/2000 4,142 11,678,994 0.0% 58.2% y 06/11/2000 4,038 11,693,971 0.0% 58.2% y 06/11/2000 4,142 11,678,937 0.0% 58.8% x 06/11/2000 4,142 11,678,937 0.0% 58.8% y 06/11/2000 4,142 11,7	Saturday	06/03/2000	7,654	11,628,932	%0.0	57.9%	
y 06/05/2000 3,657 11,635,370 0.0% 57.9% y 06/06/2000 3,104 11,638,474 0.0% 58.0% sday 06/08/2000 9,749 11,648,223 0.0% 58.0% ay 06/08/2000 16,919 11,665,142 0.1% 58.1% ay 06/09/2000 8,810 11,673,952 0.0% 58.1% y 06/11/2000 2,956 11,681,050 0.0% 58.2% y 06/11/2000 7,829 11,688,879 0.0% 58.2% y 06/13/2000 7,829 11,688,879 0.0% 58.2% y 06/13/2000 5,092 11,993,730 0.0% 58.2% ay 06/14/2000 5,092 11,993,730 0.0% 58.2% sday 06/14/2000 5,092 11,993,730 0.0% 58.8% y 06/14/2000 5,092 11,993,730 0.0% 58.8% y 06/11/2000 1,322 <th< td=""><td>Sunday</td><td>06/04/2000</td><td>2,781</td><td>11,631,713</td><td>%0.0</td><td>57.9%</td><td></td></th<>	Sunday	06/04/2000	2,781	11,631,713	%0.0	57.9%	
y 66/06/2000 3,104 11,638,474 0.0% 58.0% 58.0% 58.0% 56/08/2000 9,749 11,648,223 0.0% 58.1% 58.1% 56/08/2000 16,919 11,665,142 0.1% 58.1% 58.1% 56/09/2000 8,810 11,673,952 0.0% 58.2% 58.1% 58.2% 56/10/2000 2,956 11,681,050 0.0% 58.2% 58.2% 56/10/2000 7,829 11,688,879 0.0% 58.2% 58.2% 56/10/2000 5,092 11,693,971 0.0% 58.2% 58.2% 56/10/2000 5,092 11,693,971 0.0% 58.2% 58.2% 56/10/2000 5,092 11,693,971 0.0% 58.2% 58.2% 56/10/2000 5,092 11,693,971 0.0% 58.8% 58.2% 56/10/2000 5,092 11,799,239 0.0% 58.8% 58.8% 56/10/2000 5,092 11,800,231 0.0% 58.8% 58.8% 56/10/2000 1,342 11,800,247 0.0% 58.8% 58.8% 56/20/2000 1,715 11,802,477 0.0% 58.8% 58.8% 56/20/2000 1,715 11,802,473 0.0% 58.8% 58.8% 56/20/2000 1,435 11,809,853 0.0% 58.8% 58.8% 56/20/2000 1,108 11,819,561 0.0% 58.8% 58.8% 56/20/2000 51,008 11,811,341 0.0% 58.8% 58.8% 56/20/2000 51,008 11,811,341 0.0% 58.8% 58.8% 56/20/2000 51,008 11,811,341 0.0% 58.8% 58.8% 56/20/2000 51,008 11,811,348 0.0% 58.8% 58.8% 56/20/2000 51,008 11,811,348 0.0% 58.8% 58.8% 56/20/2000 51,008 58.8% 58.8% 56/20/2000 51,00	Monday	06/05/2000	3,657	11,635,370	%0.0	57.9%	
sday 06/07/2000 9,749 11,648,223 0.0% 58.0% 58.0% o6/09/2000 16,919 11,665,142 0.1% 58.1% 58.1% o6/09/2000 4,142 11,673,952 0.0% 58.1% 58.2% o6/10/2000 2,956 11,681,505 0.0% 58.2% 58.2% o6/11,2000 7,829 11,688,799 0.0% 58.2% 58.2% o6/13/2000 5,092 11,693,971 0.0% 58.2% 58.2% o6/13/2000 95,721 11,693,071 0.0% 58.2% saday 06/14/2000 95,721 11,793,730 0.5% 58.8% o6/16/2000 95,721 11,793,730 0.5% 58.8% o6/16/2000 1,392 11,800,631 0.0% 58.8% o6/16/2000 3,101 11,805,578 0.0% 58.8% saday 06/12/2000 1,715 11,807,293 0.0% 58.8% saday 06/21/2000 1,108 11,805,578 0.0% 58.8% saday 06/21/2000 1,108 11,810,961 0.0% 58.8% saday 06/22/2000 1,108 11,811,341 0.0% 58.8% saday 06/22/2000 917 11,811,348 0.0% 58.8% saday 06/22/2000 917 11,811,248 0.0% 58.8% saday 06/22/2000 917 11,811,248 0.0% 58.8% saday 06/22/2000 917 11,811,248 0.0% 58.8% saday 06/22/2000 11,810,901 0.0% 58.8% saday 06/22/2000 11,810,810,800 0.0% 58.8% saday 06/22/2000 11,810,810,800 0.0% 58.8% saday 06/22/2000 11,810,800 0.0% 58.8% saday 06/22/2000 11,811,800,820 0.0% 58.8% saday 06/22/2000 13,000 11,811,248 0.0% 58.8% saday 06/22/2000 13,000 11,812,918 0.0% 58.8% saday 06/22/2000 11,812,910 0.0% 58.8% saday 06/22/2000 13,000 11,812,910 0.0% 58.8% saday 06/22/2000 11,812,910 0.0% 58.8% saday 06/22/2000 13,000 11,812,910 0.0% 58.8% saday 06/22/	Tuesday	06/06/2000	3,104	11,638,474	%0.0	58.0%	
ay 06/08/2000 16,919 11,665,142 0.1% 58.1% y 06/09/2000 8,810 11,673,952 0.0% 58.1% y 06/10/2000 4,142 11,673,952 0.0% 58.2% y 06/11/2000 2,956 11,681,050 0.0% 58.2% y 06/11/2000 7,829 11,688,879 0.0% 58.2% y 06/11/2000 4,038 11,693,971 0.0% 58.2% sday 06/14/2000 4,038 11,693,971 0.0% 58.2% sday 06/14/2000 95,721 11,693,971 0.0% 58.2% sday 06/14/2000 95,721 11,693,971 0.0% 58.2% sday 06/11/2000 1,392 11,800,239 0.0% 58.8% y 06/11/2000 1,346 11,800,431 0.0% 58.8% y 06/11/2000 1,435 11,800,233 0.0% 58.8% y 06/12/2000 1,435	Wednesday	06/07/2000	9,749	11,648,223	0.0%	58.0%	
y 06/09/2000 8,810 11,673,952 0.0% 58.1% y 06/10/2000 4,142 11,678,094 0.0% 58.2% y 06/11/2000 2,956 11,681,050 0.0% 58.2% y 06/12/2000 7,829 11,688,879 0.0% 58.2% sday 06/13/2000 4,038 11,693,971 0.0% 58.2% sy 06/13/2000 95,721 11,793,730 0.0% 58.2% ay 06/15/2000 95,509 11,793,239 0.0% 58.8% y 06/18/2000 1,392 11,800,631 0.0% 58.8% y 06/18/2000 1,392 11,800,631 0.0% 58.8% y 06/19/2000 1,715 11,807,293 0.0% 58.8% y 06/12/2000 1,715 11,807,293 0.0% 58.8% y 06/22/2000 1,125 11,809,853 0.0% 58.8% y 06/23/2000 1,125 11	Thursday	06/08/2000	16,919	11,665,142	0.1%	58.1%	
sy 06/10/2000 4,142 11,678,094 0.0% 58.2% y 06/11/2000 2,956 11,681,050 0.0% 58.2% y 06/12/2000 7,829 11,688,879 0.0% 58.2% y 06/13/2000 5,092 11,693,971 0.0% 58.2% sday 06/13/2000 95,721 11,793,730 0.0% 58.2% ay 06/15/2000 95,721 11,793,730 0.0% 58.8% ay 06/15/2000 1,392 11,804,531 0.0% 58.8% y 06/18/2000 1,392 11,804,573 0.0% 58.8% y 06/18/2000 1,144 11,805,578 0.0% 58.8% y 06/18/2000 1,175 11,805,578 0.0% 58.8% y 06/18/2000 1,175 11,805,578 0.0% 58.8% sday 06/22/2000 1,125 11,809,853 0.0% 58.8% y 06/22/2000 1,1811,341	Friday	06/09/2000	8,810	11,673,952	0.0%	58.1%	
v 06/11/2000 2,956 11,681,050 0.0% 58.2% y 06/12/2000 7,829 11,688,879 0.0% 58.2% y 06/13/2000 5,092 11,693,971 0.0% 58.2% sday 06/14/2000 4,038 11,698,009 0.0% 58.2% ay 06/15/2000 95,721 11,793,730 0.5% 58.2% ay 06/16/2000 95,721 11,799,239 0.0% 58.8% y 06/17/2000 1,392 11,800,631 0.0% 58.8% y 06/18/2000 1,846 11,800,477 0.0% 58.8% y 06/19/2000 1,715 11,807,293 0.0% 58.8% y 06/20/2000 1,435 11,809,853 0.0% 58.8% xy 06/22/2000 1,125 11,809,853 0.0% 58.8% xy 06/25/2000 1,108 11,811,341 0.0% 58.8% y 06/25/2000 224 11	Saturday	06/10/2000	4,142	11,678,094	%0.0	58.2%	P
y 06/12/2000 7,829 11,688,879 0.0% 58.2% y 06/13/2000 5,092 11,693,071 0.0% 58.2% sday 06/14/2000 4,038 11,698,009 0.0% 58.2% ay 06/15/2000 95,721 11,793,730 0.5% 58.2% of/16/2000 5,509 11,799,239 0.0% 58.8% y 06/18/2000 1,392 11,800,631 0.0% 58.8% y 06/19/2000 1,846 11,802,477 0.0% 58.8% y 06/20/2000 1,715 11,805,578 0.0% 58.8% sday 06/21/2000 1,15 11,807,293 0.0% 58.8% sday 06/22/2000 1,15 11,809,578 0.0% 58.8% y 06/23/2000 1,108 11,810,961 0.0% 58.8% y 06/25/2000 224 11,811,341 0.0% 58.8% y 06/25/2000 23 11,811,342	Sunday	06/11/2000	2,956	11,681,050	0.0%	58.2%	
sday 06/13/2000 5,092 11,693,971 0.0% 58.2% sday 06/14/2000 4,038 11,698,009 0.0% 58.2% 58.2% o6/15/2000 95,721 11,793,730 0.5% 58.2% 58.2% o6/16/2000 5,509 11,799,239 0.0% 58.8% 58.8% o6/19/2000 1,846 11,802,477 0.0% 58.8% sday 06/19/2000 1,715 11,805,578 0.0% 58.8% sday 06/21/2000 1,435 11,805,578 0.0% 58.8% o6/22/2000 1,435 11,805,578 0.0% 58.8% sday 06/22/2000 1,115 11,805,578 0.0% 58.8% sday 06/22/2000 1,115 11,805,578 0.0% 58.8% sday 06/25/2000 224 11,811,341 0.0% 58.8% sday 06/25/2000 3380 11,811,341 0.0% 58.8% sday 06/25/2000 340 11,811,341 0.0% 58.8% sday 06/26/2000 340 11,811,341 0.0% 58.8% sday 06/26/2000 340 11,811,348 0.0% 58.8% sday 06/26/2000 340 11,811,348 0.0% 58.8% sday 06/28/2000 13,80 11,813,218 0.0% 58.8% sday 06/29/2000 13,80 11,813,218 0.0% 58.8% sday 06/29/2000 13,00 11,826,980 0.1% 58.8% sday 06/29/2000 13,00 11,826,980 0.1% 58.8%	Monday	06/12/2000	7,829	11,688,879	%0.0	58.2%	
sday 06/14/2000 4,038 11,698,009 0.0% 58.2% of 6/15/2000 95,721 11,793,730 0.5% 58.7% 58.7% of 6/16/2000 5,509 11,799,239 0.0% 58.8% 58.8% of 6/17/2000 1,392 11,800,631 0.0% 58.8% 58.8% of 6/19/2000 3,101 11,805,578 0.0% 58.8% 58.8% of 6/20/2000 1,715 11,807,293 0.0% 58.8% of 6/21/2000 1,715 11,807,293 0.0% 58.8% of 6/21/2000 1,435 11,808,728 0.0% 58.8% of 6/22/2000 1,108 11,810,961 0.0% 58.8% of 6/22/2000 3,101 11,810,961 0.0% 58.8% of 6/22/2000 3,101 11,810,961 0.0% 58.8% of 6/22/2000 3,101 11,811,341 0.0% 58.8% of 6/22/2000 3,101 11,811,565 0.0% 58.8% of 6/22/2000 3,101 11,812,482 0.0% 58.8% of 6/22/2000 6,82 11,811,318 0.0% 58.8% of 6/22/2000 1,360 11,811,328 0.0% 58.8% of 6/22/2000 1,360 11,811,341 0.0% 58.8% of 6/22/2000 1,360 11,813,218 0.0% 58.8% of 6/22/2000 1,360 11,826,980 0.1% 58.8%	Tuesday	06/13/2000	5,092	11,693,971	0.0%	58.2%	
ay 06/15/2000 95,721 11,793,730 0.5% 58.7% ay 06/16/2000 5,509 11,799,239 0.0% 58.8% v 06/17/2000 1,392 11,800,631 0.0% 58.8% y 06/19/2000 1,846 11,802,477 0.0% 58.8% y 06/19/2000 3,101 11,805,578 0.0% 58.8% y 06/20/2000 1,715 11,807,293 0.0% 58.8% sday 06/21/2000 1,435 11,808,728 0.0% 58.8% ay 06/22/2000 1,108 11,810,961 0.0% 58.8% o 06/23/2000 380 11,811,341 0.0% 58.8% y 06/24/2000 376 11,811,565 0.0% 58.8% y 06/25/2000 736 11,813,218 0.0% 58.8% y 06/22/2000 376 11,813,20 0.0% 58.8% y 06/22/2000 362 11,813,20 <td>Wednesday</td> <td>06/14/2000</td> <td>4,038</td> <td>11,698,009</td> <td>0.0%</td> <td>58.2%</td> <td></td>	Wednesday	06/14/2000	4,038	11,698,009	0.0%	58.2%	
1y 06/16/2000 5,509 11,799,239 0.0% 58.8% y 06/18/2000 1,392 11,800,631 0.0% 58.8% y 06/19/2000 1,846 11,802,477 0.0% 58.8% y 06/19/2000 1,715 11,805,578 0.0% 58.8% y 06/20/2000 1,715 11,807,293 0.0% 58.8% sday 06/21/2000 1,435 11,809,853 0.0% 58.8% ay 06/22/2000 1,108 11,810,961 0.0% 58.8% v 06/24/2000 380 11,811,341 0.0% 58.8% y 06/25/2000 224 11,811,565 0.0% 58.8% y 06/25/2000 917 11,813,218 0.0% 58.8% y 06/27/2000 736 11,813,218 0.0% 58.8% sday 06/28/2000 13,080 11,826,980 0.0% 58.8%	Thursday	06/15/2000	95,721	11,793,730	0.5%	58.7%	
06/17/2000 1,392 11,800,631 0.0% 58.8% 06/18/2000 1,846 11,802,477 0.0% 58.8% 06/19/2000 3,101 11,805,578 0.0% 58.8% 06/20/2000 1,715 11,807,293 0.0% 58.8% 06/21/2000 1,435 11,809,853 0.0% 58.8% 06/22/2000 1,108 11,810,961 0.0% 58.8% 06/24/2000 380 11,811,341 0.0% 58.8% 06/25/2000 224 11,811,565 0.0% 58.8% 06/26/2000 917 11,813,218 0.0% 58.8% 06/27/2000 682 11,813,218 0.0% 58.8% 06/28/2000 13,080 11,826,980 0.0% 58.8%	Friday	06/16/2000	5,509	11,799,239	%0.0	58.8%	
06/18/2000 1,846 11,802,477 0.0% 58.8% 06/19/2000 3,101 11,805,578 0.0% 58.8% 06/20/2000 1,715 11,807,293 0.0% 58.8% ay 06/21/2000 1,435 11,809,853 0.0% 58.8% 06/22/2000 1,125 11,809,853 0.0% 58.8% 06/24/2000 1,108 11,810,961 0.0% 58.8% 06/25/2000 380 11,811,341 0.0% 58.8% 06/25/2000 224 11,811,565 0.0% 58.8% 06/25/2000 917 11,813,218 0.0% 58.8% 06/27/2000 736 11,813,218 0.0% 58.8% 06/29/2000 13,080 11,826,980 0.1% 58.8%	Saturday	06/17/2000	1,392	11,800,631	%0.0	58.8%	27
06/19/2000 3,101 11,805,578 0.0% 58.8% 06/20/2000 1,715 11,807,293 0.0% 58.8% 06/22/2000 1,435 11,808,728 0.0% 58.8% 06/22/2000 1,125 11,809,853 0.0% 58.8% 06/23/2000 1,108 11,810,961 0.0% 58.8% 06/24/2000 380 11,811,341 0.0% 58.8% 06/25/2000 224 11,811,565 0.0% 58.8% 06/26/2000 917 11,812,482 0.0% 58.8% 06/27/2000 736 11,813,218 0.0% 58.8% 06/28/2000 682 11,813,900 0.0% 58.8% 06/29/2000 13,080 11,826,980 0.1% 58.9%	Sunday	06/18/2000	1,846	11,802,477	%0.0	58.8%	
ay 06/20/2000 1,715 11,807,293 0.0% 58.8% ay 06/21/2000 1,435 11,808,728 0.0% 58.8% 06/22/2000 1,125 11,809,853 0.0% 58.8% 06/23/2000 1,108 11,810,961 0.0% 58.8% 06/24/2000 380 11,811,341 0.0% 58.8% 06/25/2000 224 11,811,565 0.0% 58.8% 06/25/2000 917 11,812,482 0.0% 58.8% 06/27/2000 736 11,813,218 0.0% 58.8% ay 06/28/2000 682 11,813,900 0.0% 58.8% 06/29/2000 13,080 11,826,980 0.1% 58.9%	Monday	06/19/2000	3,101	11,805,578	%0.0	58.8%	
ay 06/21/2000 1,435 11,808,728 0.0% 58.8% 06/22/2000 1,125 11,809,853 0.0% 58.8% 06/23/2000 1,108 11,810,961 0.0% 58.8% 06/24/2000 380 11,811,341 0.0% 58.8% 06/25/2000 224 11,811,565 0.0% 58.8% 06/26/2000 917 11,812,482 0.0% 58.8% 06/27/2000 736 11,813,218 0.0% 58.8% ay 06/28/2000 682 11,813,900 0.0% 58.8% 06/29/2000 13,080 11,826,980 0.1% 58.9%	Tuesday	06/20/2000	1,715	11,807,293	%0.0	58.8%	
06/22/2000 1,125 11,809,853 0.0% 58.8% 06/23/2000 1,108 11,810,961 0.0% 58.8% 06/24/2000 380 11,811,341 0.0% 58.8% 06/25/2000 224 11,811,565 0.0% 58.8% 06/26/2000 917 11,812,482 0.0% 58.8% 06/27/2000 736 11,813,218 0.0% 58.8% ay 06/28/2000 682 11,813,900 0.0% 58.8% o6/29/2000 13,080 11,826,980 0.1% 58.9%	Wednesday	06/21/2000	1,435	11,808,728	%0.0	58.8%	
06/23/2000 1,108 11,810,961 0.0% 58.8% 06/24/2000 380 11,811,341 0.0% 58.8% 06/25/2000 224 11,811,565 0.0% 58.8% 06/26/2000 917 11,812,482 0.0% 58.8% 06/27/2000 736 11,813,218 0.0% 58.8% ay 06/28/2000 682 11,813,900 0.0% 58.8% 06/29/2000 13,080 11,826,980 0.1% 58.9%	Thursday	06/22/2000	1,125	11,809,853	%0.0	58.8%	
06/24/2000 380 11,811,341 0.0% 58.8% 06/25/2000 224 11,811,565 0.0% 58.8% 06/26/2000 917 11,812,482 0.0% 58.8% 06/27/2000 736 11,813,218 0.0% 58.8% ay 06/28/2000 682 11,813,900 0.0% 58.8% 06/29/2000 13,080 11,826,980 0.1% 58.9%	Friday	06/23/2000	1,108	11,810,961	0.0%	58.8%	
06/25/2000 224 11,811,565 0.0% 58.8% 06/26/2000 917 11,812,482 0.0% 58.8% 06/27/2000 736 11,813,218 0.0% 58.8% ay 06/28/2000 682 11,813,900 0.0% 58.8% 06/29/2000 13,080 11,826,980 0.1% 58.9%	Saturday	06/24/2000	380	11,811,341	%0.0	58.8%	
06/26/2000 917 11,812,482 0.0% 58.8% 06/27/2000 736 11,813,218 0.0% 58.8% ay 06/28/2000 682 11,813,900 0.0% 58.8% 06/29/2000 13,080 11,826,980 0.1% 58.9%	Sunday	06/25/2000	224	11,811,565	%0.0	58.8%	
ay 06/28/2000 736 11,813,218 0.0% ay 06/28/2000 682 11,813,900 0.0% 06/29/2000 13,080 11,826,980 0.1%	Monday	06/26/2000	917	11,812,482	%0.0	58.8%	NRFU complete
ay 06/28/2000 682 11,813,900 0.0% 06/29/2000 13,080 11,826,980 0.1%	Tuesday	06/27/2000	736	11,813,218	%0.0	58.8%	
06/29/2000 13,080 11,826,980 0.1%	Wednesday	06/28/2000	682	11,813,900	%0.0	58.8%	
	Thursday	06/29/2000	13,080	11,826,980	0.1%	28.9%	

Forms
Long
for
Rates
and
Numerators
Appendix G-2: Mail Response Numerators and Rates for Long Forms
G-2:
Appendix

Day Date Friday 06/30/2000 Saturday 07/01/2000 Sunday 07/02/2000 Monday 07/03/2000 Tuesday 07/04/2000 Friday 07/05/2000 Saturday 07/06/2000 Sunday 07/09/2000 Monday 07/10/2000 Wodacday 07/11/2000	2000 2000 2000 2000 2000	Daily Increase	Cumulative	Daily Increase	Cumulative	7. 6 2.4
ay / / / / / / / / / / / / /	2000 2000 2000 2000 2000	Daily Increase	Cumulative	Increase	Cumulative	177 1 1
ay / / / / / / / / / / / / /	2000 2000 2000 2000 2000	009	A CHARACTER PROPERTY OF			Ney dates
ay / / / / / / / / / / / / /	2000 2000 2000 2000	>>>	11,827,580	0.0%	58.9%	
yy yy y y y y y y y y y y y y y y y y	2000	145	11,827,725	0.0%	58.9%	
ssday lay lay lay lay lay lay lay lay lay l	2000	09	11,827,785	%0.0	58.9%	
ssday lay ay A I I I I I I I I I I I I	2000		11,827,785	0.0%	58.9%	
ssday lay ay ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '			11,827,785	0.0%	28.9%	
lay ay	2000	,	11,827,785	0.0%	58.9%	
ay iy	2000	- 1	11,827,785	0.0%	58.9%	
ay / iy	2000	•	11,827,785	0.0%	58.9%	
	2000	•	11,827,785	%0.0	28.9%	
	2000	1	11,827,785	0.0%	28.9%	
	2000	260	11,828,045	0.0%	28.9%	
	2000	•	11,828,045	0.0%	58.9%	
	07/12/2000	•	11,828,045	0.0%	28.9%	
Thursday 07/13/2000	2000	117	11,828,162	0.0%	58.9%	
Friday 07/14/2000	2000	•	11,828,162	0.0%	28.9%	
Saturday 07/15/2000	2000	•	11,828,162	%0.0	28.9%	
Sunday 07/16/2000	2000	•	11,828,162	0.0%	28.9%	
Monday 07/17/2000	2000	•	11,828,162	0.0%	58.9%	
Tuesday 07/18/2000	2000	\$	11,828,162	0.0%	58.9%	
Wednesday 07/19/2000	2000	•	11,828,162	0.0%	58.9%	
Thursday 07/20/2000	2000	•	11,828,162	0.0%	28.9%	
Friday 07/21/2000	2000	•	11,828,162	0.0%	28.9%	
Saturday 07/22/2000	2000	1,892	11,830,054	%0.0	58.9%	
Sunday 07/23/2000	2000	353	11,830,407	0.0%	28.9%	
Monday 07/24/2000	2000	4	11,830,407	%0.0	58.9%	
Tuesday 07/25/2000	2000	•	11,830,407	%0.0	28.9%	
Wednesday 07/26/2000	2000	•	11,830,407	%0.0	28.9%	
Thursday 07/27/2000	2000	t	11,830,407	%0.0	58.9%	
Friday 07/28/2000	2000	185	11,830,592	%0.0	58.9%	
Saturday 07/29/2000	2000	•	11,830,592	0.0%	58.9%	

Appendix G-2: Mail Response Numerators and Rates for Long Forms

		Key dates																														
se Rate	2	Cumulative	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%	58.9%
Response Rate	Daily	Increase (%0.0	%0.0	%0.0	%0.0	%0.0	%0.0	%0.0	%0.0	%0.0	%0.0	%0.0	%0.0	%0.0	%0.0	%0.0	%0:0	%0.0	%0:0	%0.0	%0.0	%0.0	%0.0	%0.0	%0.0	%0.0	%0.0	%0.0	%0.0	%0.0	0.0%
Numerator		Cumulative	11,830,592	11,830,643	11,830,643	11,830,643	11,830,643	11,830,643	11,830,643	11,830,643	11,830,643	11,830,643	11,830,895	11,830,895	11,830,895	11,830,895	11,830,895	11,830,895	11,830,895	11,830,975	11,830,975	11,831,171	11,831,580	11,831,580	11,831,580	11,831,580	11,831,580	11,831,580	11,831,583	11,831,583	11,831,583	11,831,583
Mail Response Numerator	25	Daily Increase	1	51	ı	•		•	•		•	•	252	•	•	1	,	•	B	80	•	961	409	•	•	1			3			•
20 V III		Date	04/30/2000	07/31/2000	08/01/2000	08/02/2000	08/03/2000	08/04/2000	08/05/2000	08/06/2000	08/07/2000	08/08/2000	08/09/2000	08/10/2000	08/11/2000	08/12/2000	08/13/2000	08/14/2000	08/15/2000	08/16/2000	08/17/2000	08/18/2000	08/19/2000	08/20/2000	08/21/2000	08/22/2000	08/23/2000	08/24/2000	08/25/2000	08/26/2000	08/27/2000	08/28/2000
		Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday

Appendix G-2: Mail Response Numerators and Rates for Long Forms
Mail Response Numerator

				Daily		
Day	Date	Daily Increase	Cumulative	Increase	Cumulative	Key dates
Tuesday	08/29/2000	•	11,831,583	0.0%	58.9%	
Wednesday	08/30/2000	•	11,831,583	0.0%	58.9%	
Thursday	08/31/2000	•	11,831,583	%0.0	58.9%	
Friday	09/01/2000	•	11,831,583	0.0%	58.9%	
Saturday	09/02/2000	37	11,831,620	0.0%	58.9%	
Sunday	09/03/2000	•	11,831,620	0.0%	58.9%	
Monday	09/04/2000	•	11,831,620	0.0%	58.9%	
Tuesday	09/05/2000	•	11,831,620	0.0%	58.9%	
Wednesday	09/06/2000		11,831,620	%0.0	28.9%	
Thursday	09/01/2000	1	11,831,620	%0.0	58.9%	
Friday	09/08/2000	•	11,831,620	0.0%	58.9%	
Saturday	09/09/2000	1	11,831,620	%0.0	58.9%	
Sunday	09/10/2000	•	11,831,620	%0.0	58.9%	
Monday	09/11/2000	ı	11,831,620	%0.0	58.9%	
Tuesday	09/12/2000		11,831,620	0.0%	58.9%	
Wednesday	09/13/2000	•	11,831,620	0.0%	58.9%	
Thursday	09/14/2000	•	11,831,620	0.0%	58.9%	
Friday	09/15/2000	13	11,831,633	0.0%	58.9%	
Saturday	09/16/2000	•	11,831,633	%0.0	28.9%	
Sunday	09/17/2000	•	11,831,633	%0.0	58.9%	
Monday	09/18/2000	•	11,831,633	%0.0	58.9%	
Tuesday	09/19/2000	•	11,831,633	0.0%	58.9%	
Wednesday	09/20/2000	•	11,831,633	0.0%	58.9%	
Thursday	09/21/2000	B	11,831,633	0.0%	58.9%	
Friday	09/22/2000	•	11,831,633	0.0%	58.9%	
Saturday	09/23/2000	•	11,831,633	0.0%	58.9%	
Sunday	09/24/2000	•	11,831,633	0.0%	28.9%	
Monday	09/25/2000	•	11,831,633	0.0%	28.9%	
Tuesday	09/26/2000	•	11,831,633	0.0%	58.9%	
Wednesday	09/27/2000	1	11 831 633	%0 0	28 9%	

Appendix G-2: Mail Response Numerators and Rates for Long Forms

		Mail Response Numerator	Numerator	Respo	Response Rate	
				Daily		
Day	Date	Daily Increase	Cumulative	Increase	Cumulative	Key dates
Thursday	09/28/2000	•	11,831,633	0.0%	58.9%	
Friday	09/29/2000	•	11,831,633	%0.0	58.9%	
Saturday	09/30/2000	•	11,831,633	0.0%	58.9%	
Sunday	10/01/2000	•	11,831,633	0.0%	58.9%	
Monday	10/02/2000	•	11,831,633	%0.0	58.9%	
Tuesday	10/03/2000	•	11,831,633	0.0%	58.9%	
Wednesday	10/04/2000	•	11,831,633	%0.0	58.9%	
Thursday	10/05/2000	•	11,831,633	0.0%	58.9%	
Friday	10/06/2000	1	11,831,633	%0.0	58.9%	
Saturday	10/07/2000	1	11,831,633	%0.0	58.9%	
Sunday	10/08/2000	•	11,831,633	%0.0	58.9%	
Monday	10/09/2000	•	11,831,633	0.0%	58.9%	
Tuesday	10/10/2000	•	11,831,633	0.0%	58.9%	
Wednesday	10/11/2000	•	11,831,633	0.0%	58.9%	
Thursday	10/12/2000	ı	11,831,633	0.0%	58.9%	
Friday	10/13/2000	•	11,831,633	0.0%	58.9%	
Saturday	10/14/2000	•	11,831,633	0.0%	58.9%	
Sunday	10/15/2000	•	11,831,633	%0.0	58.9%	
Monday	10/16/2000		11,831,633	0.0%	58.9%	
Tuesday	10/17/2000	1	11,831,633	%0.0	58.9%	
Wednesday	10/18/2000	•	11,831,633	%0.0	58.9%	
Thursday	10/19/2000	•	11,831,633	0.0%	58.9%	Last mail return with check-in date received
Sunday	12/31/2000	98,703	11,930,336	0.5%	59.4%	
Source: DMAF and DRE-2	AF and DRF-2					

Source: DMAF and DRF-2.

Note: Long form return rates have a denominator of 20,082,777.

Note: No forms with a valid check-in date were received after October 19, 2000. Mail returns from addresses which also were enumerated in NRFU or CIFU with no check-in date were assigned a date of December 31, 2000.

Note: Rates do not include Puerto Rico.



Monday July 22, 1991



Department of Commerce

Office of the Secretary

Adjustment of the 1990 Census for Overcounts and Undercounts of Population and Housing; Notice of Final Decision



Federal Register / Vol. 56, No. 140 / Monday, July 22, 1991 / Notices

DEPARTMENT OF COMMERCE

Office of the Secretary
[Docket No. 91282-1161]

93582

Decision of the Secretary of Commerce on Whether a Statistical Adjustment of the 1990 Census of Population and Housing Should Be Made for Coverage Deficiencies Resulting in an Overcount or Undercount of the Population

AGENCY: U.S. Department of Commerce.
ACTION: Notice of final decision.

SUMMARY: This is a notice of the final decision of the Secretary of Commerce on the issue of adjusting the 1990 census to correct for overcounts or undercounts of the population in the 1990 Decennial Census. The purpose of this notice is to inform the public of the decision and to explain the basis for the decision.

DATES: The decision is effective on July 15, 1991.

FOR FURTHER INFORMATION CONTACT: Michael R. Darby, Under Secretary for Economic Affairs and Administrator, Economics and Statistics Administration, Room 4848 Herbert C. Hoover Building, United States
Department of Commerce, Washington,
DC 20230, Telephone (202) 377-3727. SUPPLEMENTARY INFORMATION: The Secretary of Commerce is required, pursuant to 13 U.S.C. 141, to conduct a decennial census of the population of the United States. The population totals derived from the census provide the basis for the apportionment of seats in the United States House of Representatives, for state legislative redistricting, for determining district boundaries for county and city elections, and for the allocation of federal funds to state and local governments.

In 1987, the Secretary of Commerce decided not to plan for a statistical adjustment of the 1990 census. As a result, a lawsuit was filed by the city of New York and other parties seeking to compel the Dapartment to plan for such an adjustment. Pursuant to an agreement between the parties in City of New York, et al. v. Department of Commerce, et al., 88—Civ.—3474 (E.D.N.Y.), the Department underlook a de novo review of the adjustment Issue in order to make a decision no later than July 15, 1991, on whether to adjust the 1990 census. The purpose of this notice is to inform the public about the Secretary's decision and the basis for the decision.

Final guidelines which aided the Secretary in his decision were published in the Federal Register on March 15,

1990 (FR. vol. 55, no. 51, part III pp. 9838— 9681). They were intended to provide the framework for a balanced consideration by the Secretary of factors relevant to the decision.

The census adjustment decision process was divided into several distinct phases. The first phase was the actual enumeration of the population. The second phase was the conduct of a post-cnumeration survey, based on a probability sample of housing units. This sample provided data for two purposes: estimation of the net overcount or undercount of basic enumeration subgroups using capture-recapture methodology, and application of factors for the adjustment of the enumerated counts. The third phase of the process was a determination of the adequacy of the post-enumeration survey as an evaluation and adjustment tool. The fourth and final phase of the process Was a decision on the adjustment question by the Scoretary based on the published guldelines.

In making his decision, the Sacretary relied on the advice of senior officiels in the Economics and Statistics Administration, which includes the Census Bureau, as well as other senior advisors. The Secretary also relied on the individual recommendations of the eight members of the Special Advisory Panel appointed to provide independent advice to the Secretary on the adjustment question. In addition, the Secretary considered the public comments submitted to the Department puratant to a Federal Register notice dated May 24, 1991, seeking comments on the question of whether the 1990 Census should be adjusted. The Department received approximately 650 public comments. These comments, as well as the appendices referred to in the following explanation of the decision, are available for public inspection in the U.S. Department of Commerce Central Reference and Records Inspection Facility, room 6020 Herbert C. Hoover Building, 14th Street and Constitution Avenue, NW., Washington, DC 20230.

Following is a detailed discussion of the adjustment decision and the basis for the decision. The discussion is in four sections: a summary statement, an analysis of the guidelines, an evaluation of the recommendations of the Special Advisory Panel and a statement of the decennial census procedures.

Proposed guidelines were published in the Federal Register on December 11, 1969. The Chart has previously considered and rejected a challenge to the guidelines. See City of New York v. Uniber States Department of Commerce, 732 F. Supp. 78. [ED.N.Y. 1999].

Dated: July 15, 1991. Robert A. Mosbacher, Secretary of Commerce.

SECTION 1—SUMMARY STATEMENT

Statement of Secretary Robert A. Mesbacher on Adjustment of the 1990 Consus

Reaching a decision on the adjustment of the 1990 census has been among the most difficult decisions I have ever made. There are strong equity arguments both for and against adjustment. But most importantly, the census counts are the basis for the political representation of every American, in every state, county, city, and block across the country.

If we change the counts by a computerized, statistical process, we abandon a two hundred year tradition of how we actually count people. Before we take a step of that magnitude, we must be certain that it would make the census better and the distribution of the population more accurate. After a thorough review, I find the evidence in support of an adjustment to be inconclusive and unconvincing. Therefore, I have decided that the 1990 census counts should not be changed by a statistical adjustment.

The 1990 census is one of the two best censuses ever taken in this country. We located about 98 percent of all the people living in the United States as well as U.S. military personnel living overseas, which is an extraordinary feat given the size, diversity and mobility of our population. But I am sad to report that despite the most aggressive outreach program in our nation's history. census participation and coverage was lower than average among certain asgments of our population. Based on our estimates, Blacks appear to have been undercounted in the 1990 census by 4.8%, Hispanics by 5.2%, Asian-Pacific Islanders by 3.1%, and American Indians by 5.0%, while non-Blacks appear to have been undercounted by 1.7%.

I am deeply troubled by this problem of differential participation and undercount of minorities, and I regret that an adjustment does not address this phenomenon without adversaly affecting the integrity of the census. Ultimately, I had to make the decision which was fairest for all Americans.

The 1990 census is not the vehicle to address the equity concerns raised by the undercount. Nonetheless, I am today requesting that the Census Bureau incorporate, as appropriate, information gleaned from the Post-Enumeration Survey line its intercental Calimates of

the population. We should also seek other avenues for the Brah Administration and Congress to work together and address the impact of the differential undercount of minorities on

federal programs.
In reaching the decision not to adjust the census, I have benefitted from Early

and open discussions of the full range of issues with my staff, with senior professionals from the Economics and Statistics Administration and the Census Eureau, with my Inspector General, and with statisticians and other experts. Throughout these discussions, there was a wide range of professional opinion and honest disagreement. The Department has blad to make the process leading to this decision as open as possible. In that spirit, we will provide the full record of the basis for our decision as soon as it is available.

In reaching the decision, I looked to statistical science for the evidence on whether the adjusted estimates were more accurate than the census count. As l am not a statistician. I relied on the advice of the Director of the Census Bureau, the Associate Director for the Decennial Census and other career Bureau officials, and the Under Secretary for Economic Affairs and Administrator of the Economics and Statistics Administration, I was also fortunate to have the independent counsel of the eight members of my Special Advisory Panel. These eight experts and their dedicated staffs gave generously of their time and expertise, and I am grateful to them.

There was a diversity of opinion among my advisors. The Special Advisory Panel split evenly as to whether there was convincing evidence that the adjusted counts were more accurate. There was also disagreement among the professionals in the Commerce Department, which includes the Economics and Statistics Administration and the Census Bureau. This compounded the difficulty of the decision for me. Ultimately, I was compelled to conclude that we cannot proceed on unstable ground in such an important matter of public policy.

The experts have raised some fundamental questions about an adjustment. The Post-Enumeration Survey, which was designed to allow us to find people we had missed, also missed important segments of the population. The modele used to infor populations across the nation depended heavily on assumptions, and the results changed in important ways when the assumptions changed. These problems don't disqualify the adjustment automatically—they mean we won't get

a perfect count from an adjustment. The question is whether we will get better estimates of the population. But what

does batter mean? First, we have to look at various levels of geography—whether the counts are better at national, state, local, and block levels. Secondly, we have to determine both whether the actual count is better and whether the share of states and cities within the total population is better. The paradox is that in attempting to make the actual count more accurate by an adjustment, we might be making the shares less accurate. The shares are very important because they determine how many congressional seats each state gets, how political representation is allocated within states, and how large a "slice of the pie" of federal funds goes to each city and state. Any upward adjustment of one share necessarily means a downward adjustment of another, Because there is a loser for every winner, we need solid ground to stand on in making any changes. I do not find solid enough ground to proceed

with an adjustment. To make comparisons between the accuracy of the census and the adjusted numbers, various types of statistical tests are used. There is general agreement that at the national level, the adjusted counts are better, though independent analysis shows that adjusted counts, too, suffer from serious flows. Below the national level, however, the experts disagree with respect to the accuracy of the shares measured from an adjustment. The classical statistical tests of whether accuracy is improved by an adjustment at state and local levels show mixed results and depend critically on assessments of the amount of statistical variation in the survey. Some question the validity of these tests, and many believe more work is necessary before we are sure of the conclusions.

Based on the measurements so far completed, the Census Bureau estimated that the proportional share of about 20 states would be made more accurate and about 21 states would be made less accurate by adjustment, Looking at cities, the census appears more accurate in 11 of the 23 metropolitan areas with 500,000 or more persons: Phoenix, Washington, DC, Jacksonvilla, Chicago, Baltimore, New York City, Memphis. Dallas, El Paso, Houston and San Antonio. Many large cities would eppear to be less accurately treated under an adjustment. While these analyses indicate that more people live in jurisdictions where the adjusted counts appear more accurate, one third of the population lives in areas where the consus appears more accurate. As

the population units get smaller, including small and medium sized cities, the adjusted figures become increasingly unreliable. When the Census Bureau made allowances for plausible estimates of factors not yet measured, these comparisons shifted toward favoring the accuracy of the census enumeration. Using this test, 28 or 29 states were culimated to be made less accurate if the adjustment were to be used. What all these tests show, and no one disputes, is that the adjusted figures for some localities will be an improvement and for others the census counts will b better. While we know that some will fore better and some will fare worse under an adjustment, we don't really know how much better or how much worse. If the scientists cannot agree on these issues, how can we expect the losing cities and states as well as the American public to accept this change? The evidence also raises questions

about the stability of adjustment procedures. To calculate a nationwide adjustment from the survey, a series of ataliatical models are used which depend on simplifying assumptions. Changes in these assumptions result in different population estimates. Consider the results of two possible adjustment methods that were released by the Census Bureau on june 13, 1991. The technical differences are small, but the differences in results are significant. The apportionment of the House of Representatives under the selected scheme moved two seats relative to the apportionment implied by the census, whereas the modified method moved only one seat. One expert found that among five reasonable alternative methods of calculating adjustments. none of the resulting apportionments of the House were the same, and eleven different states either lost or gained a seat in at least one of the five methods. I recognize that the formulas for apportioning the House are responsive to small changes and some sensitivity should be expected. What is unsettling, however, is that the choice of the adjustment method selected by Bureau officials can make a difference in apportionment, and the political outcome of that choice can be known in advance. I am confident that political considerations played no role in the Consus Bureau's choice of an adjustment model for the 1990 cansus. I am deeply concerned, however, that adjustment would open the door to political tempering with the census in the future. The outcome of the enumeration process cannot be directly affected in such a way.

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My concerns about adjustment are compounded by the problems an adjustment might cause in the redistricting process, which is contentious and litigious enough without an adjustment. An adjusted set of numbers will certainly disrupt the political process and may create paralysis in the states that are working on redistricting or have completed it. Some people claim that they will be denied their rightful political representation without an adjustment. Those claims assume that the distribution of the population is improved by an adjustment. This conclusion is not warranted based on the evidence available.

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I also have serious concerns about the effect an adjustment might have on future consumes. I am worried that an adjustment would remove the incentive of states and localities to join in the effort to get a full and complete count. The Census Bureau relies heavily on the active support of state and local leaders to encourage census participation in their communities. Because census counts are the basis for political representation and federal funding allocations, communities have a vital interest in achieving the highest possible participation rates. If civic leaders and local officials believe that an adjustment will rectify the failures in the census. they will be hard pressed to justify putting census outreach programs above the many other needs clamoring for their limited resources. Without the partnership of states and cities in creating public awareness and a sense of involvement in the census, the result is likely to be a further decline in participation

In looking at the record of public comment on this issue, I am struck by the fact that many civic leaders are under the mistaken impression that an adjustment will fix a particular problem they have identified—for example, specific housing units or group quarters that they believe we missed. It does not do so. It is not a recount. What an adjustment would do is add over 6 million unidentified people to the census by duplicating the records of people already counted in the census while subtracting over 900,000 people who were actually identified and counted The decisions about which places gain people and which lose people are based on statistical conclusions drawn from the sample survey. The additions and deletions in any particular community are often based largely on data gathered from communities in other states.

The procedures that would be used to adjust the census are at the forefront of

statistical methodology. Such research deserves and requires careful professional scrutiny before it is used to affect the allocation of political representation. Since the results of tha evaluation studies of the survey were made available, several mistakes have been found which altered the certainty of some of the conclusions drawn by my advisors. The analysis continues, and new findings are likely. I am concerned that if an adjustment were made, it would be made on the basis of research conclusions that may well be reversed in the next several months.

It is important that research on this problem continue. We will also continue the open discussion of the quality of the census and the survey and will release additional data so that independent experts can analyze it. We must also look forward to the next consus. Planning for the year 2000 has begun. A public advisory committee on the next census has been established and by early fall I will announce the membership of that committee. I have instructed the Census Bureau's Yesr 2000 task force to consider all options for the next census, including methods for achieving sound adjustment techniques.

I give my heartfelt thanks to the many people who have devoted so much time and energy to this enterprise. The staff at the Census Bureau have demonstrated their professionalism at every turn through the last two difficult years. They executed a fine census and an excellent survey and then condensed a challenging research program into a few short months. I am deeply grateful for their heip. Let me relievate my sincero thanks to the Special Advisory Panel for their substantial contribution. The staff at the Department, especially those in the Economics and Statistics Administration, also deserve praise. With this difficult decision behind us,

With this difficult decision behind us, we will commit ourselves anew to finding sound, fair and acceptable ways to continue to improve the census process. We welcome the leadership of Congress and other public officials, community groups, and technical experts in maximizing the effectiveness and minimizing the difficulties of the year 2000 census.

July 15, 1991.

SECTION 2—ANALYSIS OF THE QUIDELINES

Analysis of the Guidelines

Introduction

The 1990 census counts should not be changed by a statistical adjustment. This section explains my evaluation of

the evidence relevant to each of the eight guidelines that I considered in reaching my decision. Each section begins with a statement of the guideline and a reiteration of the explanation of the guideline contained in the March 15, 1990, Federal Register notice. A discussion of the guideline follows. The final section states my conclusions.

Summaries of my conclusions on each of the eight guidelines are set forth below.

Guideline One

Guideline One requires that convincing evidence be offered that the adjusted estimates of the population are more accurate than the census at the national, State, and local levels. In the absence of such evidence, the census counts are concluded to be the most accurate.

At the national level, it is likely that the PES-adjusted estimates reflect more accurately the total population and the racial and ethnic populations of the country. It appears equally clear, however, that the PES omitted large numbers of certain groups—notably black males. We have no information on the location of these persons. In addition, the PES and demographic analysis lead to sharply different conclusions about the accuracy of the census for several age/sex groups at the national level. Although these are not definitive disqualifiers at the national level, they do raise some question as to whether the adjusted figures are more occurate than the census count even at the national level.

The Constitution requires a census every 10 years not just to count the total number of people in the United States but to locate them so that political representation can be allocated to the states and the people in them in proportion to their numbers. I conclude that the primary criterion for accuracy should be distributive accuracy—that is, getting most nearly correct the proportions of people in different areas. Improved numeric accuracy, although in itself desirable, cannot compensate for treating states and individuals less

fairly.

At the State and local level the correct statistical analysis for both distributive and numeric accuracy simply has not been completed. The total error model indicates that the adjusted figures tend to be too high but generally closer in numeric terms to the true population than the census counts which tend to be too low. However, there is sufficient uncertainty about the true variance of the adjusted figures that even numeric accuracy has not been definitively

2020 Census Crosswalk from Life Cycle Cost Estimate to FY 2019 President's Budget Request (dollars in thousands)

	FY 2019	
Life Cycle Cost Estimate (Executive Summary v. 1.0 December 2017)	\$	3,451,788
Reduction for Secretarial Contingency	\$	(314,000)
Reduction for Wage Rate Variability Contingency	\$	(22,000)
Reduction for OIG Transfer	\$	(3,556)
Pricing Differences between the Life Cycle Cost Estimate and FY 19 Budget Request	\$	(2,976)
CEDCaP Transfer to EDCaDS ¹	\$	(59,512)
CEDSCI Transfer to EDCaDS ¹	\$	(34,600)
FY 2019 President's Budget Request	\$	3,015,144

¹ The Life Cycle Cost Estimate assumes CEDCaP and CEDSCI are funded withing the 2020 Census PPA. The FY 2019 Budget Request proposes to transfer the programs to EDCaDS PPA.

KeyCite Yellow Flag - Negative Treatment
Declined to Extend by Semple v. Williams, D.Colo., February 14, 2018

136 S.Ct. 1120

Supreme Court of the United States

Sue EVENWEL et al., Appellants

Greg ABBOTT, Governor of Texas, et al.

No. 14–940. | Argued Dec. 8, 2015. | Decided April 4, 2016.

Synopsis

Background: Voters brought action against Texas Governor and Secretary of State, seeking permanent injunction barring use of existing state Senate map in favor of map equalizing voter population in each district. A three-judge panel of the United States District Court for the Western District of Texas, 2014 WL 5780507, granted state's motion to dismiss. Probable jurisdiction was noted.

[Holding:] The Supreme Court, Justice Ginsburg, held that state and local jurisdictions plainly could measure equalization by total population of state and local legislative districts.

Affirmed.

Justice Thomas concurred in judgment and filed opinion.

Justice Alito, with whom Justice Thomas joined in part, concurred in judgment and filed opinion.

West Headnotes (8)

[1] Constitutional Law

← Electoral Districts

Malapportionment claims are justiciable under the Equal Protection Clause. U.S.C.A. Const.Amend. 14.

1 Cases that cite this headnote

[2] Constitutional Law

Electoral Districts

Constitutional Law

Power and duty to redistrict and reapportion

Under the one person, one vote principle of the Equal Protection Clause, states must design both congressional and state legislative districts with equal populations, and must regularly reapportion districts to prevent malapportionment. U.S.C.A. Const.Amend. 14.

6 Cases that cite this headnote

[3] Constitutional Law

Population deviation

Under the one person, one vote principle of the Equal Protection Clause, states must draw congressional districts with populations as close to perfect equality as possible. U.S.C.A. Const.Amend. 14.

5 Cases that cite this headnote

[4] Constitutional Law

Population deviation

Under the one person, one vote principle of the Equal Protection Clause, when drawing state and local legislative districts, states may deviate somewhat from perfect population equality to accommodate traditional districting objectives, such as preserving the integrity of political subdivisions, maintaining communities of interest, and creating geographic compactness. U.S.C.A. Const.Amend. 14.

5 Cases that cite this headnote

[5] Constitutional Law

- Population deviation

"Maximum population deviation," i.e., the sum of the percentage deviations from

perfect population equality of the mostand least-populated districts, of more than 10% represents presumptively impermissible apportionment under the one person, one vote principle of the Equal Protection Clause. U.S.C.A. Const.Amend. 14.

4 Cases that cite this headnote

[6] Constitutional Law

Equality of representation; discrimination

Election Law

Population as basis and deviation therefrom

Under one person, one vote principle of Equal Protection Clause, state and local jurisdictions plainly could measure equalization by total population of state and local legislative districts; at founding, basis of representation in House of Representatives was to include all inhabitants, to make equal representation for equal numbers of people, and this idea was reinforced during debates over what became Fourteenth Amendment and in Supreme Court cases holding that districting based on total population serves both states' interests in preventing vote dilution and states' interests in ensuring equality of representation, and adopting voter-eligible apportionment as constitutional command would upset wellfunctioning approach utilized by all 50 states and countless local jurisdictions for decades, even centuries. U.S.C.A. Const. Art. 1, § 2, cl. 3; U.S.C.A. Const. Amend. 14.

6 Cases that cite this headnote

[7] Constitutional Law

Equality of Voting Power (One Person, One Vote)

By ensuring that each representative is subject to the requests and suggestions from the same number of constituents, total-population apportionment promotes equitable and effective representation, consistent with the one person, one vote principle of the Equal

Protection Clause. U.S.C.A. Const.Amend. 14.

3 Cases that cite this headnote

[8] Constitutional Law

Equality of representation; discrimination

Under the one person, one vote principle of the Equal Protection Clause, states have an interest in taking reasonable, nondiscriminatory steps to facilitate access for all its residents to their elected representatives. U.S.C.A. Const.Amend. 14.

Cases that cite this headnote

*1121 Syllabus *

Under the one-person, one-vote principle, jurisdictions must design legislative districts with equal populations. See *Wesberry v. Sanders*, 376 U.S. 1, 7–8, 84 S.Ct. 526, 11 L.Ed.2d 481, *Reynolds v. Sims*, 377 U.S. 533, 568, 84 S.Ct. 1362, 12 L.Ed.2d 506. In the context of state and local legislative districting, States may deviate somewhat from perfect population equality to accommodate traditional districting objectives. Where the maximum population deviation between the largest and smallest district is less than 10%, a state or local legislative map presumptively complies with the one-person, one-vote rule.

Texas, like all other States, uses total-population numbers from the decennial census when drawing legislative districts. After the 2010 census, Texas adopted a State Senate map that has a maximum total-population deviation of 8.04%, safely within the presumptively permissible 10% range. However, measured by a voter-population baseline—eligible voters or registered voters—the map's maximum population deviation exceeds 40%. Appellants, who live in Texas Senate districts with particularly large eligible- and registered-voter populations, filed suit against the Texas Governor and Secretary of State. Basing apportionment on total population, appellants contended, dilutes their votes in relation to voters in other Senate districts, in violation of the one-person, one-vote principle of the Equal Protection

Clause. Appellants sought an injunction barring use of the existing Senate map in favor of a map that would equalize the voter population in each district. A threejudge District Court dismissed the complaint for failure to state a claim on which relief could be granted.

Held: As constitutional history, precedent, and practice demonstrate, a State or locality may draw its legislative districts based on total population. Pp. 1126 – 1133.

- (a) Constitutional history shows that, at the time of the founding, the Framers endorsed allocating House seats to States based on total population. Debating what would become the Fourteenth Amendment, Congress reconsidered the proper basis for apportioning House seats. Retaining the total-population rule, Congress rejected proposals to allocate House seats to States on the basis of voter population. See U.S. Const., Amdt. 14, § 2. The Framers *1122 recognized that use of a total-population baseline served the principle of representational equality. Appellants' voter-population rule is inconsistent with the "theory of the Constitution," Cong. Globe, 39th Cong., 1st Sess., 2766 – 2767, this Court recognized in Wesberry as underlying not just the method of allocating House seats to States but also the method of apportioning legislative seats within States. Pp. 1126 – 1131.
- (b) This Court's past decisions reinforce the conclusion that States and localities may comply with the one-person, one-vote principle by designing districts with equal total populations. Appellants assert that language in this Court's precedent supports their view that States should equalize the voter-eligible population of districts. But for every sentence appellants quote, one could respond with a line casting the one-person, one-vote guarantee in terms of equality of representation. See, e.g., Reynolds, 377 U.S., at 560–561, 84 S.Ct. 1362. Moreover, from Reynolds on, the Court has consistently looked to total-population figures when evaluating whether districting maps violate the Equal Protection Clause by deviating impermissibly from perfect population equality. Pp. 1130 – 1132.
- (c) Settled practice confirms what constitutional history and prior decisions strongly suggest. Adopting votereligible apportionment as constitutional command would upset a well-functioning approach to districting that all 50 States and countless local jurisdictions have long followed. As the Framers of the Constitution and the Fourteenth

Amendment comprehended, representatives serve all residents, not just those eligible to vote. Nonvoters have an important stake in many policy debates and in receiving constituent services. By ensuring that each representative is subject to requests and suggestions from the same number of constituents, total-population apportionment promotes equitable and effective representation. Pp. 1132 -1133.

(d) Because constitutional history, precedent, and practice reveal the infirmity of appellants' claim, this Court need not resolve whether, as Texas now argues, States may draw districts to equalize voter-eligible population rather than total population. Pp. 1132 – 1133.

Affirmed.

GINSBURG, J., delivered the opinion of the Court, in which ROBERTS, C.J., and KENNEDY, BREYER, SOTOMAYOR, and KAGAN, JJ., joined. THOMAS, J., filed an opinion concurring in the judgment. ALITO, J., filed an opinion concurring in the judgment, in which THOMAS, J., joined except as to Part III-B.

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Opinion

*1123 Justice GINSBURG delivered the opinion of the Court.

Texas, like all other States, draws its legislative districts on the basis of total population. Plaintiffs-appellants are Texas voters; they challenge this uniform method of districting on the ground that it produces unequal districts when measured by voter-eligible population. Voter-eligible population, not total population, they urge, must be used to ensure that their votes will not be devalued in relation to citizens' votes in other districts. We hold, based on constitutional history, this Court's decisions, and longstanding practice, that a State may draw its legislative districts based on total population.

I

Α

This Court long resisted any role in overseeing the process by which States draw legislative districts. "The remedy for unfairness in districting," the Court once held, "is to secure State legislatures that will apportion properly, or to invoke the ample powers of Congress." *Colegrove v. Green*, 328 U.S. 549, 556, 66 S.Ct. 1198, 90 L.Ed. 1432 (1946). "Courts ought not to enter this political thicket," as Justice Frankfurter put it. *Ibid*.

Judicial abstention left pervasive malapportionment unchecked. In the opening half of the 20th century, there was a massive population shift away from rural areas and toward suburban and urban communities. Nevertheless, many States ran elections into the early 1960's based on maps drawn to equalize each district's population as it was composed around 1900. Other States used maps allocating a certain number of legislators to each county regardless of its population. These schemes left many rural districts significantly underpopulated in comparison with urban and suburban districts. But rural legislators who benefited from malapportionment had scant incentive to adopt new maps that might put them out of office.

[1] The Court confronted this ingrained structural inequality in *Baker v. Carr*, 369 U.S. 186, 191–192, 82 S.Ct. 691, 7 L.Ed.2d 663 (1962). That case presented an equal protection challenge to a Tennessee state-legislative map that had not been redrawn since 1901. See also *id.*, at 192, 82 S.Ct. 691 (observing that, in the meantime, there had been "substantial growth and redistribution" of the State's population). Rather than steering clear of the political thicket yet again, the Court held for the first

time that malapportionment claims are justiciable. *Id.*, at 237, 82 S.Ct. 691 ("We conclude that the complaint's allegations of a denial of equal protection present a justiciable constitutional cause of action upon which appellants are entitled to a trial and a decision.").

[2] Although the Court in *Baker* did not reach the merits of the equal protection claim, Baker's justiciability ruling set the stage for what came to be known as the oneperson, one-vote principle. Just two years after Baker, in Wesberry v. Sanders, 376 U.S. 1, 7-8, 84 S.Ct. 526, 11 L.Ed.2d 481 (1964), the Court invalidated Georgia's malapportioned congressional map, under which the population of one congressional district was "two to three times" larger than the population of the others. Relying on Article I, § 2, of the Constitution, the Court required that congressional districts be drawn with equal populations. Id., at 7, 18, 84 S.Ct. 526. Later that same Term, in Reynolds v. Sims, 377 U.S. 533, 568, 84 S.Ct. 1362, 12 L.Ed.2d 506 (1964), the Court upheld an equal protection challenge to Alabama's malapportioned state-legislative maps. "[T]he Equal Protection Clause," the Court concluded, "requires that the seats *1124 in both houses of a bicameral state legislature must be apportioned on a population basis." Ibid. Wesberry and Reynolds together instructed that jurisdictions must design both congressional and state-legislative districts with equal populations, and must regularly reapportion districts to prevent malapportionment. ¹

[3] [4] [5] Over the ensuing decades, the Court has several times elaborated on the scope of the one-person, one-vote rule. States must draw congressional districts with populations as close to perfect equality as possible. See Kirkpatrick v. Preisler, 394 U.S. 526, 530–531, 89 S.Ct. 1225, 22 L.Ed.2d 519 (1969). But, when drawing state and local legislative districts, jurisdictions are permitted to deviate somewhat from perfect population equality to accommodate traditional districting objectives, among them, preserving the integrity of political subdivisions, maintaining communities of interest, and creating geographic compactness. See Brown v. Thomson, 462 U.S. 835, 842–843, 103 S.Ct. 2690, 77 L.Ed.2d 214 (1983). Where the maximum population deviation between the largest and smallest district is less than 10%, the Court has held, a state or local legislative map presumptively complies with the one-person, onevote rule. *Ibid.* Maximum deviations above 10% are presumptively impermissible. Ibid. See also Mahan v.

Howell, 410 U.S. 315, 329, 93 S.Ct. 979, 35 L.Ed.2d 320 (1973) (approving a state-legislative map with maximum population deviation of 16% to accommodate the State's interest in "maintaining the integrity of political subdivision lines," but cautioning that this deviation "may well approach tolerable limits").

In contrast to repeated disputes over the permissibility of deviating from perfect population equality, little controversy has centered on the population base jurisdictions must equalize. On rare occasions, jurisdictions have relied on the registered-voter or votereligible populations of districts. See Burns v. Richardson, 384 U.S. 73, 93-94, 86 S.Ct. 1286, 16 L.Ed.2d 376 (1966) (holding Hawaii could use a registered-voter population base because of "Hawaii's special population problems"—in particular, its substantial temporary military population). But, in the overwhelming majority of cases, jurisdictions have equalized total population, as measured by the decennial census. Today, all States use total-population numbers from the census when designing congressional and state-legislative districts, and only seven States adjust those census numbers in any meaningful way. 3

*1125 B

Appellants challenge that consensus. After the 2010 census, Texas redrew its State Senate districts using a total-population baseline. At the time, Texas was subject to the preclearance requirements of § 5 of the Voting Rights Act of 1965. 52 U.S.C. § 10304 (requiring jurisdictions to receive approval from the U.S. Department of Justice or the U.S. District Court for the District of Columbia before implementing certain voting changes). Once it became clear that the new Senate map, S148, would not receive preclearance in advance of the 2012 elections, the U.S. District Court for the Western District of Texas drew an interim Senate map, S164, which also equalized the total population of each district. See Davis v. Perry, No. SA-11-CV-788, 2011 WL 6207134 (Nov. 23, 2011). 4 On direct appeal, this Court observed that the District Court had failed to "take guidance from the State's recently enacted plan in drafting an interim plan," and therefore vacated the District Court's map. *Perry v. Perez*, 565 U.S. —, —, —, 132 S.Ct. 934, 940–942, 943–944, 181 L.Ed.2d 900 (2012) (per curiam).

The District Court, on remand, again used census data to draw districts so that each included roughly the same size total population. Texas used this new interim map, S172, in the 2012 elections, and, in 2013, the Texas Legislature adopted S172 as the permanent Senate map. See App. to Brief for Texas Senate Hispanic Caucus et al. as Amici Curiae 5 (reproducing the current Senate map). The permanent map's maximum total-population deviation is 8.04%, safely within the presumptively permissible 10% range. But measured by a voter-population baseline eligible voters or registered voters—the map's maximum population deviation exceeds 40%.

Appellants Sue Evenwel and Edward Pfenninger live in Texas Senate districts (one and four, respectively) with particularly large eligible- and registered-voter populations. Contending that basing apportionment on total population dilutes their votes in relation to voters in other Senate districts, in violation of the one-person, onevote principle of the Equal Protection Clause, ⁵ appellants filed suit in the U.S. District Court for the Western District of Texas. They named as defendants the Governor and Secretary of State of Texas, and sought a permanent injunction barring use of the existing Senate map in favor of a map that would equalize the voter population in each district.

The case was referred to a three-judge District Court for hearing and decision. See 28 U.S.C. § 2284(a); Shapiro v. McManus, *1126 577 U.S. ——, — 136 S.Ct. 450, 454-456, 193 L.Ed.2d 279 (2015). That court dismissed the complaint for failure to state a claim on which relief could be granted. Appellants, the District Court explained, "rel[y] upon a theory never before accepted by the Supreme Court or any circuit court: that the metric of apportionment employed by Texas (total population) results in an unconstitutional apportionment because it does not achieve equality as measured by Plaintiffs' chosen metric—voter population." App. to Juris. Statement 9a. Decisions of this Court, the District Court concluded, permit jurisdictions to use any neutral, nondiscriminatory population baseline, including total population, when drawing state and local legislative districts. Id., at 13a–14a. 6

We noted probable jurisdiction, 575 U.S. —, 136 S.Ct. 381, 193 L.Ed.2d 288 (2015), and now affirm.

H

[6] The parties and the United States advance different positions in this case. As they did before the District Court, appellants insist that the Equal Protection Clause requires jurisdictions to draw state and local legislative districts with equal voter-eligible populations, thus protecting "voter equality," i.e., "the right of eligible voters to an equal vote." Brief for Appellants 14. ⁷ To comply with their proposed rule, appellants suggest, jurisdictions should design districts based on citizen-voting-age-population (CVAP) data from the Census Bureau's American Community Survey (ACS), an annual statistical sample of the U.S. population. Texas responds that jurisdictions may, consistent with the Equal Protection Clause, design districts using any population baseline—including total population and voter-eligible population—so long as the choice is rational and not invidiously discriminatory. Although its use of total-population data from the census was permissible, Texas therefore argues, it could have used ACS CVAP data instead. Sharing Texas' position that the Equal Protection Clause does not mandate use of voter-eligible population, the United States urges us not to address Texas' separate assertion that the Constitution allows States to use alternative population baselines, including voter-eligible population. Equalizing total population, the United States maintains, vindicates the principle of representational equality by "ensur[ing] that the voters in each district have the power to elect a representative who represents the same number of constituents as all other representatives." Brief for United States as Amicus Curiae 5.

In agreement with Texas and the United States, we reject appellants' attempt to locate a voter-equality mandate in the Equal Protection Clause. As history, precedent, and practice demonstrate, it is plainly permissible for jurisdictions to *1127 measure equalization by the total population of state and local legislative districts.

A

We begin with constitutional history. At the time of the founding, the Framers confronted a question analogous to the one at issue here: On what basis should congressional districts be allocated to States? The Framers' solution,

now known as the Great Compromise, was to provide each State the same number of seats in the Senate, and to allocate House seats based on States' total populations. "Representatives and direct Taxes," they wrote, "shall be apportioned among the several States which may be included within this Union, according to their respective Numbers." U.S. Const., Art. I, § 2, cl. 3 (emphasis added). "It is a fundamental principle of the proposed constitution," James Madison explained in the Federalist Papers, "that as the aggregate number of representatives allotted to the several states, is to be ... founded on the aggregate number of inhabitants; so, the right of choosing this allotted number in each state, is to be exercised by such part of the inhabitants, as the state itself may designate." The Federalist No. 54, p. 284 (G. Carey & J. McClellan eds. 2001). In other words, the basis of representation in the House was to include all inhabitants-although slaves were counted as only three-fifths of a personeven though States remained free to deny many of those inhabitants the right to participate in the selection of their representatives. 8 Endorsing apportionment based on total population, Alexander Hamilton declared: "There can be no truer principle than this—that every individual of the community at large has an equal right to the protection of government." 1 Records of the Federal Convention of 1787, p. 473 (M. Farrand ed. 1911). 9

When debating what is now the Fourteenth Amendment, Congress reconsidered the proper basis for apportioning House seats. Concerned that Southern States would not willingly enfranchise freed slaves, and aware that "a slave's freedom could swell his state's population for purposes of representation in the House by one person, rather than only three-fifths," the Framers of the Fourteenth Amendment considered at length the possibility of allocating House seats to States on the basis of voter population. J. *1128 Sneed, Footprints on the Rocks of the Mountain: An Account of the Enactment of the Fourteenth Amendment 28 (1997). See also *id.*, at 35 ("[T]he apportionment issue consumed more time in the Fourteenth Amendment debates than did any other topic.").

In December 1865, Thaddeus Stevens, a leader of the Radical Republicans, introduced a constitutional amendment that would have allocated House seats to States "according to their respective legal voters"; in addition, the proposed amendment mandated that "[a] true census of the legal voters shall be taken at the

same time with the regular census." Cong. Globe, 39th Cong., 1st Sess., 10 (1866). Supporters of apportionment based on voter population employed the same voter-equality reasoning that appellants now echo. See, *e.g.*, *id.*, at 380 (remarks of Rep. Orth) ("[T]he true principle of representation in Congress is that voters alone should form the basis, and that each voter should have equal political weight in our Government...."); *id.*, at 404 (remarks of Rep. Lawrence) (use of total population "disregards the fundamental idea of all just representation, that every voter should be equal in political power all over the Union").

Voter-based apportionment proponents encountered fierce resistance from proponents of total-population apportionment. Much of the opposition was grounded in the principle of representational equality. "As an abstract proposition," argued Representative James G. Blaine, a leading critic of allocating House seats based on voter population, "no one will deny that population is the true basis of representation; for women, children, and other non-voting classes may have as vital an interest in the legislation of the country as those who actually deposit the ballot." Id., at 141. See also id., at 358 (remarks of Rep. Conkling) (arguing that use of a voter-population basis "would shut out four fifths of the citizens of the country —women and children, who are citizens, who are taxed, and who are, and always have been, represented"); id., at 434 (remarks of Rep. Ward) ("[W]hat becomes of that large class of non-voting tax-payers that are found in every section? Are they in no matter to be represented? They certainly should be enumerated in making up the whole number of those entitled to a representative.").

The product of these debates was § 2 of the Fourteenth Amendment, which retained total population as the congressional apportionment base. See U.S. Const., Amdt. 14, § 2 ("Representatives shall be apportioned among the several States according to their respective numbers, counting the whole number of persons in each State, excluding Indians not taxed."). Introducing the final version of the Amendment on the Senate floor, Senator Jacob Howard explained:

"[The] basis of representation is numbers ...; that is, the whole population except untaxed Indians and persons excluded by the State laws for rebellion or other crime.... The committee adopted numbers as the most just and satisfactory basis, and this is the principle upon which the Constitution itself was originally framed, that the

basis of representation should depend upon numbers; and such, I think, after all, is the safest and most secure principle upon which the Government can rest. Numbers, not voters; numbers, not property; this is the theory of the Constitution." Cong. Globe, 39th Cong., 1st Sess., 2766–2767 (1866).

Appellants ask us to find in the Fourteenth Amendment's Equal Protection Clause a rule inconsistent with this "theory of the Constitution." But, as the Court recognized in Wesberry, this theory underlies *1129 not just the method of allocating House seats to States; it applies as well to the method of apportioning legislative seats within States. "The debates at the [Constitutional] Convention," the Court explained, "make at least one fact abundantly clear: that when the delegates agreed that the House should represent 'people,' they intended that in allocating Congressmen the number assigned to each state should be determined solely by the number of inhabitants." 376 U.S., at 13, 84 S.Ct. 526. "While it may not be possible to draw congressional districts with mathematical precision," the Court acknowledged, "that is no excuse for ignoring our Constitution's plain objective of making equal representation for equal numbers of people the fundamental goal for the House of Representatives." Id., at 18, 84 S.Ct. 526 (emphasis added). It cannot be that the Fourteenth Amendment calls for the apportionment of congressional districts based on total population, but simultaneously prohibits States from apportioning their own legislative districts on the same basis.

Cordoning off the constitutional history of congressional districting, appellants stress two points. 10 First, they draw a distinction between allocating seats to States, and apportioning seats within States. The Framers selected total population for the former, appellants and their amici argue, because of federalism concerns inapposite to intrastate districting. These concerns included the perceived risk that a voter-population base might encourage States to expand the franchise unwisely, and the hope that a total-population base might counter States' incentive to undercount their populations, thereby reducing their share of direct taxes. Wesberry, however, rejected the distinction appellants now press. See supra, at 1128 – 1129. Even without the weight of Wesberry, we would find appellants' distinction unconvincing. One can accept that federalism—or, as Justice ALITO emphasizes, partisan and regional political advantage, see post, at 1145 – 1149—figured in the Framers' selection of total

population as the basis for allocating congressional seats. Even so, it remains beyond doubt that the principle of representational equality figured prominently in the decision to count people, whether or not they qualify as voters. ¹¹

Second, appellants and Justice ALITO urge, see post, at 1144 – 1145, the Court has typically refused to analogize to features of the federal electoral system— *1130 here, the constitutional scheme governing congressional apportionment—when considering challenges to state and local election laws. True, in Reynolds, the Court rejected Alabama's argument that it had permissibly modeled its State Senate apportionment scheme—one Senator for each county—on the United States Senate. "[T]he federal analogy," the Court explained, "[is] inapposite and irrelevant to state legislative districting schemes" because "[t]he system of representation in the two Houses of the Federal Congress" arose "from unique historical circumstances." 377 U.S., at 573-574, 84 S.Ct. 1362. Likewise, in *Gray v. Sanders*, 372 U.S. 368, 371–372, 378, 83 S.Ct. 801, 9 L.Ed.2d 821 (1963), Georgia unsuccessfully attempted to defend, by analogy to the electoral college, its scheme of assigning a certain number of "units" to the winner of each county in statewide elections.

Reynolds and Gray, however, involved features of the federal electoral system that contravene the principles of both voter and representational equality to favor interests that have no relevance outside the federal context. Senate seats were allocated to States on an equal basis to respect state sovereignty and increase the odds that the smaller States would ratify the Constitution. See Wesberry, 376 U.S., at 9-13, 84 S.Ct. 526 (describing the history of the Great Compromise). See also Reynolds, 377 U.S., at 575, 84 S.Ct. 1362 ("Political subdivisions of States-counties, cities, or whatever—never were and never have been considered as sovereign entities.... The relationship of the States to the Federal Government could hardly be less analogous."). "The [Electoral] College was created to permit the most knowledgeable members of the community to choose the executive of a nation whose continental dimensions were thought to preclude an informed choice by the citizenry at large." Williams v. Rhodes, 393 U.S. 23, 43-44, 89 S.Ct. 5, 21 L.Ed.2d 24 (1968) (Harlan, J., concurring in result). See also *Grav*, 372 U.S., at 378, 83 S.Ct. 801 ("The inclusion of the electoral college in the Constitution, as the result of specific historical concerns, validated the collegiate principle despite its inherent numerical inequality." (footnote omitted)). By contrast, as earlier developed, the constitutional scheme for congressional apportionment rests in part on the same representational concerns that exist regarding state and local legislative districting. The Framers' answer to the apportionment question in the congressional context therefore undermines appellants' contention that districts must be based on voter population.

В

Consistent with constitutional history, this Court's past decisions reinforce the conclusion that States and localities may comply with the one-person, one-vote principle by designing districts with equal total populations. Quoting language from those decisions that, in appellants' view, supports the principle of equal voting power and emphasizing the phrase "one-person, one-vote" appellants contend that the Court had in mind, and constantly meant, that States should equalize the votereligible population of districts. See Reynolds, 377 U.S., at 568, 84 S.Ct. 1362 ("[A]n individual's right to vote for State legislators is unconstitutionally impaired when its weight is in a substantial fashion diluted when compared with votes of citizens living on other parts of the State."); Gray, 372 U.S., at 379-380, 83 S.Ct. 801 ("The concept of 'we the people' under the Constitution visualizes no preferred class of voters but equality among those who meet the basic qualifications."). See also *1131 Hadley v. Junior College Dist. of Metropolitan Kansas City, 397 U.S. 50, 56, 90 S.Ct. 791, 25 L.Ed.2d 45 (1970) ("[W]hen members of an elected body are chosen from separate districts, each district must be established on a basis that will insure, as far as is practicable, that equal numbers of voters can vote for proportionally equal numbers of officials."). Appellants, however, extract far too much from selectively chosen language and the "one-person, one-vote" slogan.

For every sentence appellants quote from the Court's opinions, one could respond with a line casting the one-person, one-vote guarantee in terms of equality of representation, not voter equality. In *Reynolds*, for instance, the Court described "the fundamental principle of representative government in this country" as "one of equal representation for equal numbers of people." 377 U.S., at 560–561, 84 S.Ct. 1362. See also *Davis v*.

Bandemer, 478 U.S. 109, 123, 106 S.Ct. 2797, 92 L.Ed.2d 85 (1986) ("[I]n formulating the one person, one vote formula, the Court characterized the question posed by election districts of disparate size as an issue of fair representation."); Reynolds, 377 U.S., at 563, 84 S.Ct. 1362 (rejecting state districting schemes that "give the same number of representatives to unequal numbers of constituents"). And the Court has suggested, repeatedly, that districting based on total population serves both the State's interest in preventing vote dilution and its interest in ensuring equality of representation. See Board of Estimate of City of New York v. Morris, 489 U.S. 688, 693-694, 109 S.Ct. 1433, 103 L.Ed.2d 717 (1989) ("If districts of widely unequal population elect an equal number of representatives, the voting power of each citizen in the larger constituencies is debased and the citizens in those districts have a smaller share of representation than do those in the smaller districts."). See also Kirkpatrick, 394 U.S., at 531, 89 S.Ct. 1225 (recognizing in a congressionaldistricting case that "[e]qual representation for equal numbers of people is a principle designed to prevent debasement of voting power and diminution of access to elected representatives"). 12

Moreover, from *Reynolds* on, the Court has consistently looked to total-population figures when evaluating whether districting maps violate the Equal Protection Clause by deviating impermissibly from perfect population equality. See Brief for Appellees 29–31 (collecting cases brought under the Equal Protection Clause). See also id., at 31, n. 9 (collecting congressionaldistricting cases). Appellants point to no instance in which the Court has determined the permissibility of deviation based on eligible- or registered-voter data. It would hardly make sense for the Court to have mandated voter equality sub silentio and then used a total-population baseline to evaluate compliance with that rule. More likely, we think, the Court has always assumed the permissibility of drawing districts to equalize total population.

"In the 1960s," appellants counter, "the distribution of the voting population generally did not deviate from the distribution of total population to the degree necessary to raise this issue." Brief for Appellants 27. To support this assertion, appellants cite only a District Court decision, which found no significant deviation in the distribution of voter and total population in "densely populated areas of New York State." *1132 WMCA, Inc. v. Lomenzo, 238 F.Supp. 916, 925 (S.D.N.Y.), aff'd, 382 U.S. 4, 86

S.Ct. 24, 15 L.Ed.2d 2 (1965) (per curiam). Had this Court assumed such equivalence on a national scale, it likely would have said as much. ¹³ Instead, in *Gaffney* v. Cummings, 412 U.S. 735, 746-747, 93 S.Ct. 2321, 37 L.Ed.2d 298 (1973), the Court acknowledged that voters may be distributed unevenly within jurisdictions. "[I]f it is the weight of a person's vote that matters," the Court observed, then "total population—even if stable and accurately taken—may not actually reflect that body of voters whose votes must be counted and weighed for the purposes of reapportionment, because 'census persons' are not voters." Id., at 746, 93 S.Ct. 2321. Nonetheless, the Court in Gaffney recognized that the one-person, one-vote rule is designed to facilitate "[f]air and effective representation," id., at 748, 93 S.Ct. 2321, and evaluated compliance with the rule based on total population alone, id., at 750, 93 S.Ct. 2321.

 \mathbf{C}

[7] What constitutional history and our prior decisions strongly suggest, settled practice confirms. Adopting voter-eligible apportionment as constitutional command would upset a well-functioning approach to districting that all 50 States and countless local jurisdictions have followed for decades, even centuries. Appellants have shown no reason for the Court to disturb this longstanding use of total population. See Walz v. Tax Comm'n of City of New York, 397 U.S. 664, 678, 90 S.Ct. 1409, 25 L.Ed.2d 697 (1970) ("unbroken practice" followed "openly and by affirmative state action, not covertly or by state inaction, is not something to be lightly cast aside"). See also *Burson v. Freeman*, 504 U.S. 191, 203-206, 112 S.Ct. 1846, 119 L.Ed.2d 5 (1992) (plurality opinion) (upholding a law limiting campaigning in areas around polling places in part because all 50 States maintain such laws, so there is a "widespread and time-tested consensus" that legislation of this order serves important state interests). As the Framers of the Constitution and the Fourteenth Amendment comprehended, representatives serve all residents, not just those eligible or registered to vote. See supra, at 1126 – 1129. Nonvoters have an important stake in many policy debates—children, their parents, even their grandparents, for example, have a stake in a strong publiceducation system—and in receiving constituent services, such as help navigating public-benefits bureaucracies. By ensuring that each representative is subject to requests

and suggestions from the same number of constituents, total-population apportionment promotes equitable and effective representation. See *McCormick v. United States*, 500 U.S. 257, 272, 111 S.Ct. 1807, 114 L.Ed.2d 307 (1991) ("Serving constituents and supporting legislation that will benefit the district and individuals and groups therein is the everyday business of a legislator."). ¹⁴

In sum, the rule appellants urge has no mooring in the Equal Protection Clause. The Texas Senate map, we therefore conclude, complies with the requirements of the one-person, one-vote principle. Because *1133 history, precedent, and practice suffice to reveal the infirmity of appellants' claims, we need not and do not resolve whether, as Texas now argues, States may draw districts to equalize voter-eligible population rather than total population.

For the reasons stated, the judgment of the United States District Court for the Western District of Texas is

Affirmed.

Justice THOMAS, concurring in the judgment.

This case concerns whether Texas violated the Equal Protection Clause—as interpreted by the Court's one-person, one-vote cases—by creating legislative districts that contain approximately equal total population but vary widely in the number of eligible voters in each district. I agree with the majority that our precedents do not require a State to equalize the total number of voters in each district. States may opt to equalize total population. I therefore concur in the majority's judgment that appellants' challenge fails.

I write separately because this Court has never provided a sound basis for the one-person, one-vote principle. For 50 years, the Court has struggled to define what right that principle protects. Many of our precedents suggest that it protects the right of eligible voters to cast votes that receive equal weight. Despite that frequent explanation, our precedents often conclude that the Equal Protection Clause is satisfied when all individuals within a district—voters or not—have an equal share of representation. The majority today concedes that our cases have not produced a clear answer on this point. See *ante*, at 1131.

In my view, the majority has failed to provide a sound basis for the one-person, one-vote principle because no such basis exists. The Constitution does not prescribe any one basis for apportionment within States. It instead leaves States significant leeway in apportioning their own districts to equalize total population, to equalize eligible voters, or to promote any other principle consistent with a republican form of government. The majority should recognize the futility of choosing only one of these options. The Constitution leaves the choice to the people alone—not to this Court.

I

In the 1960's, this Court decided that the Equal Protection Clause requires States to draw legislative districts based on a "one-person, one-vote" rule. * But this Court's decisions have never coalesced around a single theory about what States must equalize.

*1134 The Equal Protection Clause prohibits a State from "deny[ing] to any person within its jurisdiction the equal protection of the laws." Amdt. 14, § 1. For nearly a century after its ratification, this Court interpreted the Clause as having no application to the politically charged issue of how States should apportion their populations in political districts. See, e.g., Colegrove v. Green, 328 U.S. 549, 556, 66 S.Ct. 1198, 90 L.Ed. 1432 (1946) (plurality opinion). Instead, the Court left the drawing of States' political boundaries to the States, so long as a State did not deprive people of the right to vote for reasons prohibited by the Constitution. See id., at 552, 556, 66 S.Ct. 1198; Gomillion v. Lightfoot, 364 U.S. 339, 341, 347-348, 81 S.Ct. 125, 5 L.Ed.2d 110 (1960) (finding justiciable a claim that a city boundary was redrawn from a square shape to "a strangely irregular twenty-eight-sided figure" to remove nearly all black voters from the city). This meant that a State's refusal to allocate voters within districts based on population changes was a matter for States—not federal courts—to decide. And these cases were part of a larger jurisprudence holding that the question whether a state government had a "proper" republican form rested with Congress. Pacific States Telephone & Telegraph Co. v. Oregon, 223 U.S. 118, 149-150, 32 S.Ct. 224, 56 L.Ed. 377 (1912).

This Court changed course in *Baker v. Carr*, 369 U.S. 186, 82 S.Ct. 691, 7 L.Ed.2d 663 (1962), by locating in

the Equal Protection Clause a right of citizens not to have a "'debasement of their votes.'" *Id.*, at 194, and n. 15, 200, 82 S.Ct. 691. Expanding on that decision, this Court later held that "the Equal Protection Clause requires that the seats in both houses of a bicameral state legislature must be apportioned on a population basis." *Reynolds v. Sims*, 377 U.S. 533, 568, 84 S.Ct. 1362, 12 L.Ed.2d 506 (1964). The Court created an analogous requirement for congressional redistricting rooted in Article I, § 2's requirement that "Representatives be chosen 'by the People of the several States.'" *Wesberry v. Sanders*, 376 U.S. 1, 7–9, 84 S.Ct. 526, 11 L.Ed.2d 481 (1964). The rules established by these cases have come to be known as "one person, one vote."

Since *Baker* empowered the federal courts to resolve redistricting disputes, this Court has struggled to explain whether the one-person, one-vote principle ensures equality among eligible voters or instead protects some broader right of every citizen to equal representation. The Court's lack of clarity on this point, in turn, has left unclear whether States must equalize the number of eligible voters across districts or only total population.

In a number of cases, this Court has said that States must protect the right of *eligible voters* to have their votes receive equal weight. On this view, there is only one way for States to comply with the one-person, one-vote principle: they must draw districts that contain a substantially equal number of eligible voters per district.

The Court's seminal decision in *Baker* exemplifies this view. Decided in 1962, *Baker* involved the failure of the Tennessee Legislature to reapportion its districts for 60 years. 369 U.S., at 191, 82 S.Ct. 691. Since Tennessee's last apportionment, the State's population had grown by about 1.5 million residents, from about 2 to more than 3.5 million. And the number of voters in each district had changed significantly over time, producing widely varying voting populations in each district. *Id.*, at 192, 82 S.Ct. 691. Under these facts, the Court held that reapportionment claims were justiciable because the plaintiffs—who all claimed to be eligible voters—had alleged a "debasement of their votes." *1135 *Id.*, at 194, and n. 15, 204, 82 S.Ct. 691 (internal quotation marks omitted).

The Court similarly emphasized equal treatment of eligible voters in *Gray v. Sanders*, 372 U.S. 368, 83 S.Ct.

801, 9 L.Ed.2d 821 (1963). That case involved a challenge to Georgia's "county unit" system of voting. Id., at 370, 83 S.Ct. 801. This system, used by the State's Democratic Party to nominate candidates in its primary, gave each county two votes for every representative that the county had in the lower House of its General Assembly. Voting was then done by county, with the winner in each county taking all of that county's votes. The Democratic Party nominee was the candidate who had won the most county-unit votes, not the person who had won the most individual votes. Id., at 370-371, 83 S.Ct. 801. The effect of this system was to give heavier weight to rural ballots than to urban ones. The Court held that the system violated the one-person, one-vote principle. *Id.*, at 379–381, and n. 12, 83 S.Ct. 801. In so holding, the Court emphasized that the right at issue belongs to "all qualified voters" and is the right to have one's vote "counted once" and protected against dilution. Id., at 380, 83 S.Ct. 801.

In applying the one-person, one-vote principle to state legislative districts, the Court has also emphasized vote dilution, which also supports the notion that the one-person, one-vote principle ensures equality among eligible voters. It did so most notably in *Reynolds*. In that case, Alabama had failed to reapportion its state legislature for decades, resulting in population-variance ratios of up to about 41 to 1 in the State Senate and up to about 16 to 1 in the House. 377 U.S., at 545, 84 S.Ct. 1362. In explaining why Alabama's failure to reapportion violated the Equal Protection Clause, this Court stated that "an individual's right to vote for state legislators is unconstitutionally impaired when its weight is in a substantial fashion diluted when compared with votes of citizens living in other parts of the State." *Id.*, at 568, 84 S.Ct. 1362.

This Court's post-Reynolds decisions likewise define the one-person, one-vote principle in terms of eligible voters, and thus imply that States should be allocating districts with eligible voters in mind. The Court suggested as much in Hadley v. Junior College Dist. of Metropolitan Kansas City, 397 U.S. 50, 90 S.Ct. 791, 25 L.Ed.2d 45 (1970). That case involved Missouri's system permitting separate school districts to establish a joint junior college district. Six trustees were to oversee the joint district, and they were apportioned on the basis of the relative numbers of school-aged children in each subsidiary district. Id., at 51, 90 S.Ct. 791. The Court held that this plan violated the Equal Protection Clause because "the trustees of this junior college district [must] be apportioned in a manner

that does not deprive any voter of his right to have his own vote given as much weight, as far as is practicable, as that of any other voter in the junior college district." *Id.*, at 52, 90 S.Ct. 791. In so holding, the Court emphasized that Reynolds had "called attention to prior cases indicating that a qualified voter has a constitutional right to vote in elections without having his vote wrongfully denied, debased, or diluted." *Hadley*, 397 U.S., at 52, 90 S.Ct. 791; see id., at 52-53, 90 S.Ct. 791.

In contrast to this oft-stated aspiration of giving equal treatment to eligible voters, the Court has also expressed a different understanding of the one-person, one-vote principle. In several cases, the Court has suggested that one-person, one-vote protects the interests of all individuals in a district, whether they are eligible voters or not. In Reynolds, for example, the Court *1136 said that "the fundamental principle of representative government in this country is one of equal representation for equal numbers of people." 377 U.S., at 560-561, 84 S.Ct. 1362; see also ante, at 1131 (collecting cases). Under this view, States cannot comply with the Equal Protection Clause by equalizing the number of eligible voters in each district. They must instead equalize the total population per district.

In line with this view, the Court has generally focused on total population, not the total number of voters, when determining a State's compliance with the oneperson, one-vote requirement. In Gaffney v. Cummings, 412 U.S. 735, 750-751, 93 S.Ct. 2321, 37 L.Ed.2d 298 (1973), for example, the Court upheld state legislative districts that had a maximum deviation of 7.83% when measured on a total-population basis. In contrast, in Chapman v. Meier, 420 U.S. 1, 21-22, 26-27, 95 S.Ct. 751, 42 L.Ed.2d 766 (1975), the Court struck down a court-ordered reapportionment that had a total deviation of 20.14% based on total population. This plan, in the Court's view, failed to "achieve the goal of population equality with little more than de minimis variation." Id., at 27, 95 S.Ct. 751.

This lack of clarity in our redistricting cases has left States with little guidance about how their political institutions must be structured. Although this Court has required that state legislative districts "be apportioned on a population basis," Reynolds, supra, at 568, 84 S.Ct. 1362, it has yet to tell the States whether they are limited in choosing "the relevant population that [they] must equally distribute." Chen v. Houston, 532 U.S. 1046, 1047, 121 S.Ct. 2020, 149 L.Ed.2d 1017 (2001) (THOMAS, J., dissenting from denial of certiorari) (internal quotation marks omitted). Because the Court has not provided a firm account of what States must do when districting, States are left to guess how much flexibility (if any) they have to use different methods of apportionment.

II

This inconsistency (if not opacity) is not merely a consequence of the Court's equivocal statements on one person, one vote. The problem is more fundamental. There is simply no way to make a principled choice between interpreting one person, one vote as protecting eligible voters or as protecting total inhabitants within a State. That is because, though those theories are noble, the Constitution does not make either of them the exclusive means of apportionment for state and local representatives. In guaranteeing to the States a "Republican Form of Government," Art. IV, § 4, the Constitution did not resolve whether the ultimate basis of representation is the right of citizens to cast an equal ballot or the right of all inhabitants to have equal representation. The Constitution instead reserves these matters to the people. The majority's attempt today to divine a single " 'theory of the Constitution' "-apportionment based on representation, ante, at 1128 - 1129 (quoting Cong. Globe, 39th Cong., 1st Sess., 2766-2767 (1866))—rests on a flawed reading of history and wrongly picks one side of a debate that the Framers did not resolve in the Constitution.

A

The Constitution lacks a single, comprehensive theory of representation. The Framers understood the tension between majority rule and protecting fundamental rights from majorities. This understanding led to a "mixed" constitutional structure that did not embrace any single theory of representation but instead struck a compromise between those who sought an equitable system of representation and *1137 those who were concerned that the majority would abuse plenary control over public policy. As Madison wrote, "A dependence on the people is no doubt the primary controul on the government; but experience has taught mankind the necessity of auxiliary

precautions." The Federalist No. 51, p. 349 (J. Cooke ed. 1961). *This* was the theory of the Constitution. The Framers therefore made difficult compromises on the apportionment of federal representation, and they did not prescribe any one theory of how States had to divide their legislatures.

1

Because, in the view of the Framers, ultimate political power derives from citizens who were "created equal," The Declaration of Independence ¶ 2, beliefs in equality of representation—and by extension, majority rule—influenced the constitutional structure. In the years between the Revolution and the framing, the Framers experimented with different ways of securing the political system against improper influence. Of all the "electoral safeguards for the representational system," the most critical was "equality of representation." G. Wood, The Creation of the American Republic 1776–1787, p. 170 (1998) (Wood).

The Framers' preference for apportionment by representation (and majority rule) was driven partially by the belief that all citizens were inherently equal. In a system where citizens were equal, a legislature should have "equal representation" so that "equal interests among the people should have equal interests in [the assembly]." Thoughts on Government, in 4 Works of John Adams 195 (C. Adams ed. 1851). The British Parliament fell short of this goal. In addition to having hereditary nobility, more than half of the members of the democratic House of Commons were elected from sparsely populated districts—so-called "rotten boroughs." Wood 171; *Baker*, 369 U.S., at 302–303, 82 S.Ct. 691 (Frankfurter, J., dissenting).

The Framers' preference for majority rule also was a reaction to the shortcomings of the Articles of Confederation. Under the Articles, each State could cast one vote regardless of population and Congress could act only with the assent of nine States. Articles of Confederation, Art. IX, cl. 6; *id.*, Art. X; *id.*, Art. XI. This system proved undesirable because a few small States had the ability to paralyze the National Legislature. See The Federalist No. 22, at 140–141 (Hamilton).

Consequently, when the topic of dividing representation came up at the Constitutional Convention, some Framers advocated proportional representation throughout the National Legislature. 1 Records of the Federal Convention of 1787, pp. 471–473 (M. Farrand ed. 1911). Alexander Hamilton voiced concerns about the unfairness of allowing a minority to rule over a majority. In explaining at the Convention why he opposed giving States an equal vote in the National Legislature, Hamilton asked rhetorically, "If ... three states contain a majority of the inhabitants of America, ought they to be governed by a minority?" Id., at 473; see also The Federalist No. 22, at 141 (Hamilton) (objecting to supermajoritarian voting requirements because they allow an entrenched minority to "controul the opinion of a majority respecting the best mode of conducting [the public business]"). James Madison, too, opined that the general Government needed a direct mandate from the people. If federal "power [were] not immediately derived from the people, in proportion to their numbers," according to Madison, the Federal Government would be as weak as Congress under the Articles of Confederation. 1 Records of the Federal Convention of 1787, at 472.

*1138 In many ways, the Constitution reflects this preference for majority rule. To pass Congress, ordinary legislation requires a simple majority of present members to vote in favor. And some features of the apportionment for the House of Representatives reflected the idea that States should wield political power in approximate proportion to their number of inhabitants. *Ante*, at 1126 – 1129. Thus, "equal representation for equal numbers of people," *ante*, at 1129 (internal quotation marks and emphasis omitted), features prominently in how representatives are apportioned among the States. These features of the Constitution reflect the preference of some members of the founding generation for equality of representation. But, as explained below, this is not the single "theory of the Constitution."

2

The Framers also understood that unchecked majorities could lead to tyranny of the majority. As a result, many viewed antidemocratic checks as indispensable to republican government. And included among the antidemocratic checks were legislatures that deviated from perfect equality of representation.

The Framers believed that a proper government promoted the common good. They conceived this good as objective and not inherently coextensive with majoritarian preferences. See, e.g., The Federalist No. 1, at 4 (Hamilton) (defining the common good or "public good" as the "true interests" of the community); id., No. 10, at 57 (Madison) ("the permanent and aggregate interests of the community"). For government to promote the common good, it had to do more than simply obey the will of the majority. See, e.g., ibid. (discussing majoritarian factions). Government must also protect fundamental rights. See The Declaration of Independence ¶ 2; 1 W. Blackstone, Commentaries *124 ("[T]he principal aim of society is to protect individuals in the enjoyment of those absolute rights, which are vested in them by the immutable laws of nature").

Of particular concern for the Framers was the majority of people violating the property rights of the minority. Madison observed that "the most common and durable source of factions, has been the various and unequal distribution of property." The Federalist No. 10, at 59. A poignant example occurred in Massachusetts. In what became known as Shays' Rebellion, armed debtors attempted to block legal actions by creditors to recover debts. Although that rebellion was ultimately put down, debtors sought relief from state legislatures "under the auspices of Constitutional forms." Letter from James Madison to Thomas Jefferson (Apr. 23, 1787), in 11 The Papers of Thomas Jefferson 307 (J. Boyd ed. 1955); see Wood 412-413. With no structural political checks on democratic lawmaking, creditors found their rights jeopardized by state laws relieving debtors of their obligation to pay and authorizing forms of payment that devalued the contracts. McConnell, Contract Rights and Property Rights: A Case Study in the Relationship Between Individual Liberties and Constitutional Structures, 76 Cal. L. Rev. 267, 280-281 (1988); see also Fletcher v. Peck, 6 Cranch 87, 137–138, 3 L.Ed. 162 (1810) (Marshall, C.J.) (explaining that the Contract Clause came from the Framers' desire to "shield themselves and their property from the effects of those sudden and strong passions to which men are exposed").

Because of the Framers' concerns about placing unchecked power in political majorities, the Constitution's majoritarian provisions were only part of a complex republican structure. The Framers also placed several antidemocratic provisions in the Constitution. The

original Constitution *1139 permitted only the direct election of representatives. Art. I, § 2, cl. 1. Senators and the President were selected indirectly. See Art. I, § 3, cl. 1; Art. II, § 1, cls. 2–3. And the "Great Compromise" guaranteed large and small States voting equality in the Senate. By malapportioning the Senate, the Framers prevented large States from outvoting small States to adopt policies that would advance the large States' interests at the expense of the small States. See The Federalist No. 62, at 417 (Madison).

These countermajoritarian measures reflect the Framers' aspirations of promoting competing goals. Rejecting a hereditary class system, they thought political power resided with the people. At the same time, they sought to check majority rule to promote the common good and mitigate threats to fundamental rights.

В

As the Framers understood, designing a government to fulfill the conflicting tasks of respecting the fundamental equality of persons while promoting the common good requires making incommensurable tradeoffs. For this reason, they did not attempt to restrict the States to one form of government.

Instead, the Constitution broadly required that the States maintain a "Republican Form of Government." Art. IV, § 4. But the Framers otherwise left it to States to make tradeoffs and reconcile the competing goals.

Republican governments promote the common good by placing power in the hands of the people, while curtailing the majority's ability to invade the minority's fundamental rights. The Framers recognized that there is no universal formula for accomplishing these goals. At the framing, many state legislatures were bicameral, often reflecting multiple theories of representation. Only "[s]ix of the original thirteen states based representation in both houses of their state legislatures on population." Hayden, The False Promise of One Person, One Vote, 102 Mich. L. Rev. 213, 218 (2003). In most States, it was common to base representation, at least in part, on the State's political subdivisions, even if those subdivisions varied heavily in their populations. Wood 171; *Baker*, 369 U.S., at 307–308, 82 S.Ct. 691 (Frankfurter, J., dissenting).

Reflecting this history, the Constitution continued to afford States significant leeway in structuring their "Republican" governments. At the framing, "republican" referred to "[p]lacing the government in the people," and a "republick" was a "state in which the power is lodged in more than one." S. Johnson, A Dictionary of the English Language (7th ed. 1785); see also The Federalist No. 39, at 251 (Madison) ("[W]e may define a republic to be, or at least may bestow that name on, a government which derives all its powers directly or indirectly from the great body of the people; and is administered by persons holding their offices during pleasure, for a limited period, or during good behaviour"). By requiring the States to have republican governments, the Constitution prohibited them from having monarchies and aristocracies. See id., No. 43, at 291. Some would argue that the Constitution also prohibited States from adopting direct democracies. Compare Wood 222-226 ("For most constitution-makers in 1776, republicanism was not equated with democracy") with A. Amar, America's Constitution: A Biography 276–281 (2005) (arguing that the provision prohibited monarchies and aristocracies but not direct democracy); see also The Federalist No. 10, at 62 (Madison) (distinguishing a "democracy" and a "republic"); id., No. 14, at 83-84 (same).

*1140 Beyond that, however, the Constitution left matters open for the people of the States to decide. The Constitution says nothing about what type of republican government the States must follow. When the Framers wanted to deny powers to state governments, they did so explicitly. See, *e.g.*, Art. I, § 10, cl. 1 ("No State shall ... pass any Bill of Attainder, ex post facto Law, or Law impairing the Obligation of Contracts").

None of the Reconstruction Amendments changed the original understanding of republican government. Those Amendments brought blacks within the existing American political community. The Fourteenth Amendment pressured States to adopt universal male suffrage by reducing a noncomplying State's representation in Congress. Amdt. 14, § 2. And the Fifteenth Amendment prohibited restricting the right of suffrage based on race. Amdt. 15, § 1. That is as far as those Amendments went. As Justice Harlan explained in *Reynolds*, neither Amendment provides a theory of how much "weight" a vote must receive, nor do they require a State to apportion both Houses of their legislature solely

on a population basis. See 377 U.S., at 595–608, 84 S.Ct. 1362 (dissenting opinion). And Justice ALITO quite convincingly demonstrates why the majority errs by reading a theory of equal representation into the apportionment provision in § 2 of the Fourteenth Amendment. See *post*, at 1146 – 1149 (opinion concurring in judgment).

 \mathbf{C}

The Court's attempt to impose its political theory upon the States has produced a morass of problems. These problems are antithetical to the values that the Framers embraced in the Constitution. These problems confirm that the Court has been wrong to entangle itself with the political process.

First, in embracing one person, one vote, the Court has arrogated to the Judiciary important value judgments that the Constitution reserves to the people. In Reynolds, for example, the Court proclaimed that "[l]egislators represent people, not trees or acres"; that "[l]egislators are elected by voters, not farms or cities or economic interests"; and that, accordingly, electoral districts must have roughly equal population. 377 U.S., at 562-563, 84 S.Ct. 1362. As I have explained, the Constitution permits, but does not impose, this view. Beyond that, Reynolds' assertions are driven by the belief that there is a single, correct answer to the question of how much voting strength an individual citizen should have. These assertions overlook that, to control factions that would legislate against the common good, individual voting strength must sometimes yield to countermajoritarian checks. And this principle has no less force within States than it has for the federal system. See The Federalist No. 10, at 63–65 (Madison) (recognizing that smaller republics, such as the individual States, are more prone to capture by special interests). Instead of large States versus small States, those interests may pit urban areas versus rural, manufacturing versus agriculture, or those with property versus those without. Cf. Reynolds, supra, at 622-623, 84 S.Ct. 1362 (Harlan, J., dissenting). There is no single method of reconciling these competing interests. And it is not the role of this Court to calibrate democracy in the vain search for an optimum solution.

The Government argues that apportioning legislators by any metric other than total population "risks

rendering residents of this country who are ineligible, unwilling, or unable to vote as invisible or irrelevant to our system of representative democracy." *1141 Brief for United States as *Amicus Curiae* 27. But that argument rests on the faulty premise that "our system of representative democracy" requires specific groups to have representation in a specific manner. As I have explained, the Constitution does not impose that requirement. See Parts II–A, II–B, *supra*. And as the Court recently reminded us, States are free to serve as "laboratories'" of democracy. *Arizona State Legislature v. Arizona Independent Redistricting Comm'n*, 576 U.S. —, —, 135 S.Ct. 2652, 2673, 192 L.Ed.2d 704 (2015). That "laboratory" extends to experimenting about the nature of democracy itself.

Second, the Court's efforts to monitor the political process have failed to provide any consistent guidance for the States. Even if it were justifiable for this Court to enforce some principle of majority rule, it has been unable to do so in a principled manner. Our precedents do not address the myriad other ways that minorities (or fleeting majorities) entrench themselves in the political system. States can place policy choices in their constitutions or have supermajoritarian voting rules in a legislative assembly. See, e.g., N.Y. Const., Art. V, § 7 (constitutionalizing public employee pensions); Ill. Const., Art. VII, § 6(g) (requiring a three-fifths vote of the General Assembly to preempt certain local ordinances). In theory, of course, it does not seem to make a difference if a state legislature is unresponsive to the majority of residents because the state assembly requires a 60% vote to pass a bill or because 40% of the population elects 51% of the representatives.

So far as the Constitution is concerned, there is no single "correct" way to design a republican government. Any republic will have to reconcile giving power to the people with diminishing the influence of special interests. The wisdom of the Framers was that they recognized this dilemma and left it to the people to resolve. In trying to impose its own theory of democracy, the Court is hopelessly adrift amid political theory and interest-group politics with no guiding legal principles.

Ш

This case illustrates the confusion that our cases have wrought. The parties and the Government offer three positions on what this Court's one-person, one-vote cases require States to equalize. Under appellants' view, the Fourteenth Amendment protects the right to an equal vote. Brief for Appellants 26. Appellees, in contrast, argue that the Fourteenth Amendment protects against invidious discrimination; in their view, no such discrimination occurs when States have a rational basis for the population base that they select, even if that base leaves eligible voters malapportioned. Brief for Appellees 16–17. And, the Solicitor General suggests that reapportionment by total population is the only permissible standard because *Reynolds* recognized a right of "equal representation for equal numbers of people." Brief for United States as *Amicus Curiae* 17.

Although the majority does not choose among these theories, it necessarily denies that the Equal Protection Clause protects the right to cast an equally weighted ballot. To prevail, appellants do not have to deny the importance of equal representation. Because States can equalize both total population and total voting power within the districts, they have to show only that the right to cast an equally weighted vote is part of the one-person, one-vote right that we have recognized. But the majority declines to find such a right in the Equal Protection Clause. Ante. at 1132 – 1133. Rather, the majority acknowledges that "[f]or every sentence appellants *1142 quote from the Court's opinions [establishing a right to an equal vote], one could respond with a line casting the one-person, one-vote guarantee in terms of equality of representation, not voter equality." Ante, at 1131. Because our precedents are not consistent with appellants' position —that the only constitutionally available choice for States is to allocate districts to equalize eligible voters—the majority concludes that appellants' challenge fails. Ante, at 1130 - 1133.

I agree with the majority's ultimate disposition of this case. As far as the original understanding of the Constitution is concerned, a State has wide latitude in selecting its population base for apportionment. See Part II–B, *supra*. It can use total population, eligible voters, or any other nondiscriminatory voter base. *Ibid*. And States with a bicameral legislature can have some mixture of these theories, such as one population base for its lower house and another for its upper chamber. *Ibid*.

Our precedents do not compel a contrary conclusion. Appellants are correct that this Court's precedents have

primarily based its one-person, one-vote jurisprudence on the theory that eligible voters have a right against vote dilution. *E.g., Hadley,* 397 U.S., at 52–53, 90 S.Ct. 791; *Reynolds,* 377 U.S., at 568, 84 S.Ct. 1362. But this Court's jurisprudence has vacillated too much for me to conclude that the Court's precedents preclude States from allocating districts based on total population instead. See *Burns,* 384 U.S., at 92, 86 S.Ct. 1286 (recognizing that States may choose other nondiscriminatory population bases). Under these circumstances, the choice is best left for the people of the States to decide for themselves how they should apportion their legislature.

* * *

There is no single "correct" method of apportioning state legislatures. And the Constitution did not make this Court "a centralized politburo appointed for life to dictate to the provinces the 'correct' theories of democratic representation, [or] the 'best' electoral systems for securing truly 'representative' government." *Holder v. Hall*, 512 U.S. 874, 913, 114 S.Ct. 2581, 129 L.Ed.2d 687 (1994) (THOMAS, J., concurring in judgment). Because the majority continues that misguided search, I concur only in the judgment.

Justice ALITO, with whom Justice THOMAS joins except as to Part III–B, concurring in the judgment.

The question that the Court must decide in this case is whether Texas violated the "one-person, one-vote" principle established in *Reynolds v. Sims*, 377 U.S. 533, 84 S.Ct. 1362, 12 L.Ed.2d 506 (1964), by adopting a legislative redistricting plan that provides for districts that are roughly equal in total population. Appellants contend that Texas was required to create districts that are equal in the number of eligible voters, but I agree with the Court that Texas' use of total population did not violate the one-person, one-vote rule.

Ι

Both practical considerations and precedent support the conclusion that the use of total population is consistent with the one-person, one-vote rule. The decennial census required by the Constitution tallies total population. Art. I, § 2, cl. 3; Amdt. 14, § 2. These statistics are more reliable and less subject to manipulation and dispute

than statistics concerning eligible voters. Since *Reynolds*, States have almost uniformly used total population in attempting to create legislative districts that are equal in size. And with one notable exception, *Burns v. Richardson*, 384 U.S. 73, 86 S.Ct. 1286, 16 L.Ed.2d 376 (1966), this Court's post-*Reynolds* cases have likewise *1143 looked to total population. Moreover, much of the time, creating districts that are equal in total population also results in the creation of districts that are at least roughly equal in eligible voters. I therefore agree that States are permitted to use total population in redistricting plans.

II

Although this conclusion is sufficient to decide the case before us, Texas asks us to go further and to hold that States, while generally free to use total population statistics, are not barred from using eligible voter statistics. Texas points to *Burns*, in which this Court held that Hawaii did not violate the one-person, one-vote principle by adopting a plan that sought to equalize the number of registered voters in each district.

Disagreeing with Texas, the Solicitor General dismisses *Burns* as an anomaly and argues that the use of total population is constitutionally required. The Solicitor General contends that the one-person, one-vote rule means that all persons, whether or not they are eligible to vote, are entitled to equal representation in the legislature. Accordingly, he argues, legislative districts must be equal in total population even if that results in districts that are grossly unequal in the number of eligible voters, a situation that is most likely to arise where aliens are disproportionately concentrated in some parts of a State.

This argument, like that advanced by appellants, implicates very difficult theoretical and empirical questions about the nature of representation. For centuries, political theorists have debated the proper role of representatives, ¹ and political scientists have studied the conduct of legislators and the interests that they actually advance. ² We have no need to wade into these waters in this case, and I would not do so. Whether a State is permitted to *1144 use some measure other than total population is an important and sensitive question that we can consider if and when we have before us a state districting plan that, unlike the current Texas plan,

uses something other than total population as the basis for equalizing the size of districts.

Ш

A

The Court does not purport to decide whether a State may base a districting plan on something other than total population, but the Court, picking up a key component of the Solicitor General's argument, suggests that the use of total population is supported by the Constitution's formula for allocating seats in the House of Representatives among the States. Because House seats are allocated based on total population, the Solicitor General argues, the one-person, one-vote principle requires districts that are equal in total population. I write separately primarily because I cannot endorse this meretricious argument.

First, the allocation of congressional representation sheds little light on the question presented by the Solicitor General's argument because that allocation vote. 3 violates one person, one is obviously true with respect to the Senate: Although all States have equal representation in the Senate, the most populous State (California) has 66 times as many people as the least populous (Wyoming). See United States Census 2010, Resident Population Data, http://www.census.gov/2010census/ And data/apportionment-pop-text.php. allocation of House seats does not comport with one person, one vote. Every State is entitled to at least one seat in the House, even if the State's population is lower than the average population of House districts nationwide. U.S. Const., Art. I, § 2, cl. 3. Today, North Dakota, Vermont, and Wyoming all fall into that category. See United States Census 2010, Apportionment Data, http:// www.census.gov/2010census/data/apportionment-datatext.php. If one person, one vote applied to allocation of House seats among States, I very much doubt the Court would uphold a plan where one Representative represents fewer than 570,000 people in Wyoming but nearly a million people next door in Montana. 4

Second, Reynolds v. Sims squarely rejected the argument that the Constitution's allocation of congressional

representation establishes the test for the constitutionality of a state legislative districting plan. Under one Alabama districting plan before the Court in that case, seats in the State Senate were allocated by county, much as seats in the United States Senate are allocated by State. (At that time, the upper houses *1145 in most state legislatures were similar in this respect.) The Reynolds Court noted that "[t]he system of representation in the two Houses of the Federal Congress" was "conceived out of compromise and concession indispensable to the establishment of our federal republic." 377 U.S., at 574, 84 S.Ct. 1362. Rejecting Alabama's argument that this system supported the constitutionality of the State's apportionment of senate seats, the Court concluded that "the Founding Fathers clearly had no intention of establishing a pattern or model for the apportionment of seats in state legislatures when the system of representation in the Federal Congress was adopted." *Id.*, at 573, 84 S.Ct. 1362; see also Gray v. Sanders, 372 U.S. 368, 378, 83 S.Ct. 801, 9 L.Ed.2d 821 (1963).

Third, as the *Reynolds* Court recognized, reliance on the Constitution's allocation of congressional representation is profoundly ahistorical. When the formula for allocating House seats was first devised in 1787 and reconsidered at the time of the adoption of the Fourteenth Amendment in 1868, the overwhelming concern was far removed from any abstract theory about the nature of representation. Instead, the dominant consideration was the distribution of political power among the States.

The original Constitution's allocation of House seats involved what the Reynolds Court rather delicately termed "compromise and concession." 377 U.S., at 574, 84 S.Ct. 1362. Seats were apportioned among the States "according to their respective Numbers," and these "Numbers" were "determined by adding to the whole Number of free Persons ... three fifths of all other Persons." Art. I, § 2, cl. 3. The phrase "all other Persons" was a euphemism for slaves. Delegates to the Constitutional Convention from the slave States insisted on this infamous clause as a condition of their support for the Constitution, and the clause gave the slave States more power in the House and in the electoral college than they would have enjoyed if only free persons had been counted. 5 These slave-state delegates did not demand slave representation based on some philosophical notion that "representatives serve all residents, not just those eligible or registered to vote." Ante, at 1132.6

В

The Court's account of the original Constitution's allocation also plucks out of context Alexander Hamilton's statement on apportionment. The Court characterizes Hamilton's words (more precisely, Robert Yates's summary of his fellow New Yorker's *1146 words) as endorsing apportionment by *total* population, and positions those words as if Hamilton were talking about apportionment in the House. *Ante*, at 1127. Neither is entirely accurate. The "quote" comes from the controversy over Senate apportionment, where the debate turned on whether to apportion by population *at all*. See generally 1 Records of the Federal Convention of 1787, pp. 470–474 (M. Farrand ed. 1911). Hamilton argued in favor of allocating Senate seats by population:

"The question, after all is, is it our interest in modifying this general government to sacrifice individual rights to the preservation of the rights of an *artificial* being, called states? There can be no truer principle than this—that every individual of the community at large has an equal right to the protection of government. If therefore three states contain a majority of the inhabitants of America, ought they to be governed by a minority? Would the inhabitants of the great states ever submit to this? If the smaller states maintain this principle, through a love of power, will not the larger, from the same motives, be equally tenacious to preserve their power?" *Id.*, at 473.

As is clear from the passage just quoted, Hamilton (according to Yates) thought the fight over apportionment was about naked *power*, not some lofty ideal about the nature of representation. That interpretation is confirmed by James Madison's summary of the same statement by Hamilton: "The truth is it [meaning the debate over apportionment] is a contest for power, not for liberty.... The State of Delaware having 40,000 souls will *lose power*, if she has $^1/_{10}$ only of the votes allowed to Pa. having 400,000." *Id.*, at 466. Far from "[e]ndorsing apportionment based on total population," *ante*, at 1127, Hamilton was merely acknowledging the obvious: that apportionment in the new National Government would be the outcome of a contest over raw political power, not abstract political theory.

C

After the Civil War, when the Fourteenth Amendment was being drafted, the question of the apportionment formula arose again. Thaddeus Stevens, a leader of the so-called radical Republicans, unsuccessfully proposed that apportionment be based on eligible voters, rather than total population. The opinion of the Court suggests that the rejection of Stevens' proposal signified the adoption of the theory that representatives are properly understood to represent all of the residents of their districts, whether or not they are eligible to vote. *Ante*, at 1127 – 1129. As was the case in 1787, however, it was power politics, not democratic theory, that carried the day.

In making his proposal, Stevens candidly explained that the proposal's primary aim was to perpetuate the dominance of the Republican Party and the Northern States. Cong. Globe, 39th Cong., 1st Sess., 74 (1865); Van Alstyne, The Fourteenth Amendment, The "Right" to Vote, and the Understanding of the Thirty-Ninth Congress, 1965 S. Ct. Rev. 33, 45–47 (Van Alstyne). As Stevens spelled out, if House seats were based on total population, the power of the former slave States would be magnified. Prior to the Civil War, a slave had counted for only three-fifths of a person for purposes of the apportionment of House seats. As a result of the Emancipation Proclamation and the Thirteenth Amendment, the former slaves would now be fully counted even if they were not permitted to vote. By Stevens' calculation, this would give the South 13 additional votes in both the House and the electoral college. Cong. Globe, 39th *1147 Cong., 1st Sess., 74 (1865); Van Alstyne 46.

Stevens' proposal met with opposition in the Joint Committee on Reconstruction, including from, as the majority notes, James Blaine. *Ante*, at 1128. Yet, as it does with Hamilton's, the majority plucks Blaine's words out of context:

"[W]e have had several propositions to amend the Federal Constitution with respect to the basis of representation in Congress. These propositions ... give to the States in future a representation proportioned to their voters instead of their inhabitants.

"The effect contemplated and intended by this change is perfectly well understood, and on all hands frankly

avowed. It is to deprive the lately rebellious States of the unfair advantage of a large representation in this House, based on their colored population, so long as that population shall be denied political rights by the legislation of those States....

"The direct object thus aimed at, as it respects the rebellious States, has been so generally approved that little thought seems to have been given to the incidental evils which the proposed constitutional amendment would inflict on a large portion of the loyal States—evils, in my judgment, so serious and alarming as to lead me to oppose the amendment in any form in which it has yet been presented. As an abstract proposition no one will deny that population is the true basis of representation; for women, children, and other non-voting classes may have as vital an interest in the legislation of the country as those who actually deposit the ballot....

"If voters instead of population shall be made the basis of representation certain results will follow, not fully appreciated perhaps by some who are now urgent for the change." Cong. Globe, 39th Cong., 1st Sess., 141 (1865).

The "not fully appreciated" and "incidental evi[l]" was, in Blaine's view, the disruption to *loyal* States' representation in Congress. Blaine described how the varying suffrage requirements in loyal States could lead to, for instance, California's being entitled to eight seats in the House and Vermont's being entitled only to three, despite their having similar populations. *Ibid.*; see also 2 B. Ackerman, We the People: Transformations 164, 455, n. 5 (1998); Van Alstyne 47, 70. This mattered to Blaine because both States were loyal and so neither deserved to suffer a loss of relative political power. Blaine therefore proposed to apportion representatives by the "whole number of persons except those to whom civil or political rights or privileges are denied or abridged by the constitution or laws of any State on account of race or color." Cong. Globe, 39th Cong., 1st Sess., 142.

"This is a very simple and very direct way, it seems to me, of reaching the result aimed at without embarrassment to any other question or interest. It leaves population as heretofore the basis of representation, does not disturb in any manner the harmonious relations of the loyal States, and it conclusively deprives the southern States of all

representation in Congress on account of the colored population so long as those States may choose to abridge or deny to that population the political rights and privileges accorded to others." *Ibid.*

As should be obvious from these lengthy passages, Blaine recognized that the "generally approved" "result aimed at" was to deprive southern States of political power; far from quibbling with that aim, he sought to *achieve it* while limiting the collateral damage to the loyal northern States. See Van Alstyne 47.

*1148 Roscoe Conkling, whom the majority also quotes, ante, at 1128, seemed to be as concerned with voter-based apportionment's "narrow[ing] the basis of taxation, and in some States seriously," as he was with abstract notions of representational equality. Cong. Globe, 39th Cong., 1st Sess., 358; id., at 359 ("representation should go with taxation"); ibid. (apportionment by citizenship "would narrow the basis of taxation and cause considerable inequalities in this respect, because the number of aliens in some States is very large, and growing larger now, when emigrants reach our shores at the rate of more than a State a year"). And Hamilton Ward, also quoted by the majority, ante, at 1128, was primarily disturbed by "[t]he fact that one South Carolinian, whose hands are red with the blood of fallen patriots, and whose skirts are reeking with the odors of Columbia and Andersonville, will have a voice as potential in these Halls as two and a half Vermont soldiers who have come back from the grandest battle-fields in history maimed and scarred in the contest with South Carolina traitors in their efforts to destroy this Government"—and only secondarily worried about the prospect of "taxation without representation." Cong. Globe, 39th Cong., 1st Sess., 434.

Even Jacob Howard, he of the "theory of the Constitution" language, *ante*, at 1128 – 1129, bemoaned the fact that basing representation on total population would allow southern States "to obtain an advantage which they did not possess before the rebellion and emancipation." Cong. Globe, 39th Cong., 1st Sess., 2766. "I object to this. I think they cannot very consistently call upon us to grant them an additional number of Representatives simply because in consequence of their own misconduct they have lost the property [meaning slaves, whom slaveholders considered to be property] which they once possessed, and which served as a basis in great part of their representation." *Ibid.* The list could go on. The bottom line is that in the leadup to the Fourteenth

Amendment, claims about representational equality were invoked, if at all, only in service of the *real* goal: preventing southern States from acquiring too much power in the National Government.

After much debate, Congress eventually settled on the compromise that now appears in § 2 of the Fourteenth Amendment. Under that provision, House seats are apportioned based on total population, but if a State wrongfully denies the right to vote to a certain percentage of its population, its representation is supposed to be reduced proportionally. Tenforcement of this remedy, however, is dependent on action by Congress, and—regrettably—the *1149 remedy was never used during the long period when voting rights were widely abridged. Amar 399.

In light of the history of Article I, § 2, of the original Constitution and § 2 of the Fourteenth Amendment, it

is clear that the apportionment of seats in the House of Representatives was based in substantial part on the distribution of political power among the States and not merely on some theory regarding the proper nature of representation. It is impossible to draw any clear constitutional command from this complex history.

* * *

For these reasons, I would hold only that Texas permissibly used total population in drawing the challenged legislative districts. I therefore concur in the judgment of the Court.

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Footnotes

- * The syllabus constitutes no part of the opinion of the Court but has been prepared by the Reporter of Decisions for the convenience of the reader. See *United States v. Detroit Timber & Lumber Co.,* 200 U.S. 321, 337, 26 S.Ct. 282, 50 L.Ed. 499.
- 1 In *Avery v. Midland County,* 390 U.S. 474, 485–486, 88 S.Ct. 1114, 20 L.Ed.2d 45 (1968), the Court applied the one-person, one-vote rule to legislative apportionment at the local level.
- 2 Maximum population deviation is the sum of the percentage deviations from perfect population equality of the most- and least-populated districts. See *Chapman v. Meier*, 420 U.S. 1, 22, 95 S.Ct. 751, 42 L.Ed.2d 766 (1975). For example, if the largest district is 4.5% overpopulated, and the smallest district is 2.3% underpopulated, the map's maximum population deviation is 6.8%.
- The Constitutions and statutes of ten States—California, Delaware, Hawaii, Kansas, Maine, Maryland, Nebraska, New Hampshire, New York, and Washington—authorize the removal of certain groups from the total-population apportionment base. See App. to Brief for Appellees 1a–46a (listing relevant state constitutional and statutory provisions). Hawaii, Kansas, and Washington exclude certain non-permanent residents, including nonresident members of the military. Haw. Const., Art. IV, § 4; Kan. Const., Art. 10, § 1(a); Wash. Const., Art. II, § 43(5). See also N.H. Const., pt. 2, Art. 9–a (authorizing the state legislature to make "suitable adjustments to the general census ... on account of non-residents temporarily residing in this state"). California, Delaware, Maryland, and New York exclude inmates who were domiciled out-of-state prior to incarceration. Cal. Elec.Code Ann. § 21003(5) (2016 West Cum. Supp.); Del.Code Ann., Tit. 29, § 804A (Supp.2014); Md. State Govt.Code Ann. § 2–2A–01 (2014); N.Y. Legis. Law Ann. § 83–m(b) (2015 West Cum. Supp.). The Constitutions of Maine and Nebraska authorize the exclusion of noncitizen immigrants, Me. Const., Art. IV, pt. 1, § 2; Neb. Const., Art. III, § 5, but neither provision is "operational as written," Brief for United States as Amicus Curiae 12, n. 3.
- Various plaintiffs had challenged Texas' State House, State Senate, and congressional maps under, *inter alia*, § 2 of the Voting Rights Act of 1965. They sought and received an injunction barring Texas' use of the new maps until those maps received § 5 preclearance. See *Allen v. State Bd. of Elections*, 393 U.S. 544, 561, 89 S.Ct. 817, 22 L.Ed.2d 1 (1969) ("[A]n individual may bring a suit for declaratory judgment and injunctive relief, claiming that a state requirement is covered by § 5, but has not been subjected to the required federal scrutiny.").
- Apart from objecting to the baseline, appellants do not challenge the Senate map's 8.04% total-population deviation. Nor do they challenge the use of a total-population baseline in congressional districting.

- As the District Court noted, the Ninth Circuit has likewise rejected appellants' theory, *i.e.*, that voter population must be roughly equalized. See *Garza v. County of L. A.*, 918 F.2d 763, 773–776 (C.A.9 1990). Also declining to mandate voter-eligible apportionment, the Fourth and Fifth Circuits have suggested that the choice of apportionment base may present a nonjusticiable political question. See *Chen v. Houston*, 206 F.3d 502, 528 (C.A.5 2000) ("[T]his eminently political question has been left to the political process."); *Daly v. Hunt*, 93 F.3d 1212, 1227 (C.A.4 1996) ("This is quintessentially a decision that should be made by the state, not the federal courts, in the inherently political and legislative process of apportionment.").
- In the District Court, appellants suggested that districting bodies could also comply with the one-person, one-vote rule by equalizing the registered-voter populations of districts, but appellants have not repeated that argument before this Court. See Tr. of Oral Arg. 22–23.
- As the United States observes, the "choice of constitutional language reflects the historical fact that when the Constitution was drafted and later amended, the right to vote was not closely correlated with citizenship." Brief for United States as *Amicus Curiae* 18. Restrictions on the franchise left large groups of citizens, including women and many males who did not own land, unable to cast ballots, yet the Framers understood that these citizens were nonetheless entitled to representation in government.
- Justice ALITO observes that Hamilton stated this principle while opposing allocation of an equal number of Senate seats to each State. *Post*, at 1136 1137 (opinion concurring in judgment). That context, however, does not diminish Hamilton's principled argument for allocating seats to protect the representational rights of "every individual of the community at large." 1 Records of the Federal Convention of 1787, p. 473 (M. Farrand ed. 1911). Justice ALITO goes on to quote James Madison for the proposition that Hamilton was concerned, simply and only, with "the outcome of a contest over raw political power." *Post*, at 1146. Notably, in the statement Justice ALITO quotes, Madison was not attributing that motive to Hamilton; instead, according to Madison, Hamilton was attributing that motive to the advocates of equal representation for States. Farrand, *supra*, at 466. One need not gainsay that Hamilton's backdrop was the political controversies of his day. That reality, however, has not deterred this Court's past reliance on his statements of principle. See, *e.g.*, *Printz v. United States*, 521 U.S. 898, 910–924, 117 S.Ct. 2365, 138 L.Ed.2d 914 (1997).
- Justice ALITO adds a third, claiming "the allocation of congressional representation sheds little light" on the meaning of the one-person, one-vote rule "because that allocation plainly violates one person, one vote." *Post*, at 1144. For this proposition, Justice ALITO notes the constitutional guarantee of two Senate seats and at least one House seat to each State, regardless of its population. But these guarantees bear no kinship to the separate question that dominated the Fourteenth Amendment's ratification debates: After each State has received its guaranteed House seat, on what basis should additional seats be allocated?
- Justice ALITO asserts that we have taken the statements of the Fourteenth Amendment's Framers "out of context." *Post*, at 1148. See also *post*, at 1148 ("[C]laims about representational equality were invoked, if at all, only in service of the *real* goal: preventing southern States from acquiring too much power in the national government."). Like Alexander Hamilton, see *supra*, at 1127, n. 9, the Fourteenth Amendment's Framers doubtless made arguments rooted in practical political realities as well as in principle. That politics played a part, however, does not warrant rejecting principled argument. In any event, motivations aside, the Framers' ultimate choice of total population rather than voter population is surely relevant to whether, as appellants now argue, the Equal Protection Clause *mandates* use of voter population rather than total population.
- Appellants also observe that standing in one-person, one-vote cases has rested on plaintiffs' status as voters whose votes were diluted. But the Court has not considered the standing of nonvoters to challenge a map malapportioned on a total-population basis. This issue, moreover, is unlikely ever to arise given the ease of finding voters willing to serve as plaintiffs in malapportionment cases.
- In contrast to the insubstantial evidence marshaled by appellants, the United States cites several studies documenting the uneven distribution of immigrants throughout the country during the 1960's. See Brief for United States as *Amicus Curiae* 16.
- Appellants point out that constituents have no constitutional right to equal access to their elected representatives. But a State certainly has an interest in taking reasonable, nondiscriminatory steps to facilitate access for all its residents.
- Insofar as appellants suggest that Texas could have roughly equalized both total population and eligible-voter population, this Court has never required jurisdictions to use multiple population baselines. In any event, appellants have never presented a map that manages to equalize both measures, perhaps because such a map does not exist, or because such a map would necessarily ignore other traditional redistricting principles, including maintaining communities of interest and respecting municipal boundaries.

* * *

- * The Court's opinions have used "one person, one vote" and "one man, one vote" interchangeably. Compare, e.g., Gray v. Sanders, 372 U.S. 368, 381, 83 S.Ct. 801, 9 L.Ed.2d 821 (1963) ("one person, one vote"), with Hadley v. Junior College Dist. of Metropolitan Kansas City, 397 U.S. 50, 51, 90 S.Ct. 791, 25 L.Ed.2d 45 (1970) ("one man, one vote" (internal quotation marks omitted)). Gray used "one person, one vote" after noting the expansion of political equality over our history—including adoption of the Nineteenth Amendment, which guaranteed women the right to vote. 372 U.S., at 381, 83 S.Ct. 801.
- See, e.g., H. Pitkin, The Concept of Representation 4 (1967) ("[D]iscussions of representation are marked by long-standing, persistent controversies which seem to defy solution"); *ibid*. ("Another vexing and seemingly endless controversy concerns the proper relation between representative and constituents"); Political Representation i (I. Shapiro, S. Stokes, E. Wood, & A. Kirshner eds. 2009) ("[R]elations between the democratic ideal and the everyday practice of political representation have never been well defined and remain the subject of vigorous debate among historians, political theorists, lawyers, and citizens"); *id.*, at 12 ("[W]e need a better understanding of these complex relations in their multifarious parts before aspiring to develop any general theory of representation"); S. Dovi, Political Representation, The Stanford Encyclopedia of Philosophy (E. Zalta ed. Spring 2014) ("[O]ur common understanding of political representation is one that contains different, and conflicting, conceptions of how political representatives should represent and so holds representatives to standards that are mutually incompatible"), online at http://plato.stanford.edu/archives/spr2014/entries/political-representation (all Internet materials as last visited Mar. 31, 2016); *ibid*. ("[W]hat exactly representatives *do* has been a hotly contested issue").
- See, e.g., Andeweg, Roles in Legislatures, in The Oxford Handbook of Legislative Studies 268 (S. Martin, T. Saalfeld, & K. Strom eds. 2014) (explaining that the social sciences have not "succeeded in distilling [an] unambiguous concept[ion]" of the "role" of a legislator); Introduction, id., at 11 ("Like political science in general, scholars of legislatures approach the topic from different and, at least partially, competing theoretical perspectives"); Diermeier, Formal Models of Legislatures, id., at 50 ("While the formal study of legislative politics has come a long way, much remains to be done"); Best & Vogel, The Sociology of Legislators and Legislatures, id., at 75–76 ("Stable representative democracies are ... institutional frameworks and informal arrangements which achieve an equilibrium between the competing demands [of constituents and political opponents]. How this situation affects the daily interactions of legislators is largely unknown").
- As Justice THOMAS notes, ante, at 1137 1138 (opinion concurring in judgment), the plan for the House of Representatives was based in large part on the view that there should be "equality of representation," but that does not answer the question whether it is eligible voters (as appellants urge), all citizens, or all residents who should be equally represented. The Constitution allocates House seats based on total inhabitants, but as I explain, the dominant, if not exclusive, reason for that choice was the allocation of political power among the States.
- The Court brushes off the original Constitution's allocation of congressional representation by narrowing in on the Fourteenth Amendment's ratification debates. *Ante*, at 1129, n. 10. But those debates were held in the shadow of that original allocation. And what Congress decided to do after those debates was to retain the original apportionment formula —minus the infamous three-fifths clause—and attach a penalty to the disenfranchisement of eligible voters. In short, the Fourteenth Amendment made no structural changes to apportionment that bear on the one-person, one-vote rule.
- See A. Amar, America's Constitution: A Biography 87–98 (2005) (Amar); *id.*, at 94 ("The best justification for the three-fifths clause sounded in neither republican principle nor Revolutionary ideology, but raw politics"); see also *id.*, at 88–89 (explaining that the "protective coloring" camouflaging the slave States' power grab "would have been wasted had the Constitution pegged apportionment to the number of voters, with a glaringly inconsistent add-on for nonvoting slaves"); cf. G. Van Cleve, A Slaveholders' Union 126 (2010) ("[T]he slave states saw slave representation as a direct political protection for wealth consisting of slave property against possible Northern attacks on slavery, and told the Convention unequivocally that they needed such protection in order to obtain ratification of the Constitution"); *id.*, at 133–134 ("The compromise on representation awarded disproportionate shares of representative influence to certain vested political-economy interests, one of which was the slave labor economies").
- 6 See Amar 92 ("But masters did not as a rule claim to virtually represent the best interests of their slaves. Masters, after all, claimed the right to maim and sell slaves at will, and to doom their yet unborn posterity to perpetual bondage. If this could count as virtual representation, anything could").
- 7 Section 2 provides:

"Representatives shall be apportioned among the several States according to their respective numbers, counting the whole number of persons in each State, excluding Indians not taxed. But when the right to vote at any election for the choice of electors for President and Vice President

of the United States, Representatives in Congress, the Executive and Judicial officers of a State, or the members of the Legislature thereof, is denied to any of the male inhabitants of such State, being twenty-one years of age, and citizens of the United States, or in any way abridged, except for participation in rebellion, or other crime, the basis of representation therein shall be reduced in the proportion which the number of such male citizens shall bear to the whole number of male citizens twenty-one years of age in such State."

Needless to say, the reference in this provision to "male inhabitants ... being twenty-one years of age" has been superseded by the Nineteenth and Twenty-sixth Amendments. But notably the reduction in representation is pegged to the proportion of (then) *eligible voters* denied suffrage. Section 2's representation-reduction provision makes no appearance in the Court's structural analysis.

End of Document

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Historical Information: The U.S. Census

Currently, the Census Bureau does ask citizenship on its American Community Survey (ACS) and the Current Population Survey. The ACS is a survey conducted nationwide every year among 3.5 million addresses. The Current Population Survey is a monthly survey that is the primary source of labor force statistics for the population of the United States. However, while it has asked about citizenship status, the Census Bureau has never asked about the legal status of respondents.

The Census Bureau first asked a citizenship question in 1820 when the census separately counted "foreigners not naturalized." The question was asked this way until 1850 when officials asked place of birth, a question that also appeared on the 1860 census.

The 1870 census asked the same questions on nativity, as well as questions on the nativity of each individual's parents. The 1870 census also had questions on citizenship for males over the age of 21. The 1880 census kept questions on individual and parental nativity, but removed questions on citizenship.

The 1890 census also asked individual and parental nativity, but included additional questions on naturalization and tenure in the United States for foreign-born men over the age of 21. The questions for 1900 and 1910, although slightly different, followed the same general outline as those of 1890. In 1920 and 1930, all foreign-born respondents, regardless of age and sex, received questions on naturalization status.

In 1940, while the questions about individual nativity and naturalization remained, questions about parental nativity moved to the supplemental questions, which were only asked of 5% of respondents. In 1950, that sampling size grew to 20%. In 1960, although questions about individual and parental nativity remained for all, there were no questions about citizenship or naturalization.

Starting with 1970, the census moved to a mailout/mailback format. Questions about nativity appeared on the "long form" census form sent to 20% of households and only foreign-born were asked to answer questions about citizenship status and time period of arrival to the United States. From 1980-2000 the long form asked citizenship status of all sample respondents, not just foreign-born. Foreign born were asked for a time range or year that they arrived in the United States. In 2005, the ACS replaced the long-form decennial census questionnaire.

As we move through this formal evaluation process, we will keep the public updated as we look forward to delivering the planned questions for the 2020 Census and the ACS to Congress by March 31, 2018.

Our goal is to conduct a complete and accurate 2020 Census. The Census Bureau remains committed to reflecting the information needs of our changing society as we continue to examine the effectiveness of decennial census questions to collect accurate data on America's people, places, and economy.

All historical census questionnaires can be found at: https://www.census.gov/history/www/through_the_decades/index_of_questions/1820_1.html

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1820: citizenship question first asked when the census separately counted "foreigners not naturalized."

1850, 1960: census asked place of birth.

1870: census asked about nativity and the nativity of each individual's parents. Also had questions on citizenship for males over the age of 21.

1880: census kept questions on individual and parental nativity, but removed citizenship question.

1890: census asked individual and parental nativity, but also included additional questions on naturalization and tenure in the United States for foreign-born men over the age of 21.

1900, 1910: although slightly different, questions followed the same general outline as 1890.

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PREPARED STATEMENT OF

CHARLES LOUIS KINCANNON DIRECTOR U.S. CENSUS BUREAU

Before the Subonmulties on Foderalism and the Census Committee on Government Reform U.S. House of Representatives

a December 2005

On behalf of the U.S. Census Bureau, I would like to thank the House Subcommittee on Federalism and the Census for inviting mu to bodily this morning.

Tinday's frestring focuses on the question of eduction the decrimal carses should count, for purposes of apportsocurers, all inhabitarits of the United States or more narrowly deline its task to cross only different. Our tentimenty this morning these tool address the merits of the quantion, but focuses instead on the practical effects such a change might have on operational considerations and the accuracy of the commit.

The Constitution and the Census Act of 1790

The census is one of our nation's eldest activities. It is constitutionally required and is used as the basts to apportion the U.S. House of Representatives and to delitieate congressional districts within the states. Article I, Section 2 directs that an "actual enumeration" was to recour every ten years. The first census law, the Census Act of 1790, was written as two years after the Constitution was raillied. The Census Act of 1790 instructed "the marshuls of the several districts of the United States shall be, and they are hereby authorized and required to cause the number of the inhabitants within their respective districts to be taken."

The basic instruction is count inhabitants living in the United States has not been changed by any subsequent certain law. It is the foundation of the Certain Burean's decentral commistant, Contribute every inhabitant living in the United States defines the scope of our operations and prescribes the need for accuracy in the cruni. The Certain Bureau has developed rational, operationally finable procedures in under to count every person and does not separately count the number of citizens, legal isoidents, visitors on temporary visas, or illegal immigrants, although the citizenship issue is addressed in the American Community Survey sample. To make such distinctions for purposes of enumeration would not only require changes to the decentral certain quantitionality for the determination and interest of the amount of the contribution of the contributions in amount of the contribution of the contr

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Operational Issues

The decential ceresie is a complex and deunting task. It requires unpscalleled cooperation in order to reach eyery state, county, city, trees, megidochood, and struet, to order to count every bousehold in Actualita. It is the largest peacetime mobilization undertaken by the federal government, avoiding years of planning and testing, hundreds of thousands of enumerature, billions in federal expenditures, and the cooperation of every household in America. Securing this cooperation from each community, bousehold, and person is difficult, but crucial to the accuracy of the consequent.

With each modern evenus, the Consus liurous has documented decreasing levels of compension and response rates. The stall response rate determines the noti-response follow-up workload and in an important factor in the cost and overall success of the census. In 1970, the overall and response rate was nearly 80 precent. In 1980, it foll to about 75 percent, and by 1990 it had fallon to the percent. Crosses 2000 hold at nearly 65 percent and seems to suggest that the Census Bureau, with the help of unprecedented congressional and community support, as well as paid advertising, was able to hold this tend in check. But we know the American public is becoming increasingly wary of issues such as protection of privacy, identity theft and unwarranted government intrusion. For the 2010 Census, we project further declines in public cooperation, even of we repeat all the efforts undertaken in 2000. We believe some of our efforts to recognize the 2010 Census, can mitigate this trend. However, asking about citizenably could negatively impact this trend and could impair the ability of the Census Bureau to conduct an accordance census.

The Careau Bureau relies not only an individual experation but also on public support to maintain the high level of accuracy expected from the decremial errors. Public support is built and demonstrated through media coverage, public encorsement, and wond or mouth. In 2000, there was an unprecedented attact to engage help from members of Caregress, local officials, community enganzations, solveds, and the media to encourage public support. We relied on these patrious to help educate the public, especially hard-to-cross communities, about the constitutional requirement and the uses of census data in the distribution of public resources, and to assuage fears about participating and the possible use of data agusts respondents.

Asking all respondents for additional information relating to calizenship might raise additional fears about responding to the consus. Even U.S. critisens may be ware of answering questions about chiesesship. Countering these singleness and tears could require additional effects in secure public cooperation. Moreover, because the census is conducted through self-enumeration, the Census flucteous could not verify whether the responses were accurate. The more act of asking about the residency status of an individual may contact or discourage respondence, even legal residents and citizens, and chald affect the overall accuracy of the census.

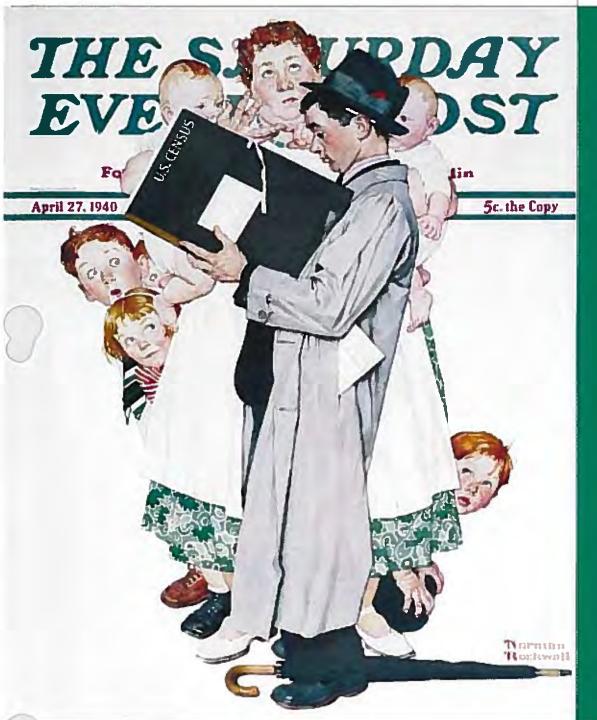
Conclusion

Accuracy is important because the census is used to apportion congressional seats, indifflere the obligation as outlined in Article I of the Constitution. Mr. Chairman, thank you for this expountably, and I have that this information is informative and will help the Congress as it considers this inside. I would be supply to answer your questions and concerns.

Measuring America: The Decennial Censuses From 1790 to 2000

Issued April 2002

POL/02-MA



J S C E N S U S B U R E A U

Helping You Make Informed Decisions • 1902-2002

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



Population Items on Principal Census Questionnaires: 1790 to 1890

excludes identification items, screening questions, and other information collected, but not intended for tabulation)

Demographic Characteristics	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890
Age	-	'x	¹X	х	х	х	х	X	х	х	>
Sex	¹X	¹X	۲۲	х	х	х	х	х	х	х	×
Color or Race	×	х	х	х	×	х	х	х	х	х	×
Ancestry/Ethnic Origin	-	•	-	-	•	-	-	-	-	-	
If American Indian, proportions of Indian or other blood	-	-	-		-	-	-	-		-	,
If American Indian, name of Tribe	-	-	-	-	-	-	-	-	-	-	19
Relationship to head of family or household	-	-	-		-	-	-		-	х	×
Married in the past year	-	-	-	-	•	-	²X	- 2X	_ X	х	X
Marital status	- 1	-	-	-	•	-	-	-	-	X	×
Number of years married	•	-	-	-	•	•	-	-	-	-	
Age at or date of first marriage	-	-	-	-	•	-	-		· -	-	
Married more than once	-	-	-	-	-	-1	-	-	•	-	
If remarried, was first marriage terminated by death?	-	-			-	, -	-	-			
Number of years widowed, divorced, or separated		-	-		-		-	-	-	-	
Social Characteristics											
Free or slave	х	х	х	х	· x	х	х	х	-	-	19
er slave owner, number of fugitives	-		-	-	-	-	х	х	-	-	
Per slave owner, number of manumitted	-	-	-	-	-	-	×	х	-	-	
Physical and mental handicaps and infirmities:											
Deaf or deaf mutes	-	-	-	-	X	×	х	х	х	×	×
Blind	-	-	-	-	X	×	X	×	x	х	×
Insane	- 1	-1	-	-	•	×	х	x	х	X	×
How supported (insane and idiotic only)			-	-	-	x	-	-	-	+	1
Feeble-minded (idiotic)		-	, -	-	-	X‡	х	х	Х	Χţ	Χţ
III or disabled	-	-	-	•	•	-	-	-	-	X†	X1
Duration of disability	-	-	-	-	-	-	-	-	-	-	X1
Paupers	-		-	-	-	-	²X	²X		t	X1
Convicts	-	-	-	-	-	-	²X	²X	·	t	X1
Homeless children	-	-	-	-	-	-	-	-	-	t	Xį
Education:		1				1		1			
Literacy	-	-	-	-	-	¹x	²X	²X	х	×	>
School attendance	-	-	-	-	-	-	²X	²X	х	х	>
Educational attainment	- -		-	-		-	-	-	-	-	
Public or private school	-		-				-	-	-		-

Population Items on Principal Census Questionnaires: 1790 to 1890—Con.

(Excludes identification items, screening questions, and other information collected, but not intended for tabulation)

Social Characteristics	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890
Vocational training	-	-	-	-	-		-	-	-	-	-
Place of birth	-	-	-	-	-	-	²X	2X	Х	х	х
Place of birth of parents	-	-	-	-	-	-	-	-	5X	X	X
Citizenship		-	-	Х	Х	-		-	6X	-	х
Year of naturalization		-	-	-	-	-		-	-	-	- 2
Eligibility to vote	-	-	-		•	-	-	-	6X	-	-
If foreign born, year of immigration		-	-	-	-	-		-	-	-	X
Language		-	-	-	-	•		-	-	-	X
Language of parents	-	-	-	-	-	•	-	-	-	-	
Spanish origin or descent	-	-	-	-		•		-	-	-	-
Number of children living	-		-	-	-	•	-	-	-	-	х
Number of children ever born to mother	-			-	-	-	-			-	х
For Grandparents' households											
Are grandchildren under 18 living within the household?	-	-	-	-	-	-	٠.	-		-	
Are grandparents responsible for Grandchild's basic needs?		-	-	-	-	•		÷	15-4	-	
Length of responsibility of grandchild	-	-	-	-	-	-	-	-	-	-	-
Veteran status	-	-	-	-	-	×		-	-	-	X†
Length of service		-	٠	-	-	-	-	-	•	-	
In service date		-	-	-	-	-	-	-	-	-	
Whether wife or widow of veteran	-	-	-	-	-	•	٠.	-	-	-	Χţ
If child of veteran, is father dead?	-	-	-	-	-	•	-	-	-	-	-
Farm residence	-	-	-	-	-	-	-		-	-	Х
Farm residence in a previous year	-	-	-	-	-	-	-	•	-	-	
Place of residence in a previous year	-	-	-	-	-	-	-	•	-	-	
Year moved to present residence	-	-		-	-	-	-	-	-	-	
Economic Characteristics											
Industry	-	-	-	Х	-	х	-	-		-	
Occupation	-	-	-	-	-	•	²X	²X	х	х	X
Class of worker	-	-	-	-	-	•	-	-	-	-	
Private or public nonemergency work, or public emergency work	-	-	-	-	-			-	-	-	
Employment status	-	-	-	-	-			-	-	-	
Duration of unemployment	-	-	-	-	-			-	-	х	х
Year last worked	-	•	•	-	-	-	-	•	-	-	
Weeks worked in preceding year	-	-	-	-		-	-		-	-	
Hours worked in preceding week	-		-	-	-	-		-	-	-	

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Measuring America

U.S. Census Bureau

Population Items on Principal Census Questionnaires: 1790 to 1890—Con.

excludes identification items, screening questions, and other information collected, but not intended for tabulation)

Economic Characteristics	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890
Activity 5 years ago	<u> </u>	-	П .			ш-	-	-	•		
Industry 5 years ago			M -	-	III •	111 -	130	-	-	11-	
Occupation 5 years ago		-	-	-	-	-		-	-	-	-
Class of worker 5 years ago		•	-	-	-			•		-	
Value of real estate	-		-		= =-	<u>-</u>	²X	²X	×		
Value of personal property			-	-	-	H -		²X	-	-	
Income	-	h -	•	-	•	III -	<u> </u>	-	- 1	-	•
Social Security:	-	-	-	-	-	-	- a-	-	-		
Registered	•	-	-					-	-	-	
Deductions from all or part of wages or salary		٠.				ļ				_	ži.
Place of work		•	-	-	-	-	-	•	- 1	-	
Means of transportation to work	-		H	-	-	-	\$// == - I		-	-	-

[†] Available on supplemental questionnaires at the National Archives and Records Administration.

s Sample question.

(1) Free White persons only.

(2) Question only asked of free inhabitants.

(3) Question was whether insane or idiotic.

(5) Question was only whether parents were foreign born.

(6) For males 21 years of age or over.

(7) Whether person could speak English. In 1900, this was the only question; in 1920 and 1930 this question was in addition to request for mother tongue.

(8) Asked only outside cities.

(9) On housing portion of questionnaire.

⁽⁴⁾ In 1960, place of birth was asked on a sample basis generally, but on a 100-percent basis in New York and Puerto Rico. Citizenship was asked only in New York and Puerto Rico, where it was a 100-percent item.

Population Items on The General Schedules: 1900 to 2000

Demographic Characteristics	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000
Age	х	х	х	Х	×	х	×	х	×	х	_ x
Sex	х	х	×	×	х	х	×	х	х	х	х
Color or Race	х	х	х	Х	х	х	х	Х	Х	х	Х
Ancestry/Ethnic Origin	-	-	-	-	-	-	-	-	Xs	Xs	Xs
If American Indian, proportions of Indian or other blood	†	t		х	-	1	-		-	-	<u> </u>
If American Indian, name of Tribe	t	†	-	, X		†	-	х	х	х	Х
Relationship to head of family or household	х	х	х	×	×	х	х	х	×	×	х
Married in the past year		-		-	-			-	-	-	
Marital status	х	х	х	х	х	х	х	х	Х	х	Xs
Number of years married	х	х	-	-	-	Xs	-	-	-	-	-
Age at or date of first marriage	-	-	-	X	Xs	-	Xs	Xs	Xs		
Married more than once	-	-	-		Xs	Xs	Xs	Xs	Xs	-	
If remarried, was first marriage terminated by death?	-	-	-	-	-	-	-	Xs	Xs	-	
Number of years widowed, divorced, or separated	-			-	-	Xs			-	-	
Social Characteristics											
Free or slave		•	-	-	-		-	-	-	-	-
Per slave owner, number of slaves	-	-	-	-		-	-		-	-	
Per slave owner, number of fugitives	-	-	-	-	-	-	-		-	-	
Per slave owner, number of manumitted	-	-	•	•	-	-	-		-	-	
Physical/mental handicaps and infirmities:											
Deaf or deaf mute	†	X†	†	t	-	-	-		-	- [Xs
Blind	t	X†	t	†	-	-	-	-	-	-	Xs
Insane	-	†	-		-	-	-	-	-	-	1
How supported (insane and idiotic only)	-	-				-	-			-	
Feeble-minded (idiotic)	-	†	-	-	-	-	-		-	-	
III or disabled	•	†	-	-	-		-	Xs	Xs	Xs	Xs
Duration of disability	-	†	-	-	-	-	-	Xs	-	-	
Paupers	-	+	-	-	-	-	-		-	-	
Convicts	†	†	-	-	-	٠.	-	•	-	-	-
Homeless children	-	+	-	-	-	•	•		-	-	
Education:											
Literacy	х	х	х	Х	-	-			-	-	1.2
School attendance	х	х	х	х	Х	Xs	Xs	Xs	Xs	Xs	Xs
Educational attainment	-	-	-	-	х	Xs	Xs	Xs	Xs	Xs	Xs

Population Items on The General Schedules: 1900 to 2000—Con.

Social Characteristics	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000
Public or private school	-	-	-	-			Xs	Xs	(+)	-	
Vocational training	-	-	-	-	•	-	-	Xs	67.	-	
Place of birth	х	х	х	Х	Х	х	Xs(4)	Xs	Xs	Xs	Xs
Place of birth of parents	х	х	х	Х	Xs	Xs	Xs	Xs	5.5	-	
Citizenship	Х	х	х	Х	Х	Х	4X	Xs	Xs	Xs	Xs
Year of naturalization	1100 - 1	EX. •	х	-	-	-			.59	-	-
Eligibility to vote	-	-	-	-	-	-		1.5	85	-	
If foreign born, year of immigration	Х	×	х	х	-	•	II -	Xs	Xs	Xs	Xs
Language	⁷ X	х	⁷ X	⁷ X	Xs	-	Xs	Xs	Xs	Xs	Xs
Language of parents		х	х	-	-		-		- 15		
Spanish origin or descent		-		-	-	-	•	Xs	Xs	Xs	Xs
Number of children living	x	х		•		-	-				
Number of children ever born to mother	х	х		-	Xs	Xs	Xs	Xs	Xs	Xs	Π.
For Grandparent households:											
Are grandchildren under 18 living within the household? Are grandparents Responsible for a		•		-			- ,	-		-	Xs
Grandchild's basic needs?	-	-	-	-		-		-		-	Xs
Length of responsibility for grandchild	-	-	-	-		•	•		- 1	-	Xs
'eteran status	-	х	-	×	Xs	Xs	Xs	Xs	Xs	Xs	Xs
ength of service	-	-	-	-		•		10	2.7	Xs	Xs
Whether wife or widow of veteran	-	-) in *	-	Xs	•	-	•	S_	-	
If child of veteran, is father dead?	-	-	-	-	Xs	-	·		2	-	
In service date	-	-	-	-	-	•	-	(5)	Xs	Xs	Xs
Farm residence	Х	х	х	Х	Х	Х	Xs(8,9)	υ	-	-	
Farm residence in a previous year	-	-	-	-	Х	Xs	-	7.4	ī-	-	
Place of residence in a previous year	-	-	-	-	X	Xs	Xs	Xs	Xs	Xs	Xs
Year moved to present residence	-	-	-	-		-	Xs	Xs	Xs9	Xs9	Xs9
Industry	-	×	х	х	×	Х	Xs	Xs	Xs	Xs	Xs
Occupation	Х	х	X	х	×	Х	Xs	Xs	Xs	Xs	Xs
Class of worker	-	х	х	х	Х	Х	Xs	Xs	Xs	Xs	Xs
Private or public nonemergency work, or public emergency work		-	-	-	х	-	-	12	1.4	32	
Employment status	-	-	-	X†	х	х	Xs	Xs	Xs	Xs	Xs
Duration of unemployment	х	X	-	t	х	Xs	•		Xs	Xs	Xs
Year last worked	-	-	-	-	-	-	Xs	Xs	Xs	Xs	Xs
Economic Characteristics											
Weeks worked in preceding year	-	-	-	†	Х	Xs	Xs	Xs	Xs	Xs	Xs
Hours worked in preceding week	-	-	•	t	х	X	Xs	Xs	Xs	Xs	Xs
Activity 5 years ago	-	-	-	-	-	-	5,7	Xs	373	-	

Population Items on The General Schedules: 1900 to 2000—Con.

Economic Characteristics	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000
Industry 5 years ago	-	-	-	-	-	-	-	-	-		Xs
Occupation 5 years ago	-	-	-	•			-	Xs	-	-	_
Class of worker 5 years ago	-	-	-	-	-		-	Xs	-	-	-
Value of real estate	-	-	-	•			-	-	Xs(9)	Xs(9)	Xs(9)
Value of personal property	-	-	-	-		-	-	-	-	-	
Income	-	-	-	•	Х	Xs	Xs	Xs	Xs	Xs	Xs
Social Security:										-	
Registered	-	-	-		Xs	-	-	-	-		-
Deductions from all or part of wages or salary	-	-		•	Xs		-	-		-	
Place of work	-	-	-	•			Xs	Xs	Xs	Xs	Xs
Means of transportation to work	-	-	-	-	•	-	Xs	Xs	Xs	Xs	Xs

See also supplemental questionnaires.
s Sample question.
(1) Free White persons only.
(2) Question only asked of free inhabitants.
(3) Question was whether insane or idiotic.

(4) In 1960, place of birth was asked on a sample basis generally, but on a 100-percent basis in New York and Puerto Rico. Citizenship was asked only in New York and Puerto Rico, where it was a 100-percent item.

(5) Question was only whether parents were foreign born.

(6) For males 21 years of age or over.

(7) Whether person could speak English. In 1900, this was the only question; in 1920 and 1930 this question was in addition to request for mother tongue.

(8) Asked only outside cities.

(9) On housing portion of questionnaire.





2000 QUESTIONNAIRE

Census 2000 used two questionnaires—a long-form (sample) and a short-form (100 percent) questionnaire. The short-form questionnaire consisted of 7 questions that could be answered by up to 6 persons within a household (see questions 1-6 and 33 on long-form questionnaire reproduced here). Space was provided to identify 6 additional members of the household. The U.S. Census Bureau would collect data on persons 7-12 by telephone interview.

The long-form questionnaire (pictured here), sent to a sample of households throughout the United States and territories, contained 29 inquiries in addition to the 8 questions asked on the short-form questionnaire. These additional quesitons, as in the past, collected information on the population, housing, economic, and social characteristics of the Nation's households.

Memoranda of Understanding(MOU) Updates: State Administrative Records Data

3-19-2018 Summary

The Census Bureau has contacted every state and several tribal governments seeking administrative records data for the Supplemental Nutritional Assistance Program (SNAP), Women, Infants, and Children (WIC), and Temporary Assistance to Needy Families (TANF), which are federal programs that are administered by the states, as well as other assistance program data the states may be willing to share. These data could potentially support the 2020 Census program, providing additional information to supplement federal administrative records information. A final determination is expected late in 2018 as to the quality and coverage of these data to support the 2020 Census program.

The Census Bureau has received the data for 34 programs administered by the states, and is waiting to receive the data for several more programs.

State Contacted — Type of Data * Declined participation	Responded/ Acknowledgement of Contact	Active Discussions	Agreement in Draft Review	Agreement Submitted for Signature	Signed Agreement	Data Transferred
Alabama – SNAP	1	×				
Alabama – TANF	1	×				
Alabama – WIC	1	1	1	1	11.8.16	1
Alaska – Perm Fund Div.	✓	1	1	1	1.11.16	1
Alaska – SNAP & TANF	✓	×				
Alaska – WIC	1	*				
Arizona – SNAP & TANF	1	1	1	1	2.9.17	1
Arizona – WIC	1	1	1	1	6.30.15	1
Arizona, Inter Tribal Council – TANF	1					
Arizona, Inter Tribal Council - WIC	1					
Arkansas – SNAP						
Arkansas – WIC	1	1	1			
California – LA HMIS	1	1	1	1	6.7.16	1
California - LA County SNAP and	1	1	1	1	-	
CalWORKS (accepted as LEADER)						
California – SNAP & TANF – CDSS/C-IV	/	1	1	1	4.12.17	×
California – SNAP & TANF – CDSS/CalACES	1	1	1			
California - SNAP & TANF - CalWIN	1					
Southern California Tribal Chairman's Association – TANF	1					
Colorado - SNAP (2009-2014)	1	1	1	1	8.16.13	1
Colorado - TANF/LEAP* (2009-2016)	1	1	*	1	3.18.14	(Leap only)
Colorado - WIC (10/2011-2016)	1	1	1	1	3.17.15	1
Connecticut - SNAP & TANF	1	1	1		31.44	
Connecticut – WIC EPI	C-18-03-22-Census-Bu	reau-FOIA-2018	30611-Production	on		000656

State Contacted — Type of Data * Declined participation	Responded/ Acknowledgement of Contact	Active Discussions	Agreement in Draft Review	Agreement Submitted for Signature	Signed Agreement	Data Transferred
Delaware – SNAP & TANF	V					
Delaware – WIC	✓					
District of Columbia – SNAP	1					
District of Columbia – WIC	1	1	1	1		
Florida – SNAP & TANF	/	1	1	1	3.23.16	
Florida – WIC	1	1	1			
Georgia – SNAP & TANF	V					
Hawaii - SNAP	1	1	1	1	8.5.15	1
Hawaii – TANF	/	1				
Hawaii – WIC	1	1				
Idaho – SNAP & TANF	1	1	1	1	12.2.16	1
Idaho – WIC	1	1	1	1	1.6.17	1
Illinois – SNAP (2007-2016)	1	1	1	1	12.23.14	1
Illinois — SNAP (2017-2023), and TANF (2004-2023), and WIC (2004-2023)	~	1	1	~		
Indiana - SNAP & TANF	1	1	1	1	6.30.16	1
Indiana – WIC	1					
Iowa – SNAP & TANF	1					
Iowa – WIC	1	1	1			
Kansas – SNAP & TANF	1	×				
Kansas – WIC	1	1				
Kentucky - SNAP & TANF	1	1	1	1	3.28.16	1
Louisiana – SNAP & TANF	1	1				
Louisiana – WIC	1					
Maine – SNAP & TANF	1	×				
Maine – WIC	1	×				
Maryland — SNAP & TANF (2004- 2016)	1	1	1	1	3.4.15	1
Massachusetts - SNAP & TANF	1	1	1			
Massachusetts – WIC	V	1	1	1	×	
Michigan - SNAP & TANF	1	1	1	1	11.28.16	1
Michigan – WIC	1	1	1	1	1.19.17	
Minnesota – SNAP & TANF	1	1	1	1		
Minnesota – WIC	1	1	1	1		
Mississippi – Choctow - WIC						
Mississippi – SNAP & TANF	V	1	1	1	12.1.16	1
Mississippi – WIC	1	1	1			
Missouri – SNAP & TANF	1	×				
Missouri – WIC	V	×				
Montana – SNAP & TANF	V	1	1	1		
Montana – WIC	1	1	1	1		



State Contacted — Type of Data * Declined participation	Responded/ Acknowledgement of Contact	Active Discussions	Agreement In Draft Review	Agreement Submitted for Signature	Signed Agreement	Data Transferred
Nebraska – SNAP & TANF	7	×				
Nevada – Energy (g&e)	1	1	1	1	10.13.16	
Nevada - SNAP (2004-2016)	1	1	1	1	12.15.14	
Nevada - TANF (2004-2016)	1	1	1	1	2.10.15	
Nevada - WIC (2004-2016)	/	1	1	1	11.25.14	1
New Hampshire - SNAP & TANF	✓	×				
New Hampshire – WIC	1	×				
New Jersey - SNAP & TANF	✓	1	1	1	10.1.15	1
New Jersey - WIC	1					
New Mexico - SNAP	1					
New Mexico - TANF	✓					
New Mexico - WIC	1					
New Mexico, Zuni Pueblo - WIC	1					
New York - NYC HMIS	1	1	1			
New York - SNAP & TANF (2007- 2012)	4	1	1	1	12.8.11	1
New York - SNAP & TANF (2013- 2020)	-	1	1	1	10.5.16	1
New York - WIC	1	1	1	1		
North Carolina - SNAP & TANF	✓	1	1			
North Carolina – WIC	✓					
North Dakota - SNAP & TANF	1	1	1	1	11.15.16	1
North Dakota – WIC	✓	1				
North Dakota/South Dakota, Standing Rock Sioux Tribe –	1	×				
Enrollment data North Dakota/South Dakota, Standing Rock Sioux Tribe – WIC	~	×				
Ohio -211	1	1	1	1	(2.23.16)	1
Ohio – SNAP & TANF	1	×			(11111111111111111111111111111111111111	
Ohio – WIC	1	×				
Oklahoma – SNAP & TANF	1	1	1	1		
Oklahoma – WIC	1					
Oklahoma, Chickasaw Nation - WIC	1					
Oklahoma, Citizen Potawatomi Nation - WIC	1	1				
Oklahoma, Muscogee (Creek) Nation – WIC						
Oregon - SNAP (2004-2014)	1	1	1	1	5.5.14	1
Oregon - SNAP & TANF (2015-2021)	1	1	1	1	10.17.16	
Oregon – WIC (JSP)	1	1	1	1	1.12.17	1
Pennsylvania – Driver's License	1	1	1			
Pennsylvania – SNAP & TANF	1					
Pennsylvania – WIC	1	1	✓	1	2.1.17	1
Puerto Rico - SNAP & TANF	1	1				



State Contacted — Type of Data × Declined participation	Responded/ Acknowledgement of Contact	Active Discussions	Agreement in Draft Review	Agreement Submitted for Signature	Signed Agreement	Data Transferred
Puerto Rico – WIC	-	1				
Rhode Island - SNAP & WIC	✓	1	1			
Rhode Island – TANF	✓	1	1			
South Carolina – SNAP & TANF	1	1				
South Carolina – WIC	1	1				
South Dakota – SNAP & TANF	✓	×				
South Dakota, Cheyenne River Sioux Tribe - WIC	1					
Tennessee – SNAP & TANF	1	1	1	1	3.2.16	1
Tennessee – WIC	1					
Texas – Houston HMIS	1	1	1	1	3.31.16	1
Texas SNAP & TANF	1					
Texas – WIC	1					
Utah – SNAP & TANF	1	1	1	1	4.17.17	1
Utah – WIC	1	1	1	1	11.22.16	1
Vermont – SNAP & TANF	1					
Vermont – WIC	1					
Virginia - SNAP (2009-2016)	1	1	1	1	2.23.15	1
Virginia – TANF	1	×			71976	
Virginia – WIC	1					
Washington – Confederated Tribes of the Colville Reservation – Enrollment Data	1	1	1			
Washington - SNAP & TANF	1	1	1			
Washington – WIC	1	1	1	1	10.24.16	1
West Virginia – SNAP & TANF	V	1				
West Virginia – WIC	1	1				
Wisconsin - SNAP	✓	×				
Wisconsin – TANF	1	×				
Wisconsin – WIC	1	1	1	1	6.5.17	/
Wisconsin – TANF/Child Care	1	1	1	1	5.19.14	1
Subsidy (2008-2009)						
Wyoming - SNAP	1	1	1	1		
Wyoming - TANF	✓	×				
Wyoming – WIC	1	1				



Memoranda of Understanding(MOU) Updates: Citizenship Data

3-19-2018 Summary

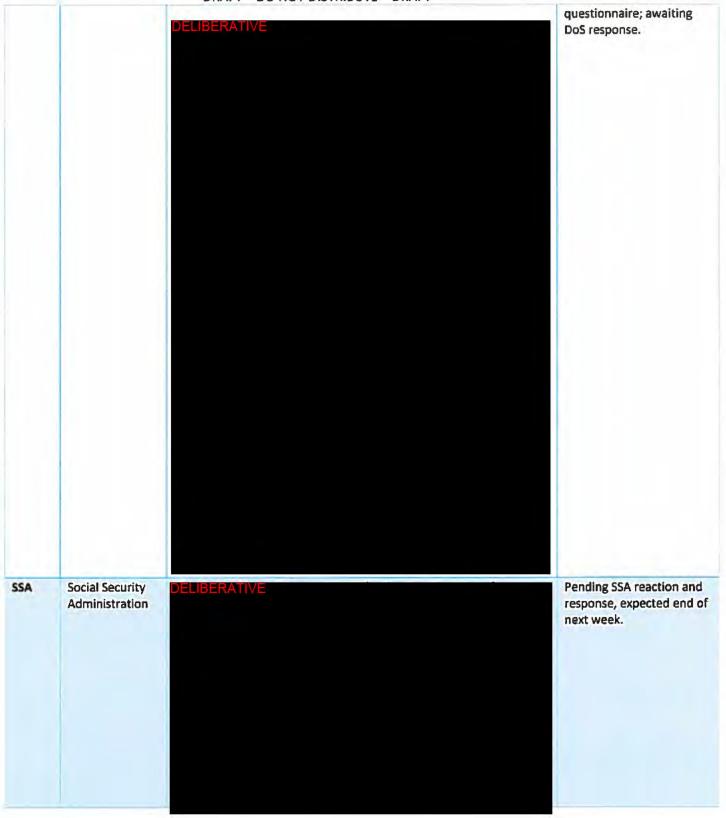
Endoral Acomes

The Census Bureau needs to acquire citizenship data from the U.S. Citizenship and Immigration Services (USCIS) and the State Department to augment the information on the "Numident" file from the Social Security Administration (SSA). These data can potentially be used to supplement information provided by respondents on the 2020 Census or, alternatively, to produce block level data on citizenship.

The Census Bureau is currently in discussion with USCIS to obtain data on naturalizations and the State Department to obtain data on visas and passports. USCIS is currently reviewing a draft agreement and has sent over national summary level data for the years 2014-2017 indicating the number of applications (naturalizations) with Social Security Numbers (SSN). The Census Bureau sent a formal request describing its need for the passport and visa data, with the expectation that further discussions will occur once the State Department has reviewed the request.

The Census Bureau's current agreement with SSA will expire this year, so as part of the renegotiation process the Census Bureau reached out to its partners at SSA to describe the potential use of the Numident, as a primary source of estimates on citizenship for the 2020 Census. SSA is currently reviewing this information.

I Agency	Status
U.S. Citizenship and Immigration Services	Pending USCIS review of MOU; USCIS provided summary data for number of applications.
U.S. State Department	Sent request letter to Deputy Assistant Secretar for Consular Affairs, explaining need for
	Deputy Assistant S



13 USC 213: False statements, certificates, and information

Text contains those laws in effect on April 1, 2018

From Title 13-CENSUS

CHAPTER 7-OFFENSES AND PENALTIES SUBCHAPTER I-OFFICERS AND EMPLOYEES

Jump To:

Source Credit

§213. False statements, certificates, and information

- (a) Whoever, being an officer or employee referred to in subchapter II of chapter 1 of this title, willfully and knowingly swears or affirms falsely as to the truth of any statement required to be made or subscribed by him under oath by or under authority of this title, shall be guilty of perjury, and shall be fined not more than \$2,000 or imprisoned not more than five years, or both.
 - (b) Whoever, being an officer or employee referred to in subchapter II of chapter 1 of this title-
 - (1) willfully and knowingly makes a false certificate or fictitious return; or
 - (2) knowingly or willfully furnishes or causes to be furnished, or, having been such an officer or employee, knowingly or willfully furnished or caused to be furnished, directly or indirectly, to the Secretary or to any other officer or employee of the Department of Commerce or bureau or agency thereof, any false statement or false information with reference to any inquiry for which he was authorized and required to collect information provided for in this title-

shall be fined not more than \$2,000 or imprisoned not more than five years, or both.

(Aug. 31, 1954, ch. 1158, 68 Stat. 1022.)

HISTORICAL AND REVISION NOTES

Based on title 13, U.S.C., 1952 ed., §§122, 208, 252, and section 1442 of title 42, U.S.C., 1952 ed., The Public Health and Welfare (June 18, 1929, ch. 28, §8, 46 Stat. 23; June 19, 1948, ch. 502, §2, 62 Stat. 479; July 15, 1949, ch. 338, title VI, §607, 63 Stat. 441; Sept. 7, 1950, ch. 910, §2, 64 Stat. 784).

Section consolidates part of section 208 of title 13, U.S.C., 1952 ed., with that part of section 122 of such title which made such section 208 applicable to the quinquennial censuses of manufacturers, the mineral industries, and other businesses (see subchapter I of chapter 5 of this revised title), that part of section 252 of such title which made such section 208 applicable to the quinquennial censuses of governments (see subchapter III of chapter 5 of this revised title), and that part of subsection (b) of section 1442 of title 42, U.S.C., 1952 ed., which made such section 208 applicable to the decennial censuses of housing (see subchapter II of chapter 5 of this revised title). For remainder of sections 122, 208, and 252 of title 13, U.S.C., 1952 ed., and of section 1442 of title 42, U.S.C., 1952 ed. (which section has been transferred in its entirety to this revised title), see Distribution Table.

As set out in this revised section, the provisions relate to all investigations, surveys, collections of statistics, and censuses provided for in this title, and to officers as well as employees, which was probably the original legislative intent.

References to the offenses described in subsection (b) of this revised section as being felonies, were omitted as covered by section 1 of title 18, U.S.C., 1952 ed., Crimes and Criminal Procedure, classifying offenses; and words "upon conviction thereof" and "upon conviction of" were omitted as surplusage.

Changes were made in phraseology and arrangement.



U.S. Department of Justice

Justice Management Division

Office of General Counsel

Washington, D.C. 20530

DEC 1 2 2017

<u>VIA CERTIFIED RETURN RECEIPT</u> 7014 2120 0000 8064 4964

Dr. Ron Jarmin
Performing the Non-Exclusive Functions and Duties of the Director
U.S. Census Bureau
United States Department of Commerce
Washington, D.C. 20233-0001

Re: Request To Reinstate Citizenship Question On 2020 Census Questionnaire

Dear Dr. Jarmin:

The Department of Justice is committed to robust and evenhanded enforcement of the Nation's civil rights laws and to free and fair elections for all Americans. In furtherance of that commitment, I write on behalf of the Department to formally request that the Census Bureau reinstate on the 2020 Census questionnaire a question regarding citizenship, formerly included in the so-called "long form" census. This data is critical to the Department's enforcement of Section 2 of the Voting Rights Act and its important protections against racial discrimination in voting. To fully enforce those requirements, the Department needs a reliable calculation of the citizen voting-age population in localities where voting rights violations are alleged or suspected. As demonstrated below, the decennial census questionnaire is the most appropriate vehicle for collecting that data, and reinstating a question on citizenship will best enable the Department to protect all American citizens' voting rights under Section 2.

The Supreme Court has held that Section 2 of the Voting Rights Act prohibits "vote dilution" by state and local jurisdictions engaged in redistricting, which can occur when a racial group is improperly deprived of a single-member district in which it could form a majority. See Thornburg v. Gingles, 478 U.S. 30, 50 (1986). Multiple federal courts of appeals have held that, where citizenship rates are at issue in a vote-dilution case, citizen voting-age population is the proper metric for determining whether a racial group could constitute a majority in a single-member district. See, e.g., Reyes v. City of Farmers Branch, 586 F.3d 1019, 1023-24 (5th Cir. 2009); Barnett v. City of Chicago, 141 F.3d 699, 704 (7th Cir. 1998); Negrn v. City of Miami Beach, 113 F.3d 1563, 1567-69 (11th Cir. 1997); Romero v. City of Pomona, 883 F.2d 1418, 1426 (9th Cir. 1989), overruled in part on other grounds by Townsend v. Holman Consulting Corp., 914 F.2d 1136, 1141 (9th Cir. 1990); see also LULAC v. Perry, 548 U.S. 399, 423-442 (2006) (analyzing vote-dilution claim by reference to citizen voting-age population).

The purpose of Section 2's vote-dilution prohibition "is to facilitate participation ... in our political process" by preventing unlawful dilution of the vote on the basis of race. Campos v. City of Houston, 113 F.3d 544, 548 (5th Cir. 1997). Importantly, "[t]he plain language of section 2 of the Voting Rights Act makes clear that its protections apply to United States citizens." Id. Indeed, courts have reasoned that "[t]he right to vote is one of the badges of citizenship" and that "[t]he dignity and very concept of citizenship are diluted if noncitizens are allowed to vote." Barnett, 141 F.3d at 704. Thus, it would be the wrong result for a legislature or a court to draw a single-member district in which a numerical racial minority group in a jurisdiction was a majority of the total voting-age population in that district but "continued to be defeated at the polls" because it was not a majority of the citizen voting-age population. Campos, 113 F.3d at 548.

These cases make clear that, in order to assess and enforce compliance with Section 2's protection against discrimination in voting, the Department needs to be able to obtain citizen voting-age population data for census blocks, block groups, counties, towns, and other locations where potential Section 2 violations are alleged or suspected. From 1970 to 2000, the Census Bureau included a citizenship question on the so-called "long form" questionnaire that it sent to approximately one in every six households during each decennial census. See, e.g., U.S. Census Bureau, Summary File 3: 2000 Census of Population & Housing—Appendix B at B-7 (July 2007), available at https://www.census.gov/prod/cen2000/doc/sf3.pdf (last visited Nov. 22, 2017); U.S. Census Bureau, Index of Questions, available at https://www.census.gov/history/www/through_the_decades/index_of_questions/ (last visited Nov. 22, 2017). For years, the Department used the data collected in response to that question in assessing compliance with Section 2 and in litigation to enforce Section 2's protections against racial discrimination in voting.

In the 2010 Census, however, no census questionnaire included a question regarding citizenship. Rather, following the 2000 Census, the Census Bureau discontinued the "long form" questionnaire and replaced it with the American Community Survey (ACS). The ACS is a sampling survey that is sent to only around one in every thirty-eight households each year and asks a variety of questions regarding demographic information, including citizenship. See U.S. Census Bureau, American Community Survey Information Guide at 6, available at https://www.census.gov/content/dam/Census/programs-surveys/acs/about/ACS Information Guide.pdf (last visited Nov. 22, 2017). The ACS is currently the Census Bureau's only survey that collects information regarding citizenship and estimates citizen voting-age population.

The 2010 redistricting cycle was the first cycle in which the ACS estimates provided the Census Bureau's only citizen voting-age population data. The Department and state and local jurisdictions therefore have used those ACS estimates for this redistricting cycle. The ACS, however, does not yield the ideal data for such purposes for several reasons:

Jurisdictions conducting redistricting, and the Department in enforcing Section 2, already use the total population data from the census to determine compliance with the Constitution's one-person, one-vote requirement, see Evenwel v. Abbott, 136 S. Ct. 1120 (Apr. 4, 2016). As a result, using the ACS citizenship estimates means relying on two different data sets, the scope and level of detail of which vary quite significantly.

- Because the ACS estimates are rolling and aggregated into one-year, three-year, and five-year estimates, they do not align in time with the decennial census data. Citizenship data from the decennial census, by contrast, would align in time with the total and voting-age population data from the census that jurisdictions already use in redistricting.
- The ACS estimates are reported at a ninety percent confidence level, and the margin of error increases as the sample size—and, thus, the geographic area—decreases. See U.S. Census Bureau, Glossary: Confidence interval (American Community Survey), available at https://www.census.gov/glossary/#term_ConfidenceintervalAmericanCommunity Survey (last visited November 22, 2017). By contrast, decennial census data is a full count of the population.
- Census data is reported to the census block level, while the smallest unit reported in the ACS estimates is the census block group. See American Community Survey Data 3, 5, 10. Accordingly, redistricting jurisdictions and the Department are required to perform further estimates and to interject further uncertainty in order to approximate citizen voting-age population at the level of a census block, which is the fundamental building block of a redistricting plan. Having all of the relevant population and citizenship data available in one data set at the census block level would greatly assist the redistricting process.

For all of these reasons, the Department believes that decennial census questionnaire data regarding citizenship, if available, would be more appropriate for use in redistricting and in Section 2 litigation than the ACS citizenship estimates.

Accordingly, the Department formally requests that the Census Bureau reinstate into the 2020 Census a question regarding citizenship. We also request that the Census Bureau release this new data regarding citizenship at the same time as it releases the other redistricting data, by April 1 following the 2020 Census. At the same time, the Department requests that the Bureau also maintain the citizenship question on the ACS, since such question is necessary, *inter alia*, to yield information for the periodic determinations made by the Bureau under Section 203 of the Voting Rights Act, 52 U.S.C. § 10503.

Please let me know if you have any questions about this letter or wish to discuss this request. I can be reached at (202) 514-3452, or at Arthur.Gary@usdoj.gov.

Sincerely yours,

Arthur E. Gary General Counsel

Hothun E.X

Justice Management Division