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Toward A Fair, Accurate California Census Count in 2020: A Community-based Address Canvassing Initiative in 2017-2018

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High Stakes for Minority and Immigrant Communities in Census 2020

It has been widely-known for more than half a century that there is a serious and systematic census undercount of minorities. Less attention has been given to the undercount of immigrants, but there is also solid quantitative and ethnographic research indicating that the undercount of immigrants is even more serious than that of U.S.-born minorities.¹ Despite some improvements in 2000 and 2010, the current prospects for further improvement in Census 2020 are dim, due to cuts to the Census Bureau's budget.² Nonetheless, there are proactive approaches that pro-immigrant states such as California, progressive local communities, and community-based organizations can take which can have a dramatic positive impact on California's census count even as the threats to overall Census 2020 fairness and accuracy increase.

This issue is not trivial. Differential undercount is a major factor in political and economic inequity. Research on the issue of differential undercount of minorities indicates, for example, that the overall undercount of Mexican immigrant families and children is about 8%.³ In low-income neighborhoods and communities with high concentrations of immigrants, the undercount of children in low-income immigrant households is likely still higher—at least in the 8-10% range, at a point when affluent, mostly White, households are over-counted (by 0.83%).⁴

Undercount of Blacks and Hispanics is officially acknowledged by the Census Bureau but the Bureau's coverage measurement methodology and reporting format probably fails to capture the full extent of undercount.⁵ Low-income Asian immigrants also are very likely to be undercounted although the Census Bureau's coverage measurement methodology does not provide a basis for an estimate.⁶ Low-income multi-ethnic communities' political voice and equitable access to program funding is at risk throughout California (and the rest of the nation).

In addition to **political representation** — from congressional apportionment, to state legislatures, to city councils and school boards — hundreds of Federal programs rely on Decennial Census-derived data to **allocate funding**. These datasets include the American Community Survey (ACS), where differential coverage is an even greater problem than in the decennial census. Moreover, these same data are used in state and local decisions allocating available federal and state funding **within** each state.



Although it is difficult to determine the exact financial benefit to California or to any individual community from improving the statewide 2020 Census count, in FY 2015 there was more than \$76 billion in federal funding to California allocated, at least in part, on census data or other datasets whose accuracy depends on census data.⁷ Just as importantly, accurate census-derived data on the demographic and socioeconomic profile of California is needed for effective planning and policy analysis, as well as for litigation in a broad range of controversies about equitable allocation of both federal and state funding for programs serving vulnerable populations.

The return on investment from improved census enumeration is not definitively known--but is very high.⁸ There is uncertainty about the exact fiscal impacts of census improvement in California because the state's share of federal funding depends on the success of its proactive efforts to improve census accuracy relative to other states', because funding formulae may be changed by Congress, and because of the way that different "mixes" in the demographic and socioeconomic profile of persons who are subsequently surveyed in the American Community Survey (ACS) affect the level of federal funding for different programs where allocation is derived at least in part from a population's demographic and socioeconomic characteristics.

Despite these uncertainties, it is clear the stakes are particularly high for California because the state has more minority residents (62% of its' population) than any other state except Hawaii and more immigrants than any other state in the U.S. (since foreign-born individuals make up 27% of the state population, twice the national average, and because it is a majority-minority state.⁹ California is also the largest state in the nation (with more than 12% of the U.S. population), making an accurate census count very important because of its population size - 39.5 million persons.

The relationship between census undercount and allocation of federal funding is non-linear and complex to compute. **Nonetheless, initiatives designed specifically to improve census enumeration of historically-undercounted minority and immigrant households are likely to generate more than the average per capita increase in federal revenue based on the decennial census and the American Community Survey because this strategy would result in a more accurate demographic and socioeconomic profile of California's population, not just greater numbers.**¹⁰

A statewide investment of about \$2 million in community-based address canvassing as a first step in order to improve enumeration of historically-undercounted low-income minority and immigrant families can be expected to generate a return of at least \$100 million per year in improved federal support for key education, health, and social programs serving low-income families in California— at least \$1 billion over the 2021-2030 decade.¹¹



The stakes in terms of equitable allocation of funding within California are also high. Urban regions such as the Los Angeles basin and the San Francisco Bay area, as well as in the Central Valley where many communities have even higher concentrations of immigrants and minorities than other areas of the state (e.g. 39% in Los Angeles and San Jose, 36% in San Francisco) can secure increased support for crucial programs providing low-income families access to health care, early childhood education, affordable housing, nutrition and quality education.

A major cause of undercount: low-income and immigrant families living in low-visibility “unusual” housing are not on the Census Bureau’s Address List (MAF)

The Census Bureau’s address list (referred to as the **Master Address File**, MAF) is constructed primarily from U.S. Postal Service records and supplemented with commercial address lists, and, in 2020, “in office”, and limited “in field” address canvassing. Several decades of research indicate that a significant percentage --up to 50%--of the entire differential undercount in the decennial census is due to the fact that many of the low-income, minority and immigrant families live in “unconventional” housing omitted from the MAF, such as trailers, basements, garages, sheds, apartments without a mailbox, or concealed living space above commercial establishments (Fein and West 1988; Fein 1989; GAO 2003; Kissam and Jacobs 2006; Kissam 2010; Kissam 2017). Immigrants, especially those who are most recently-arrived, are even more likely than other minorities to live in “unusual” or hidden housing units (Fein 1989).

Contrary to popular belief, the Census Bureau does not conduct door to door survey operations everywhere. Door-to-door visits by census enumerators only reach those households who received a mailed form and failed to return it.¹² When unconventional low-visibility dwellings are not in the Census Master Address File, the Census Bureau does not know they exist, the household living there does not receive any direct Census communications and does not even get the opportunity to be counted.¹³ Households must be included in the Master Address File to receive their invitation to participate in the Census, to get a password to respond online, to get follow-up letters, and to get in-person follow-ups by Census staff. If their “address” is not in MAF, and they do respond, their response may be deleted (as a duplicate or incorrect).

Consequently, many low-income immigrant households are at risk of being left out, even if they want to be counted. Even though the Census Bureau will be encouraging census response in 2020 on line or by phone, the situation is similar to what happens when people return a census form by mail - responses from people living at places not in the address file may be treated as “invalid” (i.e. erroneously believed to be a duplicate and deleted) in the course of data processing.¹⁴

Moreover, standard Census Bureau efforts to evaluate coverage (Census Coverage Measurement using a methodology referred to as dual-system estimation) have only a limited ability to measure this undercount so the “official” estimate of differential undercount is almost certainly much lower than the actual undercount. Even if differential undercount is worse in 2020 than ever before,



standard Census Bureau analyses may well fail to measure the extent of the problem (since the current budget contemplates major cutbacks in evaluation of census coverage).¹⁵

Community-based Address Canvassing Can Effectively and Efficiently Identify Hidden Housing Units to Add to the Census Bureau’s Master Address File

The best (and, possibly, only) opportunity to substantially improve the Census Bureau’s address list is to mobilize community grassroots groups to identify and add low visibility housing units to the address lists in 2017-2018 in conjunction with a Congressionally-mandated process known as LUCA (Local Update of Census Addresses). In this program, local governments partner with the Census to update and correct the address list (Master Address File) in their community. Expanding this partnership to include community-based organizations is practical and affordable.

The problem of low-income minority and immigrant households living in places the Census Bureau doesn’t know exist and, thereby, becoming “invisible” in census data, can best be addressed by engaging local community-based organizations, particularly grassroots community organizations to identify these low-visibility, “unusual”, sometimes-concealed housing accommodations. These organizations have the rapport with undercounted groups (e.g. Mexican immigrants, Asian immigrants, African American individuals or other immigrants), as well as the cultural capital, the language, communication skills, and trust needed to successfully identify actively-concealed low-visibility and irregular housing. Proactive outreach during early address canvassing in the spring of 2018 can also serve as the first phase of ongoing efforts up through 2020 to build confidence among “hard-to-count” populations that participating in the census is safe and essential for their children’s and their own well-being.

We know that community-based address canvassing works. In the 2000 Census, the California Rural Legal Assistance (CRLA) Migrant Program conducted door to door address canvassing in areas populated by migrant and seasonal farm workers in Fresno, Tulare, and Kern Counties primarily, and submitted these addresses to the Census Bureau. The US General Accounting Office subsequently lauded these canvassing activities and noted that of the newly-added 4,000 low-visibility housing units 3,076 were valid “adds”—about a 73% success rate (GAO 2003).

In contrast, only 21% of local government corrections to the Census Bureau address list submitted as part of the process of Local Update of Census Addresses (**LUCA**) in 2007 were valid additions to the MAF; most local corrections related to geo-coding (Swartz et al. Census Bureau 2012). This is probably because standard LUCA relies primarily on review of administrative records which are also very limited in identifying “unusual”, especially actively concealed, housing units. This suggests that community-based address canvassing can actually be more effective for LUCA-based address list improvement than “in office” review—the traditional approach based on review of administrative datasets used by local government in the past.



The community-based address canvassing approach used in 2000 worked because the CRLA community workers were local people familiar with the types of low-visibility housing in their communities; they were trusted and known by most families in the local-income, predominantly immigrant, neighborhoods they canvassed. At this point in time, this not the case for the Census Bureau address canvassers who, unfortunately but, inevitably, will be seen as “the government”.

However, California is uniquely positioned in 2017-2018 to take a proactive stance to improve census response--because state leaders in California and many local communities have earned the trust of immigrants apprehensive about “the government” who are worried that they, a family member, co-worker, friend, or neighbor who lacks legal immigration status may be detained and deported. California’s commitment to asserting immigrants’ rights as community members is a valuable resource to draw on in promoting the safety and importance of census response.

Community-based address canvassing can build on state and local community leaders’ track record of supporting immigrants to build widespread awareness of the importance of census participation for community well-being, and the safety of responding, given the Census Bureau’s fierce commitment to the Title 13 provisions to guarantee respondents’ confidentiality.

Outreach and address canvassing by trusted local community organizations is effective because their community workers have the local knowledge, cultural competency, communication, and language skills to assure concerned families that census participation is safe, even in these difficult times when distrust of the federal government is both intense and widely prevalent. Despite widespread concerns about federal government mis-use of census related information, collaboration in address canvassing does not pose a significant risk, because no personal data or characteristics are collected – only the overall description of housing units.

Once low-visibility housing units are recognized, then the individuals residing in them have the choice to respond or not. Without that opportunity, they become statistically invisible.

Action Now: Fall, 2017-Spring, 2018 for Success In 2020

California has allocated \$7 million in state grants to encourage local government participation in LUCA in 2017-2018. California’s past efforts to encourage LUCA participation in 2010 were impressive, yielding a higher rate of LUCA participation and more effective participation than any other state (with about two-thirds of the local governments eligible to participate in LUCA submitting information in 2010); and the community-based address canvassing approach is currently considered a very promising enhancement to LUCA (Urban Institute, May, 2017).

Although California state LUCA grant funding (currently) does not include a way for state funding to flow directly to community-based organizations to improve the local address list, local or county



governments can, themselves, use their own or state grant funds to contract with community based organizations to carry out address canvassing to improve the MAF.

There are good reasons for local or county governments to make use of community-based canvassing. The limitation to the “business as usual” approach to LUCA is that most local government corrections to the Census Bureau’s address list relate to geo-coding; only about one-fifth of the corrections submitted are valid new “adds” to the Census Bureau’s address list. It is likely that greater reliance on community-based address canvassing will enhance as well as extend local government efforts—since the most marginal households, especially immigrants, are under-represented in the administrative datasets most commonly used by local government to propose “adds” to the Census Bureau’s Master Address File.

Local government partnerships with community-based organizations will be very important in overcoming census undercount. We are now seeking to persuade local government entities to use a portion of their state LUCA grants to partner with and provide financial support to local community-based organizations to conduct community-based address canvassing. This is a “win-win” proposition. Philanthropic and local business investment will be needed to supplement the limited state funding for LUCA and can be helpful in leveraging and supplementing local government investment in these crucial community-based addressing activities. Even where only limited philanthropic funding can be made available, funders’ networks and engagement in a broad range of social and community programs can provide a platform for communicating to local government the benefits of including a community-based canvassing component in their LUCA efforts.

A particular challenge will be to build awareness that the “window of opportunity” available for integrating community-based address canvassing into the LUCA process is inflexible. Local communities’ opportunity to submit information to the Census Bureau to improve its address list will end in most communities by the end of May, 2018.

1st Step Toward Implementing Community-based Address Listing: pre-LUCA pilots

The strategy we propose for the California Community-based Address Listing Initiative is to start with early piloting (in September-November 2017) of community-based address canvassing strategies in at least two counties, one of them urban, one, rural. This will provide a solid foundation for subsequent statewide roll-out (January-May 2018). The pilots will provide valuable operational insights about:

- Ways to assure information provided to local government by community-based canvassers is kept confidential, and that it is complete and accurate (all low-visibility housing units in an area are identified and those proposed to be added are not already in the MAF)



- How to most effectively recruit, train, mobilize, deploy, and supervise, teams of locally-knowledgeable address canvassers in the neighborhoods which most need attention
- How to build trust about the process among vulnerable individuals and families – e.g. in immigrant neighborhoods where, in the current sociopolitical environment, providing information “to the government” is, understandably, a source of apprehension.¹⁶

Philanthropy needs to take leadership in promoting immediate local involvement in LUCA. A very good way to get this initiative underway will be for philanthropic funders to explore with their current grantees ways in which they can incorporate local address canvassing into their ongoing day-to-day outreach activities and interactions with low-income minority and immigrant community members in the course of service delivery and/or community organizing.

The ideal way to integrate community-based address canvassing into grassroots community-based organizations’ current activities will vary from community to community and projects organizations are involved in. The best strategy for community health center outreach workers, youth programs, and voter registration programs to identify low-visibility housing as part of their ongoing interactions with the families they serve will vary, but can readily be “customized” to develop the most effective approach for each program and for each community or neighborhood.

Community-based Address Canvassing is Practical and Manageable. By focusing on the 15% of the census tracts likely to have the highest prevalence of low-visibility, hidden, “unusual” housing, and following tested protocols in recording information about new ‘units’, the costs and effort in doing the canvassing can be limited. In California, for example, this level of targeting would mean that a statewide initiative could focus on only 1,200 out of all 8,000 or so census tracts in the state.

The use of the Census Bureau’s Planning Database (PDB) for targeting hard-to-count populations in the 2000 and 2010 censuses is documented; the proposed new “targeting tool” would augment/modify the HTC scores currently used for operational planning so as to focus on the targeting of neighborhoods with low-visibility housing.¹⁷ This would provide an empirical data-driven way to systematically sort tracts (or block groups) on a “difficulty” continuum and point to neighborhoods where housing coverage would be expected to be most problematic. This would provide valuable “intelligence” to the local government-community partnerships working on MAF improvement as well as overall insights to the Census Bureau and California state program of support to LUCA.¹⁸ The pre-LUCA pilots should test a way to make the ‘intelligence’ intelligible (i.e. useful). Targeting based on sophisticated predictive models and local knowledge can be powerful.

Cost-effective community-based address canvassing is feasible. Using the targeted community-based address canvassing approach, a high-impact statewide initiative can be put in place for about \$2 million-- with approximately 70% of the costs consisting of direct support for grassroots



community organizations to cover their costs in recruiting community outreach workers and canvassers, coordinating, supervising the address canvassing, and managing the information collected.

Other costs for such an initiative include the targeting for priority census tracts with the highest prevalence of low-visibility housing, developing user-friendly software to use in coordinating address canvassing and for address canvassers to use in submitting information to locate the hidden units they identify so that they can be effectively validated by the Census Bureau. This sort of initiative would also provide a valuable empirical foundation for input to the Census Bureau in its subsequent targeted address canvassing efforts in 2018-2019.

Mobilization of community partner organizations for MAF improvement requires an initial phase to identify promising local grassroots organizations who have the core capacity to conduct the address canvassing, recruiting them as partners, and training the teams they will deploy to effectively identify low-visibility housing units which are not already in the Master Address File. The LUCA window of opportunity means that California develop within the local networks of grassroots community organizations, the organizational capacity to assure that full-fledged implementation of a campaign to improve the Census Bureau's Master Address File is in place no later than January, 2018.

Examples of organizations working in neighborhoods with the highest proportions of low-visibility housing to include in local address canvassing initiatives will include:

- Grassroots organizations experienced in door-to-door canvassing (e.g. those involved in voter registration drives, get out the vote efforts, or other modes of community organizing)
- Community organizations trusted by hard-to-count households as result of positive interactions in providing them with crucial support-- e.g. immigrant legal service providers, community health centers engaged in health promotion campaigns, social justice advocacy groups, youth leadership projects, churches, early childhood education programs, food banks, low-income housing groups.
- City service providers, such as firefighters or EMTs who are knowledgeable about local housing based on their day-to-day interactions in responding to crises. They can contribute insights to guide targeting and effective ways to identify hidden housing units which are left out of the MAF and build community trust.



Relationships with these organizations will need to be built for effective collaborations between community partners and local government. Approaches for engaging them and efficiently deploying and coordinating their efforts will need to be piloted in pre-LUCA.

The Role of the WKF Fund

The WKF Fund is not an operational organization and we do not propose to manage this sort of statewide initiative—we are only advocating it. Instead, we have been collaborating closely with Perla Ni and Jacob Model of **Great NonProfits** in efforts to map out ways to move forward rapidly, steadily, and surely. Practically speaking, time is of the essence. We see **Great Nonprofits** as being in an excellent position to catalyze and manage statewide efforts in community-based address canvassing—because of its extensive experience in capacity-building with non-profits and the depth of its skills in data management and analysis.

The strategy of recruiting community-based organizations to collaborate with the Census Bureau, local, and state government in advancing the common cause of securing the most accurate possible Census 2020—in the face of serious budget and sociopolitical challenges—is promising also as a model of broad-based civic collaboration, drawing on social and cultural capital to complement scarce financial resources. Building networks of community organizations committed to working proactively toward an accurate decennial census in 2017-2018 will also increase the resources available in 2019-2020 for census collaboration— for providing local input on high-priority areas for the Census Bureau’s targeted address canvassing, in promoting census response among “hard to count” populations and, potentially, in other aspects of census operations such as update-enumerate (UE) and non-response followup (NRFU) which will be crucial in ameliorating differential undercount.

We are optimistic that a strategy integrating community-based address canvassing into LUCA which is pioneered in California can feasibly be implemented in other key states and local communities with significant populations of hard-to-count families, especially immigrants.

We are working with California’s Institute of Local Government and the national Welcoming America network to promote local and state government willingness to adopt this innovative approach to enhance their review of the Census Bureau’s address list as an integral part of the LUCA process.

Our goal is to rapidly rollout similar efforts throughout the Los Angeles Census Region: California, Oregon, Washington, Idaho, Nevada, Hawaii, and Alaska, and nationally where there is interest in communities (e.g. New York City) which are interested in taking immediate steps forward.



End Notes

¹ *The relationship between social marginality and census undercount has been demonstrated in many analyses using different methodologies, including dual-system estimation (DSE), demographic analysis (DA), and ethnography. Two analyses deserve special note. The first is a short paper by David J. Fein and Kirsten West, “The Sources of Census Undercount: Findings from the 1986 Los Angeles Test Census”, Survey Methodology, December, 1988. The second more detailed discussion which includes information on undercount among recent and more long-term immigrants can be found in David Fein, “The social sources of census omission: Racial and ethnic differences in omission rates in recent censuses”, Ph.D., dissertation, Princeton University, 1989. Findings from the Census Bureau’s ethnographic/alternative enumeration studies conducted as part of the 1990 decennial census are summarized in Manuel de La Puente, “Using Ethnography to Explain Why People Are Missed or Erroneously Included by the Census: Evidence from Small Area Ethnographic Studies”, Center for Survey Methods Research, U.S. Census Bureau, 1993. De La Puente’s summary includes a bibliography listing all 29 studies. More recent analyses of undercount in Census 2000 and Census 2010 show that differential undercount persists—especially among some sub-populations. See, for example, William P. O’Hare et al, O’Hare, WP et. al. “The Invisible Ones: How Latino Children are Left Out of our Nation’s Census”. Child Trends: Hispanic Institute, 2016. <ftp://ftp.census.gov/cac/nac/meetings/2016-11/2016-04-latino-children.pdf>*

² *See New York Times Editorial Board, “Save the Census”, July 17, 2017 for an overview of the political and administrative issues. Further detail is available in the Census Bureau’s July 11, 2017 Program Management Review which includes a presentation by Lisa Blumberman, Associate Director of the Census Bureau about budget shortfalls in recent years and associated risks. See <https://www2.census.gov/programs-surveys/decennial/2020/program-management/pmr-materials/07-11-2017/pmr-welcome-high-level-updates-07-11-2017.pdf>*

³ *Edward Kissam, “Differential undercount of Mexican immigrant families in the U.S. Census”, forthcoming, Statistical Journal of the IAOS, August, 2017. My review of the relevant research literature shows that undercount stems from many factors but that local community housing conditions play a major role and that undercount in this population varies greatly even among low-income minority communities. Also, as William O’Hare has shown, undercount, is particularly high for some subpopulations such as Black and Hispanic children aged 0-4. See William P. O’Hare, **The Undercount of Young Children in the U.S. Decennial Census**, Springer Briefs in Population Studies, 2015.*

⁴ *This estimate of the overcount of Whites is from Thomas Mule, “Census Coverage Measurement Estimation Report: Summary of Estimates of Coverage for Persons in the United States”, Census Bureau, May 22, 2012*

⁵ *In my forthcoming paper on undercount of Mexican immigrants I explain how standard Census Bureau reporting of net undercount are problematic because there may be systematic problems in estimating duplicate enumerations of Mexican household as well as from imputation procedures that skew the demographic and socioeconomic profile in immigrant neighborhoods where low-visibility housing is more prevalent (because imputations about the profile of low-visibility households of more recently-arrived young families with children or solo male migrants are based on high-visibility households of older, long-time settlers whose children have left home).*

⁶ *This problem stems from the overly-broad OMB/Census Bureau definition of race which includes within the Asian racial category, a broad range of ethnicities and immigrants of diverse national origins. While undercount is probably high among some populations of Asian immigrants it is not so high among others. Pamela Bunte and Rebecca Joseph, “The Cambodian Community of Long Beach: An Ethnographic Analysis of Factors Leading To Census Undercount”, Census Bureau, 1992 identify many factors contributing to undercount (and mis-identification) of Cambodians.*



⁷ Andrew Reamer, **California Fact Sheet** “Counting For Dollars: The Role of the Decennial Census in the Geographic Distribution of Federal Funds”, The George Washington University Institute of Public Policy, June 1, 2017 <https://gwipp.gwu.edu/counting-dollars-role-decennial-census-geographic-distribution-federal-funds> (June 1, 2017)

⁸ Andrew Reamer, **Initial Analysis: 16 Largest Census-guided Programs** “Counting For Dollars: The Role of the Decennial Census in the Geographic Distribution of Federal Funds”, The George Washington University Institute of Public Policy, June 1, 2017 <https://gwipp.gwu.edu/counting-dollars-role-decennial-census-geographic-distribution-federal-funds>

⁹ California’s ethnic diversity makes it a “majority minority” state because less than half of the state’s 39. million residents (37.7%) are White Non-Hispanic. The largest minority group in the state are Hispanics (37.6%), followed by Asian and Pacific Islanders (15.3%), and Blacks (6.5%). Racial composition from Census Bureau estimate July 2016. State population based on California Department of Finance estimate for January 1, 2017.

¹⁰ California will spend \$7 million in state grants to assist local governments with LUCA. In reviewing California’s strategy, it is important to consider that Professor Andrew Reamer’s analysis of funding for the largest 16 federally-funded programs in California makes it clear that a skewed population profile resulting from American Community Survey (ACS) data, which is impacted by decennial census undercount as well as its own operational limitations, would have a major impact on programs serving low-income and immigrant families. These programs include Medicaid (Medic-Cal), SNAP, State Children’s Medical Insurance, National School Lunch Program, WIC, workforce skills development and adult education (WIOA), Title I compensatory education, Section 8 Housing Assistance, and Community Health Center funding. Investment in community-based address canvassing is especially promising because it efficiently improves enumeration of the families who are eligible for these key social insurance programs.

¹¹ My estimate that the impact of a \$2 million investment in community-based address canvassing would generate more than \$1 billion in revenue for crucial social, health, and education programs over the 2021-2030 decade is based on the following underlying assumptions: 1) A targeting algorithm can be developed which effectively identifies the 15% of census tracts (or census block groups) with the highest prevalence of low-visibility, “unusual”, or hidden housing units so as to focus address canvassing efforts in those tracts, 2) that 2.5% of the housing units in these high-priority tracts for MAF improvement are low-visibility or hidden and currently missing from the MAF, 3) That community-based address canvassers can identify at least 30% of low-visibility/hidden housing units, 4) that revenue generated by identifying these households is at least the average per capita revenue for the state given that the households residing in the low-visibility housing units have a much greater likelihood of being eligible for the most expensive social insurance programs. This is a conservative estimate; actual return on investment might, in fact, be much higher, depending on effectiveness of targeting, quality of address canvassing. Return on investment might be lower if Congress eliminated or reduced funding for key programs or if anti-immigrant policies and messaging disastrously suppress immigrant families’ census response. Even under worst-case scenarios re rollback of federal program funding, the return on investment in census improvement would be dramatic.

¹² In 2010, our study of census coverage (Kissam 2010) showed that two special procedures used only in rural and remote areas were very helpful: Update-Leave (UL) and Update-Enumerate (UE). In areas where this operation was conducted, enumerators could identify housing units which were not in the MAF, add them on the spot, and either leave a census questionnaire (UL) or secure a census response from the household orally (UE) as in non-response followup (NRFU). The Census Bureau’s 2020 Operational Plan (September, 2016) includes plans to combine these into a new “Update-Enumerate” operation which could be used in some urban as well as in rural areas. This requires effective identification of priority areas to target based on predicted density of low-visibility housing (as does address canvassing in general). However, it appears that budget constraints may undermine the effectiveness of this operation since this procedure will only be implemented in areas with 12 million households (8% of US households) and almost all efforts (in 96% of the U.S.) will be via Update-Leave which is likely to be much less effective than Update-Enumerate in



hard-to-count neighborhoods. For current status, see Ian Hull presentation “Update Leave and Update Enumeration Operations” at the July 11, 2017 Quarterly Program Management Review. It appears that this somewhat promising operational component will also be negatively affected by budget cuts to the 2018 End-to-End Tests (now only in Providence, RI).

¹³ In the 2010 Census, the “Be Counted” program sought to provide another option for those who did not receive a mailed census form. This program, together with Questionnaire Assistance Centers (QAC’s), sought to facilitate responses from historically undercounted populations.

¹⁴ Efforts are underway at the Census Bureau to remedy this problem. More flexible procedures for editing/validating online and phone responses might lessen the urgency of MAF improvement—but not enough. In principle, an online or census response or one by phone with an address designation which is not in the MAF will result in a followup effort to determine if the place the person says they live actually exists. Whether this will actually happen in areas with very high levels of non-response workload is uncertain. An additional factor which deserves special attention is the Census Bureau’s ability to successfully identify low-visibility housing units either in the course of its own targeted address canvassing or in NRFU. The Census Bureau’s analysis of the 2010 decennial census coverage of housing units (Olson and Viehdorfer 2012) raises questions about this because the Bureau’s “dual system estimate” methodology shows that few housing units are missed in urban areas and that housing units where Blacks, Hispanics, and Asians live are overcounted; these findings are inconsistent with a huge literature on differential census undercount. The CCM-based analysis suggests that the Census Bureau’s own ability to identify housing units omitted from the MAF stem primarily from the special process of update-enumerate used primarily in some rural and remote areas.

¹⁵ The budget cutbacks for Census 2020 evaluation and analysis of undercount affect only the Census Coverage Measurement (CCM) approach to measuring undercount—but these estimates have been those most prominently used in official reporting of undercount. The Census Bureau’s Demographic Analysis (DA) program will continue to provide one indicator of the extent of differential undercount but this methodology is limited in its ability to measure coverage by race/ethnic group) and cannot provide an estimate of immigrant undercount specifically (since place of birth is not a data element in the decennial census).

¹⁶ Such pilots are promising as a way to refine targeting models used to guide effective canvassing to identify and add low-visibility housing to the MAF. It is possible to design the pilots so that, with Census Bureau collaboration, it would be possible to test prototypes of one or two algorithms for ranking census tracts by predicted prevalence of low-visibility housing units not currently in the MAF.

¹⁷ Some interesting analytic work has already been done by Census Bureau researchers on developing targeting models to identify areas with MAF problems. See Krista Heim and Andrew Raim, “Predicting Coverage Error on the Master Address File using Spatial Modeling Methods at the Block Level”, paper presented to the Survey Methods Research Section, Joint Statistical Meeting, American Statistical Association, 2016.

¹⁸ A good discussion of the planning database is J. Gregory Robinson, Carrie Johanson, and Antonio Bruce, “The Planning Database: Decennial Census Data for Historical, Real-time, and Prospective Analysis”, U.S. Census Bureau, paper presented to the 2007 Joint Statistical Meeting, 2007. Another detailed discussion of the development of the Census Bureau’s Planning Database can be found in Antonio Bruce and J. Gregory Robinson, “Tract-Level Planning Database with Census 2000 Data”, U.S. Bureau of the Census. The paper is online at the following URL: https://www.census.gov/2010census/partners/pdf/TractLevelCensus2000Apr_2_09.pdf Further discussion can be found in Antonio Bruce, J. Gregory Robinson, and Jason E. Devine, “A Planning Database to Identify Areas That Are Hard-to-Enumerate and Hard-To-Survey in the United States”, Proceedings of the Conference on Hard-to-Count Populations, American Statistical Association, December, 2012. J. Gregory Robinson and Ed Kissam have already identified a set of promising Planning Database variables for an algorithm for targeting improvement in the MAF.



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