The Urgent National Need to Enhance the Quality and Timeliness of ACS Data

Introduction
The American Community Survey (ACS) represents one of the most significant innovations in the history of the Census Bureau. When launched in 2005 it replaced the once-a-decade decennial “long form” with an annual survey providing estimates for every community in the country every year on measures of ancestry, citizenship, educational attainment, income, language proficiency, migration, disability, employment, housing characteristics, and more. These data are extensively used by those in public, private, and not-for-profit roles to allocate funding, measure shifting demographics, plan for local services, and to inform investments by businesses large and small.

Sent to roughly 3.5 million addresses annually, it is the largest household survey that the Census Bureau administers. Despite the success of the 2005 ACS innovation, and the pervasiveness of its use since, the modernization investments it deserves have been delayed. At the same time, the ACS, like all public surveys, is facing challenging headwinds of both declining response rates and timely processing issues.

Declining Response Rates Over Time
The COVID-19 pandemic exacerbated these challenges by causing major disruptions in data collection that ultimately resulted in the Census Bureau being unable to release 2020 ACS 1-year estimates due to data quality issues. Local planners, business leaders, and policymakers at all levels were consequentially hampered in updating their plans and models—at the very moment the country was most in need of trusted information for the response to unprecedented challenges; including a once-in-a-century pandemic; a severe economic downturn; and rising inflation. Although ACS response rates rebounded in 2021 and 2022, they were still lower than pre-pandemic levels in 2014 through 2018.

As a consequence, The Census Project released a report in 2022 (which we have updated annually) raising the alarm that America’s essential data are at risk and that significant new investment in the ACS is urgently needed. The ACS is the most comprehensive, robust, and current source of information about America's changing population, economy, housing, and workforce. It is unlike any other data source in the nation providing critical social, economic, housing, and demographic data about our nation every year that is comparable between every community in the country.

The Census Project and our stakeholders have made modernizing the ACS one of our highest priorities. Here we address seven major efforts to secure the future of the ACS.

**The Census Project’s Recommended ACS Enhancements:**

- Develop new ACS data products.
- Fully integrate ACS in Bureau's enterprise transformation.
- Accelerate research to advance the use of administrative records and alternative data sources in the ACS.
- Enhance ACS nonresponse follow up operations.
- Increase annual survey sample size.
- Revise content to improve data quality.
- Increase funding to the ACS program overall.

**The ACS and the Census Bureau’s Transformation Initiatives**

Fortunately, even in the face of declining response rates, rising survey costs, and an increasing demand for more timely statistical information, the Census Bureau has undertaken an agency-wide transformation to modernize its infrastructure and operations. The goal is to create a new data-centric ecosystem that leverages
technology and enables the Census Bureau to deliver accurate, timely, and relevant data products that meet the needs of diverse data user communities. These transformation efforts are also providing the Census Bureau with opportunities “to break down the barriers between the program directorates and to streamline processes across the entire organization.”

Census Bureau leaders have undertaken this modernization to support a new era which will produce statistical data through what it calls a “Statistical Product First” approach. This approach begins with public engagement to identify what purposes and uses Americans need Census Bureau statistics to support. This is a major change from the historical approach of simply releasing discrete tabular results from each of its censuses and surveys. At its core, this overhaul of business processes involves connecting and unifying them across more than 130 isolated surveys and censuses; thereby completely shifting from a historical framework of designing a survey to measure a singular social or economic experience, moving aggressively to a new way of thinking about what information (products) Census customers desire. Instead of designing a new survey to measure a changing social or economic condition in the country, this new approach first asks what data already exists across the whole enterprise to address the question and better inform the desired statistical products.

These modernization efforts are already transforming outdated, legacy business processes. Census is simplifying and standardizing data collection, creating frames to link datasets, storing and processing data in the cloud, and developing state-of-the-art tools for dissemination of statistical products to the public.

The new data-centric ecosystem seeks to curate and integrate existing and new data sources from the Census Bureau and external parties. This will create a comprehensive information base that would enable the Census Bureau to nimbly respond to emerging questions from policymakers and the public and develop new statistical products specifically designed to meet emerging and evolving stakeholder needs.

Engagement and collaboration with stakeholders are essential throughout the process. For example, the Census Bureau is engaging with American Indian and Alaska Native (AIAN) stakeholders to identify what questions and issues they may need future Census statistical products to support. Similarly, the Bureau has engaged with a range of experts to reduce the undercount of children in a collaboration around alternative data sources and methods to better measure this population.

The ACS is a prime beneficiary of the Bureau’s enterprise-wide reforms, especially linked data assets, modernized data processing tools, and enhanced analytical capabilities. However, the Census Bureau must receive more funding dedicated to supporting the ACS to fully exploit the enterprise modernization while at the same time enhancing the reliability, timeliness and quality of ACS data products. Since it is the largest survey the Bureau conducts, the ACS sits at the center of the Bureau’s planned transformation. It is both a beneficiary of and significant contributor to the success of the enterprise effort, and therefore needs additional support to ensure it is providing the entire Bureau and the public with the highest quality infrastructure and data products. In
a true sense, the ACS is the heart of the data-centric ecosystem and therefore critical in determining how well the Bureau achieves its modernization goals. The uses of ACS data continue to expand. The ACS will be essential to fulfilling the ambitions of the Federal Data Strategy.

The Census Project encourages the Bureau to consider enterprise enhancements that could accelerate the production of new ACS products and tools—or improvements to existing ACS products—that could upgrade data users’ access to ACS data. Some of these data products and tools have been discussed in workshops organized by the National Academy of Sciences, while others were mentioned in previous surveys of ACS data users. These include:

- New data products for small geographic areas (like those developed under the Small Area Income and Poverty Estimates Program) derived from the combination of ACS and administrative records data.
- New monthly measures reported at the national or state level, similar to those produced through the Current Population Survey, but for topics that are not yet measured in other surveys.
- New products or tools that would enable data users to measure trends.
- An enhanced microdata access system that would enable data users to create custom, privacy-protected estimates from the full internal microdata file and generate associated margins of error.
- Easier access to data through the Census data application programming interface (API) which provides direct, automated access to data files, and other tools to help data users access estimates through free, open-source software.
- A product that would allow data users to easily combine estimates to produce custom geographic areas and calculate margins of error for derived estimates.
- New features and functionality to improve access to data through the data.census.gov interface, which continues to present usability challenges.

Additional funding specific to the ACS should be intended to accelerate these new customer-focused solutions that are anticipated from enterprise modernization. Here we focus on ACS-specific investments that are needed to both secure its future and fulfill the ambition of the enterprise transformation at the Bureau.

“For policymakers, ACS data are essential to making policy decisions that meet the needs of their constituents. By knowing the full characteristics of the population they are serving, NALEO members are able to efficiently direct resources and services to help improve the lives of the people they represent”

Arturo Vargas
CEO, NALEO Educational Fund, 2024 Chair, Census Bureau National Advisory Committee
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Employing Multiple Data Sources

In 2018, the Census Bureau issued a comprehensive report laying out a plan to begin using administrative data to supplement survey responses in the ACS. At the time, the Bureau crafted a vision for how this innovation would work:

“The Census Bureau is considering several approaches to use administrative records to enhance the ACS program:

- **Reduce the burden on our respondents** by using information already available to the federal government instead of asking questions.
- **Improve data quality** by drawing upon administrative records for data editing and imputation, rather than statistical approaches to assigning values.
- **Create blended data products**, including merging administrative data on topics not currently asked about on the ACS to provide even more detailed information about each of America’s communities and creating complimentary products for small geographies to improve the quality of community-level estimates such as median income.”

Now, more than five years later, the Bureau has only this year begun to use some administrative data to supplement ACS survey responses. The Bureau’s ACS Office clearly needs additional resources to hire or contract out to expert data scientists, analysts, and other IT professionals to accelerate research and use of administrative and third-party data in the ACS.

While administrative data are not yet being widely used to supplement the ACS, the Census Bureau has been evaluating three major ways to use administrative records and third-party data with the ACS:

- Direct replacement: omitting some survey questions for households if the same information is reliably available from alternative sources.
- Improve editing and imputation routines to replace invalid survey responses, edit survey responses, and impute missing responses.
- Blending ACS and alternative data to create new data products.

For example, in January 2024, the ACS began using an adaptive approach to collect data on property acreage that uses administrative data primarily from property tax data. If the administrative data meet quality standards, respondents who answer the survey online or during an in-person interview will not be asked the acreage question. However, respondents who use the paper survey will still be asked the acreage question. When data collection is complete, ACS staff will use the best data to develop the final estimate—either from the respondent or administrative data.
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The Census Bureau’s most recent *Agility in Action* report indicates that the ACS program will also explore the use of administrative data for the following topics:

- Allocation and imputation for sex, age, citizenship, race, and Hispanic origin;
- Full or partial removal of the agricultural sales question;
- Full or partial removal of housing characteristics questions;
- Evaluation of nonresponse bias in survey response data and other data quality checks; and
- Modeled estimates for income.

With declining ACS survey response rates and rising costs for nonresponse follow up, it is vital for the Census Bureau to accelerate research to advance the incorporation of administrative records and alternative data sources in the ACS, which will reduce respondent burden and long-term costs while increasing data quality.

**More Robust Follow Up Operations**

The ACS has suffered from the same decline in response rates impacting other government and non-government surveys over the last several decades. To fully address this decline, it is beyond time for the Census Bureau to invest more in nonresponse follow up (NRFU) operations, expanding the current model that reaches only about one-third of the nonresponding housing units, (unlike the goal in the decennial census nonresponse follow up operation to reach 100% of nonresponding housing units). This more modest ACS NRFU operation is a consequence of staffing, workload, and budget limitations.

To improve the quality of ACS estimates—especially for smaller geographies and population subgroups—the Census Bureau has begun exploring new NRFU strategies. The costs of in-person interviewing are rising due to wage and overhead cost increases and declines in respondent cooperation requiring more visits to complete an interview. In response, the Census Bureau has had to implement cost-saving strategies while still trying to maintain data quality.

To maximize the data collection efforts of field staff, the Bureau began using administrative data in 2023 to inform contact strategies and operational decisions such as when to decrease or stop field interview efforts. For example, the ACS program is now prioritizing contacts by geographic area based on prior response rates, administrative data, and respondent demographic characteristics. Using data from the U.S. Postal Service, IRS, Medicare, and the Census Bureau’s Master Address File (MAF), the Bureau’s ACS Office staff have developed a model to better predict which housing units have a higher probability of being vacant. For such units, interviewers are alerted to make the initial contact in person rather than by phone and are limited to only two contact attempts. Drawing on models and strategies currently used successfully in
other surveys, such as the Survey of Income and Program Participation (SIPP) and National Survey of Family Growth (NSFG), ACS staff are also adapting contact efforts in the Computer-Assisted Personal Interviews (CAPI) workload.

In the face of ongoing declines in survey response rates, the Census Bureau must optimize CAPI operations to reduce data collection costs, mitigate nonresponse bias, and improve the quality of ACS data.

Increasing the Annual Sample Size of the ACS
The annual sample size of the ACS understandably cannot be as large as the former census long-form sample because it would be prohibitively expensive to replicate every year, undermining the whole point of the rolling sample innovation. However, the current ACS sample size cumulated across five years is now much smaller than the last long-form sample in the 2000 Decennial, in part because the nation’s population has increased since 2000 by more than 51 million people and the number of housing units by almost 28 million greater. Some degree of reduced precision in ACS 5-year estimates relative to those from the 2000 Census long form was accepted in the 2005 innovation to provide more-timely annual data, but standard errors for median-sized census tracts are 60% larger in the ACS than in the 2000 Census—a gap much larger than originally anticipated by the Census Bureau in the initial ACS design.

The precision of ACS estimates—particularly for census tracts and small governmental units—could potentially be improved by increasing the annual sample size. To reduce ACS standard errors to be only about 25% larger than those from the old long-form census, a report from the National Research Council called for “increasing the annual sample size to about 4.8 million housing units.” That would result in a total sample of 24 million housing unit addresses when pooled across five years, closer to the 20 million addresses sampled with the long form in the 2000 Census.

It is not just increasing the sample size, but rather increasing the number of final interviews that improves precision. Increasing the sample size without new and improved methods to address both survey and NRFU nonresponse rates may not significantly improve the precision of ACS estimates.

According to unofficial estimates, the Bureau needs additional funding of no less than $45 million to increase the sample size by at least 1 million housing units. However, increasing the ACS sample size would also increase the size and cost of the nonresponse workload. Given that the Census Bureau estimates each case in their ACS Non-Response Follow Up operations costs about $200 each to complete, more precise cost estimates are needed to ensure the Bureau has the necessary funding to meet the needs of a larger sample size.
Changing Content in the ACS Survey to Enhance Data Quality

As part of its periodic review of ACS survey questions, the Census Bureau conducted a National Content Test in 2022. Question or instruction changes were tested in seven topic areas: the household roster, educational attainment, health insurance coverage, disability, income, labor force, and Supplemental Nutrition Assistance Program (SNAP). Three new questions on solar panels, electric vehicles, and sewage disposal were also tested for addition to the ACS.

Based on field test results, the Census Bureau recommended adding the three new questions and making changes to the instructions for the household roster and labor force, and to the questions for educational attainment, health insurance coverage, and disability. Public comment on these proposed additions and changes was solicited from October 20, 2023, through December 19, 2023. The Census Bureau received more than 12,000 comments—most of which expressed concerns about the proposed changes to the disability questions. The Census Bureau began posting these public comments to Regulations.gov in January 2024. Based on this public feedback, the Census Bureau, Office of Management and Budget (OMB), and the Interagency Council on Statistical Policy Subcommittee on the ACS will decide what 2025 ACS content will be submitted to OMB for final approval sometime in the spring of 2024.

Improving Measurement of Household Relationships in the ACS

Although household living arrangements have become more complex and fluid over the past several decades, the Census Bureau’s roster instructions have remained virtually unchanged since the late 1990s, potentially contributing to decreasing coverage of young children, complex households, nonrelatives, and other persons with tenuous household connections. New sets of rostering instructions for the paper questionnaire and revisions to the roster questions for the Internet and interviewer-administered instruments were developed and tested in the 2022 ACS National Content Test to determine if they would improve the rostering procedure and ensure that all household members were included in the survey.

Content Test results did not show a significant difference between the current instructions (Control version) and revised instructions (Test version) in the number of young children ages 0-4 on the final roster. The revised instructions resulted in a significantly larger number of young children being added to the roster on the Internet and interviewer-assisted modes. The percentage of complex households was also significantly higher in the Test version. With these results, the Bureau recommended moving forward with the Test version in the 2025 ACS.

While these revisions of household roster instructions may improve the ACS’ within household coverage, they still will not enable data users to determine if an adult other than Person 1 is the parent of any resident children. Some experts and stakeholders
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have recommended adding questions to the ACS that capture the relationships between all household members rather than just those to Person 1. However, at a minimum, the ACS could add questions similar to the “parental pointers” in the Current Population Survey (CPS) to establish the relationship of children to all adults in a household. A detailed analysis concluded that, “The new CPS measures represent an important development in the availability of data to accurately measure trends in the living arrangements and economic well-being of Americans over the life course.”

Adding such questions to the ACS would enable better identification of children who are residing in complex households as well as those living with one or two parents in cohabiting couple households, regardless of which adult partner is listed as Person 1. Researchers also noted that, “The new CPS family relationship variables are essential for studying cohabiting families.”

Improving Measurement of Race and Ethnicity in the ACS
In 2022, OMB launched a formal review of the 1997 standards for collecting and reporting race and ethnicity data across federal agencies. Drawing on extensive research on potential modifications to these questions conducted by the Census Bureau, an Interagency Technical Working Group (ITWG) issued a set of initial proposals for revising these statistical standards in 2023. These initial proposals were open for public comment through April 27, 2023. In addition, the ITWG and OMB held listening sessions, virtual Town Halls, and in-person meetings with stakeholder groups to solicit feedback on the initial proposals. Based on this feedback, together with more than 20,000 public comments, the ITWG submitted final recommendations to OMB’s Chief Statistician.

On March 28, 2024, OMB published the revisions to the standards that include collecting race and ethnicity information together in a single question, adding a Middle Eastern and North African (MENA) response category, and requiring federal agencies to collect additional detail beyond the minimum required race and ethnicity categories in most cases. Federal agencies must begin updating their surveys and administrative forms as soon as possible and have 18 months to submit to OMB a publicly available action plan for achieving complete compliance with the new standards by March 28, 2029.

Adoption of the new standards should improve the quality of racial and ethnic data in both the ACS and the 2030 Census, but the Census Bureau still faces significant challenges in developing implementation and tabulation plans, which deserve strong support from Congressional appropriators.

Improving Measurement of Disability in the ACS
The current ACS questions on disability were added to the survey in 2008. In response to a request from the National Center for Health Statistics, the Census Bureau evaluated the Washington Group Short Set on Functioning (WG-SS) disability questions as possible replacements in the 2022 National Content Test. The WG-SS questions are
similar to the ACS questions in asking respondents about difficulties seeing, hearing, remembering or concentrating, walking or climbing stairs, bathing or dressing, and doing errands alone such as shopping or visiting a doctor’s office. However, in contrast to the simple Yes/No response options in the ACS questions, the WG-SS questions have four response categories that measure the degree of difficulty with each task: *No difficulty; Some difficulty; A lot of difficulty; and Cannot do at all.*

Based on results from the 2022 Content Test, the Census Bureau had proposed to change the current six disability questions in the ACS to the seven questions in the WG-SS series. U.S. representatives of a broad array of disability groups opposed these changes, arguing that they would result in an undercount of the disability community while also failing to improve measures of mental health and other disabilities including chronic disabling conditions, such as long-COVID.

On February 6, 2024, the Census Bureau Director announced a one-year delay in implementing any changes and promised further engagement with “federal agency disability stakeholders, disability community representatives, data users, researchers and disability advocates to discuss data needs and data uses surrounding the topic of disability.” The Census Project vigorously supports greater stakeholder involvement in improving any vital measures the Bureau produces.

**Measuring Sexual Orientation and Gender Identity (SOGI) in the ACS**

With the increasing social and political visibility of sexual and gender minority populations, a 2022 Executive Order stipulated an urgent need for federal data on the characteristics, geographic distribution, and well-being of these groups to measure and address any disparities lesbian, gay, bisexual, transgender, queer, and intersex (LGBTQI+) individuals, families, and households may face.

The Census Bureau received a Fiscal Year 2023 (FY 2023) appropriation of $10 million specifically to research adding questions to measure SOGI in the ACS. The Census Bureau’s research builds upon previous cognitive testing conducted for the CPS on the use of proxy reporting (i.e., when a person provides data for someone else). SOGI questions are not currently asked on any federal surveys that use proxy reporting (including the ACS, where one person at a sampled address typically answers questions about everyone living there).

The Census Bureau will also continue research into alternative question wording, response categories, and placement of the questions on the survey. On September 19, 2023, the Census Bureau published a Federal Register Notice inviting public feedback on a proposed test of SOGI questions on the ACS to be conducted in the Spring of 2024, funding permitted. This proposed test will draw on experience in the collection of SOGI data from other federal surveys and additional research efforts. The public comment period ended on November 20, 2023. In 2024, the Census Bureau is expected to submit a final plan to test the new SOGI questions for OMB’s approval.
The addition of SOGI questions to the ACS would enable use of the extensive social, economic, and disability data in the ACS to evaluate the characteristics and well-being of sexual and gender minority populations as well as regional differences in economic and health disparities for these groups. As it designs, implements, and evaluates results of the 2024 ACS SOGI test, the Census Bureau should continue to engage with stakeholders. The earliest date SOGI questions could be added to the ACS is 2026.

Expanding Measurement of Parental Place of Birth in the ACS
Parental place of birth is only captured in the ACS for children who are living with their parents, based on responses to the question on place of birth that are asked only of all household members. Therefore, data users cannot determine whether ACS respondents who do not live with their parents are second- or third-generation immigrants to the United States. This limits researchers’ and policymakers’ ability to use the ACS to analyze trends in the characteristics and well-being of second- and third-generation immigrants.

The addition of questions on parental place of birth for all ACS respondents would enable researchers and policymakers to use the rich social, economic, housing, and demographic ACS data to both study the characteristics of second- and third-generation immigrants—such as educational attainment, family structure, income, and disability status—and evaluate their well-being over time in comparison with other population groups.

What Cost Estimates Are Available for These Investments?
The Census Project’s FY 2025 funding recommendation addressed not only the ACS but other initiatives as well, including stabilizing the Survey of Income and Program Participation (SIPP), strengthening the Population Estimates program, and investing in modernizing enterprise data infrastructure at the Bureau. Altogether, these enhancements totaled approximately $400 million, with the ACS accounting for most of this recommended amount.

Funding for the ACS has remained relatively stagnant in recent years, including a little over $233 million in FY 2022. The Bureau needs additional funding (no less than $45 million to increase the sample size by at least 1 million housing units, according to unofficial estimates) to thoughtfully plan and execute an expansion of the ACS. The investments in enterprise modernization are intricately related to investments that would enhance the ACS and produce more reliable data for the nation, and therefore are difficult to parse into a detailed, line-by-line ACS improvement plan without more detailed information from the Census Bureau.
Each year The Census Project engages with Census Bureau staff, stakeholders, and Congressional staff to refine, improve, and make more specific budget proposals, endeavoring to produce a line-by-line estimate of individual operations. Cost estimates are dependent upon decisions about the survey’s operational design that are interdependent. For example, the Census Bureau estimates that each case in their NRFU operations costs about $200 to complete. Increasing the sample size will logically increase the number of NRFU cases, likely at the rate the Bureau is currently experiencing. Investing in more robust follow up operations for just the existing sample size will drive up that $200/case estimate. However, experimenting with the use of administrative records in NRFU could drive down the cost per case.

**Funding Has Not Kept Pace With Population Growth Or Inflation**

Because ACS data “are especially important to small towns and rural areas across the country,” the U.S. Senate Appropriations Committee has consistently directed the Census Bureau to “ensure that rural areas are covered with the same accuracy as urban areas to the maximum extent practicable.” Authorizing these enhancements and increasing the sample size are the most feasible avenues for meeting that goal, since most rural and remote areas can only produce reliable ACS data by estimating across the most recent five years of data. The Bureau also needs to continue to use the ACS “as a testbed for innovative survey and data processing techniques,” as Congress has also consistently directed.

Given the pervasive and comprehensive use of ACS data for business investment decisions, economic development, state and local planning, the fair and equitable distribution of federal dollars and administration of federal voting, civil rights, housing,
and consumer laws, an immediate infusion of $100 to $300 million to protect the ACS from further data quality deficiencies is imperative.

Major investments in modernizing and improving the ACS may be at risk given the federal government’s current dismal fiscal picture. The Census Bureau is not being funded at a sufficient level to maintain and expand all of its operations. Nonetheless, The Census Project encourages the Bureau to be transparent and share with Congress the substantial benefits that could be derived from investing in the ACS. We also urge Congress to consider the huge return on investment increased funding for the ACS would deliver for the nation.

IN SUMMARY

Challenges Threaten America’s Essential Data
Local communities, entrepreneurs, urban planners, major corporations and thousands of others that depend on annual data from the Census Bureau’s ACS were stunned in 2021 when major annual data releases were delayed or replaced with experimental data due to quality issues. Years of underinvestment and the pandemic have degraded the data, precluded necessary increases in the survey’s sample size and shortchanged the Bureau’s ability to address steadily declining response rates, revise content, and make other methodological and operational improvements.

What is the American Community Survey (ACS)
The ACS, which replaced the census long form in 2005, is a nationwide, continuous annual survey of about 3.5 million households conducted by the U.S. Census Bureau. It provides reliable and timely demographic, housing, social, and economic data every year for communities large and small. It is the largest official survey of U.S. households.

Incredibly Pervasive Uses of ACS Data
Private and public data users rely on ACS data to inform a wide range of decisions, such as where to locate businesses and factories, build schools, hospitals, and roads, and how to target services to vulnerable populations, including, children, veterans, and older Americans. ACS data are used to enforce civil rights laws, including the Voting Rights Act, and protect people from discrimination. In 2017, 316 federal spending programs distributed more than $1.5 trillion to states and local areas on the basis, in whole or in part, of data derived from the ACS.

Congress Needs to Make Greater Investments in the ACS
Given the pervasive and comprehensive use of ACS data for business investment decisions, economic development, state and local planning, the fair and equitable distribution of federal dollars and administration of federal voting, civil rights, housing, and consumer laws, an immediate infusion of $100 to $300 million to protect the ACS from further data quality deficiencies is imperative.

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