

America's Essential Data at Risk

**A Vision to Preserve and Enhance
the American Community Survey**

Introduction by The Census Project

The U.S. Census Bureau's American Community Survey (ACS) is the premier source for information about America's changing population, households, and workforce—and a crucial component of the American democracy. It is the current fulfillment of James Madison's vision that the 1790 Census should add questions beyond "bare enumeration" so that Congress might "adapt the public measures to the particular circumstances of the community."

ACS data are pervasively used by federal, state, and local decisionmakers to power our economy and plan our communities. However, ongoing challenges in ACS design innovations, delayed investments to improve the survey, and recent postponements of data releases have compromised the utility and reliability of the data essential to social and economic planning for the country.

A Clarion Call: America's Essential Data Are at Risk

High-quality, trustworthy statistics are essential for our democracy. They empower policymakers, businesses, journalists, and other citizens to make data-based decisions that help meet the changing needs of the populace—decisions that otherwise would be based on anecdotal evidence, gut feelings, rumor, guesses, or worse—misinformation.

The ACS is the most comprehensive, robust, and current source of information about America's changing population, housing, and workforce. If roads, bridges, railways, and ports form the heart of America's physical infrastructure, then the ACS is the backbone of the country's data infrastructure. The ACS is unlike any other data source in the nation, providing critical social, economic, housing, and demographic data about our nation every year, for communities large and small.

This report was undertaken by [The Census Project](#) upon the [news](#) that for the first time in its history, the Census Bureau could only release experimental data from its annual 2020 ACS 1-year survey and subsequently had to delay the 5-year products. 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 to respond to multiple challenges: a once-in-a-century pandemic; a severe economic downturn; and rapidly rising inflation. The Census Project initiated this comprehensive review of the ACS to outline how it could be enhanced to better aid the nation as we address confounding changes in the labor force, the workplace, supply chains, social dynamics, and neighborhoods across America.

The coronavirus pandemic disrupted America's data infrastructure—including the ACS—and reminded us that our access to high-quality data for decision-making is not guaranteed. Our objective here is to pose the question of how we can ensure the quality and accessibility of ACS data for all those who rely on the data.

Before we can answer this question, we need to provide some background on the ACS and why it's so important.

We hope to set an agenda to create a new vision of the ACS, to strengthen it and enable it to better serve the nation. We begin with discussion of the origin and many uses of ACS data, followed by the current limitations of the survey and potential opportunities to improve the quality, timeliness, and robustness of the data.

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The Census Project is a broad-based coalition of national, state, and local organizations that support an inclusive and accurate 2020 Census and American Community Survey (ACS) (the modern version of the census “long form”). Its member organizations, representing the private, public, non-profit, and academic sectors, rely on objective data that the Census Bureau produces to inform evidence-based investment, policy and planning decisions.

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Our Authors

The Census Project is grateful for the leadership and authorship in their personal capacities on this comprehensive assessment of the American Community Survey from three experts with deep experience in the origins and uses of the ACS and other census data. The work here would not have been possible without the benefit of their decades of experience and willingness to share their vast knowledge about the history of the ACS and how it is used so pervasively in American society.

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Report Summary

The ACS is Central to America's Data Infrastructure

- The ACS is a nationwide, continuous survey designed to provide reliable and timely demographic, housing, social, and economic data every year for communities large and small.
- With an annual sample size of about 3.5 million addresses, the ACS is the largest survey of American households.
- Each year, the Census Bureau publishes more than 11 billion statistics from the ACS on a wide range of social, economic, housing, and demographic topics.

Businesses Use the ACS for Planning and Economic Investment

- The ACS provides businesses with data to gauge the sales potential of products and services, better understand the workforce, and set strategies for growth.
- Entrepreneurs use ACS data to select new sites for their business.
- Many federal and state programs use ACS data to identify communities to prioritize for economic development.

The ACS Is Essential to Core Functions of the American Democracy

- All census-guided federal spending depends on the ACS in some way, shape, or form. For example, in 2017, 316 federal spending programs distributed \$1.5 trillion to states and local areas on the basis, in whole or in part, of data derived from the ACS.
- ACS data are used to monitor compliance with the Voting Rights Act and enforce bilingual election requirements.
- Federal agencies rely on ACS data to enforce civil rights laws, protect people from discrimination, and provide access to affordable housing.

State and Local Planners Use ACS Data for Decision Making

- ACS data help planners make decisions about new schools, hospitals, job training centers, emergency services, and many other community projects.
- ACS data help federal, state, and local officials coordinate evacuations, conduct damage assessments, and plan for future emergencies.
- Urban and regional planners use ACS data to help develop short- and long-range forecasts of housing, energy, and transportation needs.

Current Limitations and Challenges in ACS Design and Data Dissemination

- The sample size of the annual ACS is much smaller than the sample size of the previous decennial "long-form" survey from which it evolved.
- The ACS budget has been relatively flat for years, overlooked in investments and efforts that have modernized the decennial and other Census Bureau surveys.
- The Census Bureau had to suspend many ACS data collection operations in 2020 during the peak months of the coronavirus pandemic, severely impacting ACS response rates and data quality.
- Data quality challenges prevented the Census Bureau from releasing standard 2020 ACS

1-year estimates in 2021—leaving ACS data users without the timely annual estimates they rely on to track social, economic, and demographic change across the U.S. The 2016-2020 ACS 5-year estimates are delayed until March 17, 2022.

- The ACS response rate has declined steadily since 2014, and further declines in response rates may reduce the usability of ACS data.
- Relatively high undercount rates risk biased ACS statistics about young children, racial and ethnic subgroups, and small geographic areas (such as much of rural America).
- Improving, adding, or deleting questions on the ACS follows a complex and lengthy process, unlike experimental surveys—such as the Census Bureau's Household Pulse Survey—that are not mandatory and are not specified as a required source for particular program or legislative applications by local, state, or federal agencies.
- Many data users continue to report difficulty in finding the ACS data they need on data.census.gov.

Enhancements to Improve the Quality, Timeliness, and Robustness of ACS Data

- Substantially increasing the sample size and number of final interviews of the ACS could improve the precision of ACS estimates—particularly for small geographic areas and important population subgroups. To match the same proportion of housing units interviewed in the 2000 Census long form, the number of 2015-2019 ACS final interviews would need to have reached about 21.8 million over the five-year period—nearly 11 million more than the number of interviews actually achieved.
- Like the much smaller Current Population Survey (CPS), the ACS could be used to produce national and state level indicators on a monthly or quarterly schedule.
- Additional funding for the ACS Program could accelerate the release of estimates, which are published 20 months after the first month of data collection.
- Additional funding for nonresponse followup operations could help to increase the number of completed interviews and reduce nonresponse bias in ACS data.
- The Census Bureau could improve ACS data quality and reduce both respondent burden and survey costs by accelerating ongoing research and the incorporation of administrative records and third-party data in the ACS.
- New questions that capture the relationships between all household members could enable better identification of children living in complex households.
- Questions on parental place of birth would enable research on the characteristics of second- and third-generation immigrants.
- New questions on respondents' race, ethnicity, sexual orientation, and gender identity would provide better measures of these rapidly changing concepts of identity in American society and improve assessments of data equity.

New Data Products That Could be Derived from Modernizing the ACS Include:

- New data products for small geographic areas derived from the combination of ACS and other data sources.
- New products or tools that would enable data users to measure trends more easily.
- An enhanced microdata access system that would enable data users to create custom, privacy-protected estimates from the full internal microdata file.

- A product that would allow data users to easily combine estimates to produce custom geographic areas and calculate margins of error for derived estimates.
- Products that provide data users with more up-to-date estimates, such as selected monthly statistics.
- Products that combine ACS and other data yielding “more accurate, granular and timely statistics at lower costs.”
- Greater exploration of modeled or synthetic estimates to serve small areas and subpopulations while protecting against disclosure risks.



The ACS Is Central to America's Data Infrastructure

When local planners make decisions on how, or why, new roads, schools, senior centers, or hospitals are placed in specific communities, they need data. Have you wondered what makes some communities more attractive to new businesses or tourists or why there is no ATM or bike-share kiosk on a certain street corner? The answers often lie in statistics that reflect what our communities look like, how our communities have changed, and how those changes impact our daily lives.

Every 10 years, the Census Bureau conducts a census to count the number of people living in the United States. From 1940 to 2000, two census questionnaires were used to collect information: a “short form” with only basic questions such as age, sex, race, and Hispanic origin; and a “long form” that included some 50 additional questions on social, economic, and housing characteristics.

This changed with the 2010 Census, because the long form had been replaced in 2005 by a new annual survey, the ACS—a nationwide, continuous survey designed to provide reliable and timely demographic, housing, social, and economic data *every year*.

With an annual sample size of about 3.5 million addresses, the ACS is the largest survey of American households. No other data source provides such a rich source of information about American society.

The Census Bureau releases two types of ACS estimates, covering different time periods: 1-year estimates and 5-year estimates.

Since 2005, the Census Bureau has published ACS 1-year estimates for geographic areas with populations of 65,000 or more. One-year estimates are especially useful for areas with rapidly changing characteristics because they're based on data from the previous year. For example, ACS 1-year data were [used to compare social and economic patterns before and after the Great Recession](#) (2007-2009). Similarly, 1-year estimates from the 2021 ACS—scheduled to be released in fall 2022—will provide information about how America has changed in the wake of the coronavirus pandemic.

For areas with smaller populations, the ACS sample isn't large enough to provide reliable 1-year data. For these areas, several years of data are pooled together to create more precise multiyear estimates. Since 2010, the ACS has published 5-year data (beginning with 2005–2009 estimates) for geographic areas as small as block groups.

Five-year estimates are not as current as 1-year estimates because they cover a longer time period, but they are the best and only source of detailed data for smaller geographic areas and small population groups.

[Data.census.gov](https://data.census.gov) is the Census Bureau's primary tool for accessing ACS data (see Figure 1).

Figure 1: Data.census.gov



Source: U.S. Census Bureau, <https://data.census.gov/cedsci/>.

11 Billion Statistics Each Year: The Topics Covered in the ACS

Each year, the Census Bureau publishes more than 1,000 tables for states, counties, cities, tribal lands, and communities of all sizes, resulting in *11 billion individual estimates* from the ACS on a wide range of topics and providing a detailed tapestry of the American social, demographic, and economic landscape.

The content collected through the ACS can be grouped into four main types of characteristics: social, economic, housing, and demographic. Figure 2 lists selected subjects covered in the survey. A [comprehensive list of subjects](#) in the ACS is provided on the Census Bureau's website.

Figure 2: Selected Population and Housing Data Collected in the ACS

ACS SUBJECTS
<ul style="list-style-type: none"> • SOCIAL (Educational attainment, marital status, place of birth, veteran status, and more) • ECONOMIC (Employment status, health insurance coverage, income and earnings, and more) • HOUSING (Computer and internet use, owner/renter status, home value, and more) • DEMOGRAPHIC (Age, race/ethnicity, relationship to householder, and more)

Source: U.S. Census Bureau, Subjects Included in the Survey, <https://www.census.gov/programs-surveys/acs/guidance/subjects.html>.

ACS content is designed to meet the needs of federal government agencies, and [every question in the ACS is asked for a reason](#). For example, questions about how people get to work, when they leave, and the length of their commutes are used for planning improvements to roads, highways, rail lines, transit systems, and bus routes, as well as planning emergency response routes.

Some people are reluctant to respond to the ACS not only because of its length, but also because of concerns about the confidentiality of the data. However, strict confidentiality laws protect all ACS information that could be used to identify individuals or households under [Title 13 of the U.S. Code](#).

Over time, [questions have been added, revised, or removed](#) from the survey. For example, in 2008, three new questions on marital history, health insurance coverage, and veteran's service-connected disability were added to the questionnaire, while the questions on disability were significantly revised. A new question on bachelor's field of degree was added in 2009, and in 2013, three new questions on computer ownership and internet access were added. The Census Bureau is currently testing new and revised questions for the 2025 ACS questionnaire, including information about electric vehicles, homeowners' association fees, and solar panels.



Businesses Use the ACS for Planning and Investment

Businesses depend on high-quality data for decision making. Suppose a bike shop owner wants to find the best location to open a second store. Managers at a construction firm want to move their headquarters but need more information about the local workforce. The owner of a department store needs information about customers in a region to determine the best product mix to include in the store.

Every day, ACS data are helping businesses like these grow. The ACS provides corporations, small businesses, and individuals the detailed social, economic, housing, and demographic data they need to gauge the sales potential of products and services, better understand the workforce, and set strategies for growth.

Entrepreneurs Use ACS Data for Site Selection

Construction is a major driver of U.S. economic growth. In 2020, the value of commercial construction totaled nearly \$87 billion—a number that is likely to increase as the economy and business investments bounce back after the COVID-19 pandemic.¹

With so many dollars at stake, businesses often conduct extensive research before starting a new business or expanding an existing one. Site selection—the evaluation of business needs measured against the merits of potential locations—is a complex process that requires detailed information about local communities. But decision-making is easier when you have the ACS—the premier source of data for local communities.

The ACS provides businesses with a wealth of free information that they can use for selecting a new location or for evaluating the performance of existing locations:

- Social and economic characteristics (e.g., educational attainment, employment status, language spoken at home, and income).
- Housing characteristics (e.g., homeownership, housing costs, average household size, age of housing, and computer/internet use).
- Demographic characteristics (e.g., age, sex, and family structure).

Many businesses also need workers with specific degrees. They need to know where potential workers live, how long it would take them to get to work, and whether they have access to high-speed internet to work from home. Other businesses want to recruit qualified veterans. The ACS provides detailed information about the population and workforce in local communities that can help businesses choose appropriate locations for a new store, office, or warehouse, including:

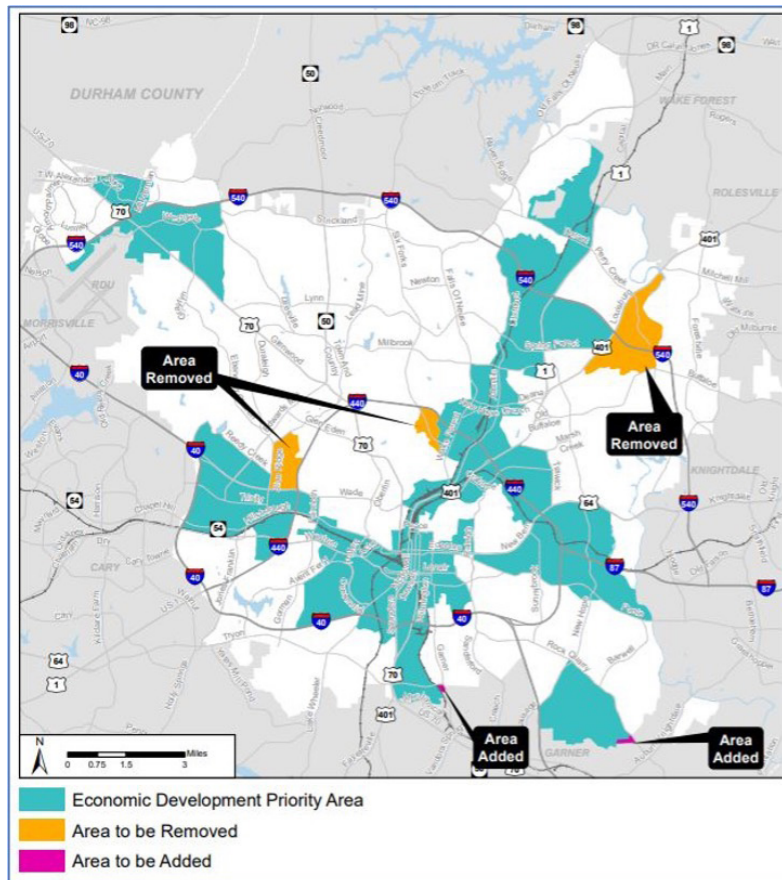
- Labor force and veteran status (e.g., employment, unemployment, and full-time/part-time status).
- Means of transportation to work and travel time to work.
- Income and occupation (e.g., household income, earnings, occupation, and industry).
- Education (e.g., highest level).
- Internet (e.g., access to broadband service).

FRANdata, a market research firm in Arlington Virginia, uses ACS data to help franchise owners [identify the best locations for their businesses](#) based on the characteristics of the population in different communities.

ACS Data Are Used to Support Economic Growth

Many federal and state programs use ACS data to identify underserved communities to prioritize for economic development. For example, Raleigh's Department of City Planning used ACS poverty data to identify priority areas for investment (see Figure 3). A high-poverty block group (shaded blue on the map) is one where the percentage of people with income below the poverty line exceeds 150% of the citywide average.

Figure 3: Priority Areas for Economic Development in Raleigh, NC



Source: Raleigh Department of City Planning, 2030 Comprehensive Plan Amendment, <https://raleighnc.gov/services/zoning-planning-and-development/2030-comprehensive-plan>.

ACS data are also widely used by regional planning agencies around the country to support economic development. The Maricopa Association of Government's [Commute Shed Reports](#) show the areas from which workers can commute in 30 minutes or less to a given location. These reports—provided for cities, counties, and American Indian areas—support businesses by providing them with granular data on the population living in local commuting zones.

The San Francisco Municipal Transportation Agency (SFMTA) uses the ACS to [monitor bicycle volumes and commute trends](#) to inform planning decisions and enhance the economy and quality of life in the city.

Business Uses ACS Data to Develop Better Marketing Strategies

One way that businesses use ACS data is for consumer segmentation—the process of dividing potential customers into groups, or segments, based on their distinctive characteristics. Consumer segmentation data provide businesses with unique insights into customer lifestyles and behaviors, and how they vary across different communities. They help businesses find their “ideal customers” and determine the best ways to market specific products and services to them. Community segmentation profiles can also help businesses understand why some existing or potential locations may perform better than others.

Consumer segmentation systems are widely used in the private sector because they enable more precise identification and targeting of potential customers than demographic data alone. Data intermediaries—companies like Esri and Nielsen—provide consumer segmentation data to their customers by combining ACS data with other sources. Data are often provided for very small geographic areas—such as ZIP codes—and may be derived from a combination of ACS estimates and from other public and private sources. However, nondisclosure agreements and trade secrets often prevent full disclosure of the role of ACS data in developing these products.

Esri’s [Tapestry Segmentation](#) divides America’s neighborhoods into 14 broad “LifeMode” groups sharing similar demographic, socioeconomic, and consumer behavior patterns. (see Figure 4).

Figure 4: Esri LifeMode Groups

<ul style="list-style-type: none"> • LifeMode 1 Affluent Estates • LifeMode 2 Upscale Avenues • LifeMode 3 Uptown Individuals • LifeMode 4 Family Landscapes • LifeMode 5 GenXurban • LifeMode 6 Cozy Country Living • LifeMode 7 Sprouting Explorers 	<ul style="list-style-type: none"> • LifeMode 8 Middle Ground • LifeMode 9 Senior Styles • LifeMode 10 Rustic Outposts • LifeMode 11 Midtown Singles • LifeMode 12 Hometown • LifeMode 13 Next Wave • LifeMode 14 Scholars and Patriots
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Source: Esri, Tapestry Segmentation, <https://doc.arcgis.com/en/esri-demographics/data/tapestry-segmentation.htm>.

Similarly, Claritas’ [PRIZM lifestyle segmentation system](#) classifies U.S. households and neighborhoods (block groups, ZIP Codes, ZIP+4 areas) into more than 60 different socioeconomic categories based on a combination of ACS estimates, consumer surveys, and other public and private sources.

The ACS Is Essential to Core Functions of American Democracy

The ACS is a crucial ingredient in American democracy. Thomas Jefferson wrote extensively about education and is generally understood to have propounded the notion that an educated citizenry is a vital requisite for our survival as a free people. Especially in an information society, trusted, independent and reliable data are the “coin of the realm” in public policy debates, whether online or in the corridors of Congress. ACS statistics provide a feedback loop for the American public, allowing us to assess how things are going and to make course corrections when the data show we’re moving in the wrong direction. For policymakers, the data are needed to make funding decisions and to help ensure fair political representation and equal opportunity under the law.

The ACS Plays a Central Role in the Fair Distribution of Federal Funds

All census-guided federal spending depends on the ACS in some way, shape, or form. The George Washington University research project [*Counting for Dollars 2020: The Role of the Decennial Census in the Geographic Distribution of Federal Funds*](#) finds that in Fiscal Year (FY) 2017, 316 federal spending programs distributed \$1.504 trillion to states and local areas on the basis, in whole or in part, of data derived from the ACS.

As the decennial census is carried out once a decade and collects data on a small number of demographic characteristics, Congress recognizes that the decennial numbers, on their own, cannot guide the fair, equitable geographic distribution of federal funds. As a result, Congress has authorized a series of more current and descriptive datasets derived from the decennial census to serve that purpose, especially the ACS.

The ACS is one of 52 census-derived datasets upon which federal funding decisions are made, and each of the other 51 is built using data from the ACS.

The **four types of census-guided programs** include:

- *Financial assistance programs* that provide direct payments, grants, loans, and loan guarantees to state and local governments, nonprofits, businesses, and households **(305 programs, \$1,465.2 billion)**.
- *Matching payments* from states to the federal government required by financial assistance programs **(3 programs, \$16.5 billion)**.
- *Tax credit programs* that allow a special exclusion, exemption, or deduction from gross income **(7 programs, \$14.9 billion)**.
- *Procurement programs* that award federal contract dollars to small businesses located in areas selected using census-derived data **(1 program, \$7.5 billion)**.

The **three uses of census-derived data** to guide the distribution of federal spending include:

- *Program eligibility designations* (areas and households).
- *Geographic allocation* formulas.
- *Award of points* in grant competition scoring.

The ACS variables most frequently used by federal programs to directly determine the distribution

of federal spending are **median income, poverty rate, unemployment rate, median rent, and indicators of substandard housing.**

Of the 52 census-derived datasets used in federal funding decisions, the ACS, Population Estimates, Urban/Rural classification, and Core Based Statistical Areas—serve as the foundation for all others. The ACS serves as an input to the latter three, as follows:

- [Population Estimates](#)—the ACS is the source of international in-migration data and the distribution of demographic characteristics.
- Urban/Rural Classification and other measures of population density as indicated by the decennial census—the ACS is a key input to the [Census Planning Database](#), which is used to guide efforts to promote participation in the decennial census, for both the Census Bureau's outreach efforts, state and local government outreach, and non-profit "Get Out The Count" efforts.
- [Core Based Statistical Areas](#)—ACS commuting data are used to measure intercounty connectivity.

Examples of Census-derived Datasets that Rely on the ACS as an Input Include:

- [State Personal Income](#) (Bureau of Economic Analysis), the basis for the allocation of Medicaid funding—the ACS is the source of interstate commuting data used to adjust earnings by place of work to earnings by place of residence; cash wages paid in private households; and various types of housing rents.
- [Small Area Income and Poverty Estimates](#) (SAIPE), the basis for allocation of Title I funding for public school systems—ACS income and poverty estimates by age are used to model the income and poverty estimates of each public school system's school-aged population.
- [Persistent Poverty Counties](#), Economic Research Service, USDA—estimates of persistent poverty are drawn from the ACS.
- [Income Limits and Area Median Income](#), HUD—based on ACS income data.
- [Fair Market Rents](#), HUD—based on ACS median rent data.
- [Local Area Unemployment Statistics](#) (LAUS), Bureau of Labor Statistics—estimates are based in part on ACS journey-to-work data (as well as ACS-derived Population Estimates).
- [Rural Classifications, Economic Research Service](#), USDA—based on ACS journey-to-work data (as well as ACS-derived Population Estimates).
- [Index of Medical Underservice/Health Professional Shortage Areas](#), HHS—based in part on ACS poverty estimates.
- [Qualified Census Tracts and Difficult Development Areas](#), HUD—based on ACS poverty, income, and other data.
- [HUBZones](#), SBA (for federal procurement preferences)—based on ACS income data.

ACS Data Help Ensure Fair Political Representation

The U.S. Constitution mandates that a census be taken every 10 years to count all people living in the United States. State population counts from the decennial census are used to reapportion seats in the U.S. House of Representatives, and state and local officials use decennial census results to help redraw congressional, state, and local district boundaries.

However, ACS data also play an important supporting role in the political process.

The Voting Rights Act includes provisions to ensure that legislative district boundaries reflect the

racial and ethnic diversity of the people they represent, and ACS data are essential in producing the [Citizen Voting Age Population](#) (CVAP) measures relied upon by line drawers, legislatures and courts.

ACS statistics on language spoken at home are used to monitor compliance with the Voting Rights Act, especially since Congress has mandated its use to enforce [bilingual ballot requirements](#).

ACS data can also be a useful planning tool during the early stages of redistricting before official decennial census counts are available. Given the [delayed release of the 2020 Census redistricting data](#), some states relied on ACS estimates to identify areas with rapidly changing populations and started sketching preliminary maps so they could begin the lengthy process.²

ACS Data Are Used to Help Enforce Anti-Discrimination Laws and Ensure Equal Opportunity

Federal agencies rely on ACS data to enforce civil rights laws, protect people from employment and hiring discrimination, provide fair access to affordable housing and provide the statistical foundation for federal enforcement of laws and regulations against discrimination in financial lending, housing development, and voting rights. The ACS is the essential source of population distributions by race, ethnicity, and language spoken to which business and electoral actions are compared, as noted below.

- ACS data on age, housing, employment, and education are used to help the government and communities enforce laws, regulations, and policies against discrimination based on age such as the [Age Discrimination in Employment Act \(ADEA\)](#).
- ACS data on housing characteristics, such as units in a structure, [kitchen and plumbing facilities](#), rent, tenure, and selected monthly owner costs, are used to implement and assess compliance with the National Affordable Housing Act.
- Home Mortgage Disclosure Act compliance relies on ACS data used by agencies of the Federal Financial Institutions Examination Council ([FFIEC](#)).
- Enforcement of the Community Reinvestment Act to encourage depository institutions to help meet the credit needs of the communities in which they operate [depends on ACS data](#).
- Small Business Lending Data Collection under the Equal Credit Opportunity Act (Regulation B) utilizes ACS data through the [Consumer Finance Protection Bureau](#).
- New rulemaking to deliver Enterprise Housing Goals for single-family and multifamily mortgages on housing that is affordable to low-income and very low-income families relies on the use of ACS data at the [Federal Housing Finance Agency](#).
- Data on age, sex, race/ethnicity, labor force status, and work status are used by federal agencies to monitor annual [compliance with Equal Opportunity and Civil Rights laws](#).
- Title VIII of the Civil Rights Act of 1968, known as the Fair Housing Act, requires the U.S. Department of Housing (HUD) and recipients of federal funds from HUD to affirmatively further the policies and purposes of the Fair Housing Act. HUD requires the [use of ACS data](#) for housing agencies to report and monitor on fair housing compliance.

Members of Congress Use ACS Data to Learn About Their Districts

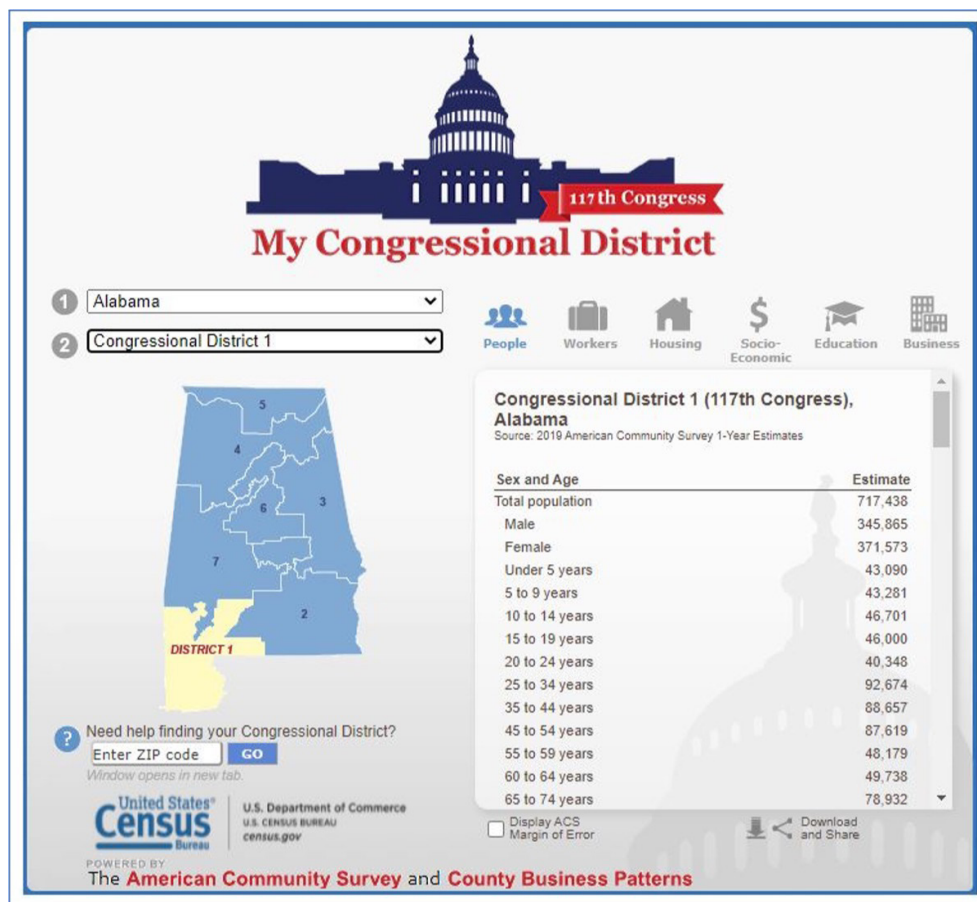
How do members of Congress learn about important issues in their districts? Some of the answers come from the ACS.

The Census Bureau releases annual ACS data for each of the 435 congressional districts. Members and staff use these data to produce current snapshots of the characteristics of their districts, and to look at trends over time.

The ACS provides a wealth of timely social, economic, housing, and demographic data for congressional districts that can be used in drafting legislation, press releases, statements, and constituent correspondence; conducting legislative research; and developing grant formulas for proposed programs.

[My Congressional District](#) is a specialized tool that allows members of Congress and their staff to easily access and view population and housing estimates for congressional districts from the most recent ACS 1-year estimates (see Figure 5).

Figure 5: My Congressional District



Source: U.S. Census Bureau, My Congressional District, <https://www.census.gov/mycd/>.



State and Local Planners Use ACS Data for Decision Making

Imagine if you were an urban transportation planner working with the mayor's office to develop a plan for a new mass transit system in your city. How would you determine what kind of system is needed and who it should serve?

To make these decisions, you would need to know where people are commuting to and from and how they get there. You may need to conduct an equity analysis to ensure that people identifying with different racial and ethnic groups would share in the costs and benefits of the new mass transit system.

The ACS would provide the neighborhood-level data you need to make decisions about a new rail, bus, or light transit line in your community. ACS data also help state and local planners and government officials make decisions about new schools, hospitals, job training centers, emergency services, broadband internet, and many other community projects.

Here are some recent examples of how ACS data are being used in infrastructure projects across the country:

- The Twin Cities Metropolitan Council uses ACS data to [target infrastructure investments and service improvements](#) in areas that have been neglected historically and have experienced under-investment.
- The City of Flagstaff, Arizona uses ACS data on mode of commuting to [develop a plan to enhance walking and biking in the city](#).
- The Centre County Board of Commissioners (in Pennsylvania) used ACS data to identify gaps in high-speed internet access and to [develop a comprehensive plan to expand broadband internet infrastructure in rural areas](#).
- Many metropolitan and regional planners also use data from the [Census Transportation Planning Products](#), or CTPP, which provide a wealth of small-area estimates based on ACS 5-year data for transportation analysis and planning. The CTPP program is designed to help transportation analysts and planners understand where people are commuting to and from and how they get there.

In 2021, Congress passed the Bipartisan Infrastructure Investment and Jobs Act, a \$1.2 trillion investment in our nation's roads, bridges, ports, water pipes, and internet connections. ACS data will play an important role in prioritizing projects for funding and later assessing the potential impact of these investments on communities.

ACS Data Help the Nation Respond to Disasters and Other Emergencies

2021 was also among the [worst years for weather disasters](#) in the United States; hurricanes, tornados, heat waves, and wildfires caused hundreds of deaths and billions of dollars in property damage. Nearly one in three Americans lived in a disaster declaration zone. How do organizations such as FEMA tailor their recovery efforts to the people, homes, and businesses in affected communities?

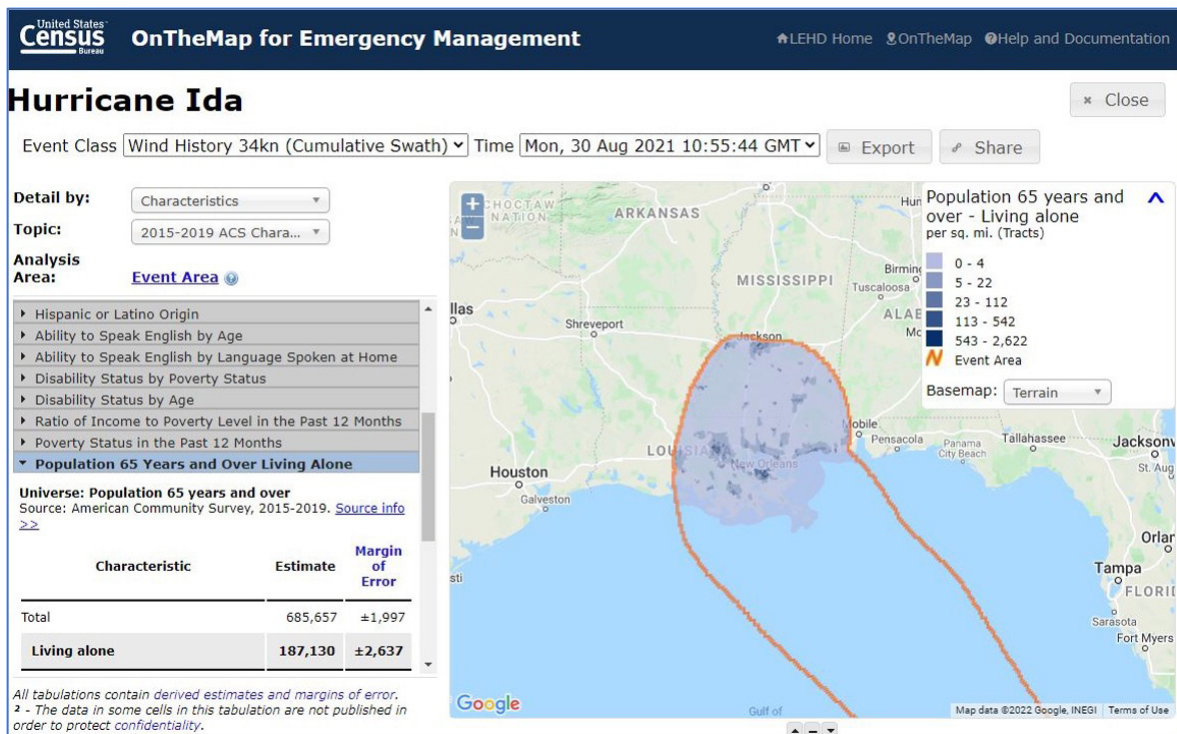
ACS data can help federal, state, and local officials as they coordinate evacuations, conduct damage assessments, carry out recovery plans, and plan for future emergencies.

The Census Bureau's [OnTheMap for Emergency Management](#) tool combines data from the ACS with other sources to show the potential effects of disasters on the U.S. workforce and population.

Users can easily retrieve online reports containing detailed population and housing characteristics for areas affected by hurricanes, floods, wildfires, winter storms, and federal disaster declaration areas.

Figure 6 displays ACS data on older adults living alone and residing in areas most affected by Hurricane Ida, which made landfall in Louisiana in August 2021.

Figure 6: OnTheMap for Emergency Management



Source: U.S. Census Bureau, OnTheMap for Emergency Management, <https://onthemap.ces.census.gov/em/>.

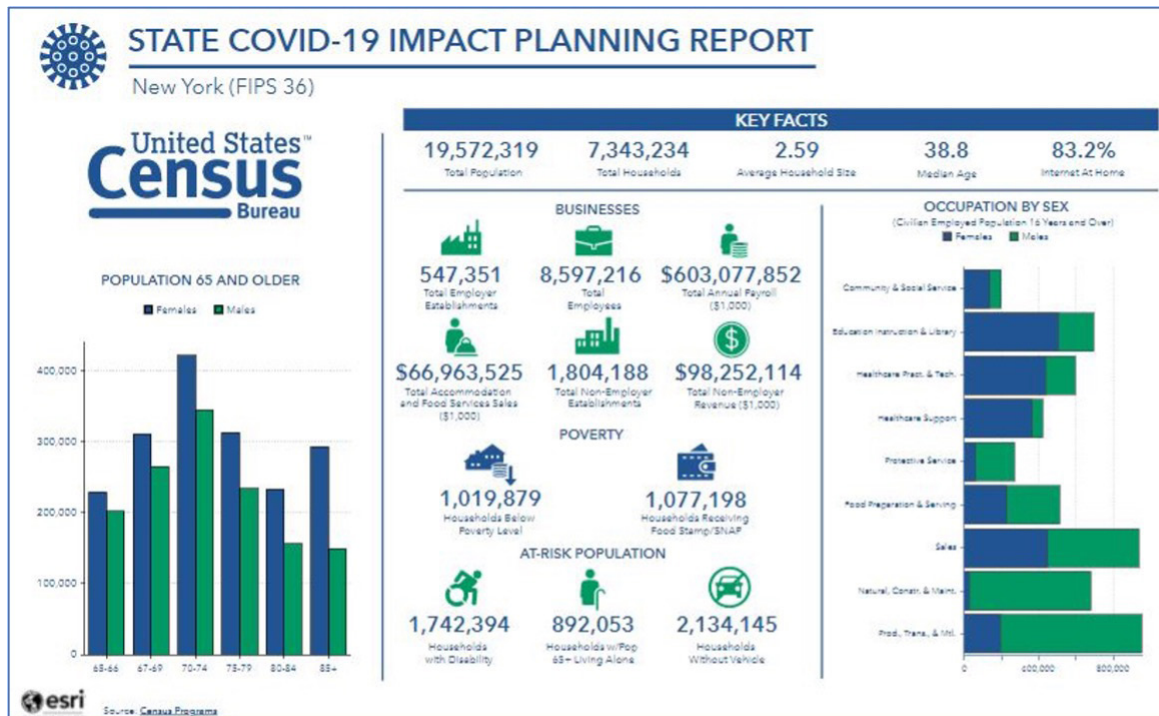
Policymakers and planners have also used pre-pandemic data from the ACS data to measure communities' ability to cope with effects of the COVID-19 pandemic. For example, the Census Bureau's [Community Resilience Estimates](#) include neighborhood-level ACS estimates on:

- Poverty
- Caregivers available in households
- Household crowding
- Communication barriers
- Households without full-time, year-round employment
- People with disabilities
- Health Insurance coverage
- Population ages 65 and older
- Vehicle access
- Broadband internet access

ACS Data Have Been Essential for Understanding and Responding to COVID-19

The Census Bureau also developed a [COVID-19 Data Hub](#) that features ACS data to help guide decision-making related to the COVID-19 pandemic. The site includes state-by-state reports highlighting populations that may be particularly vulnerable to COVID-19 and the pandemic's effects on the economy (see Figure 7).

Figure 7: Census COVID-19 Impact Reports



Source: Census COVID-19 Data Hub, <https://covid19.census.gov/>.

ACS data can be used to provide a pre-pandemic baseline of population and housing characteristics but measuring characteristics *during* the pandemic is more complicated. The coronavirus pandemic not only had unprecedented effects on Americans' health and livelihoods, but it also disrupted our data infrastructure—including the ACS.

In 2021, the Census Bureau announced that it would not be releasing the standard 2020 ACS 1-year data products in September as planned due to the impact of the pandemic on data quality. Instead, the Bureau released a series of [experimental estimates](#) for a limited set of tables and geographic areas. The release of 2020 ACS 5-year data, originally planned for December 2021, was postponed until March 17, 2022.

These issues with the 2020 ACS estimates may hamper recovery efforts, but since ACS data collection is ongoing, we will eventually be able to compare population and housing characteristics before, during, and after the pandemic. Will some parts of the country bounce back faster than others? What are the long-term effects on employment, poverty, and inequality for different population groups?

ACS Data Are Used for Program and Project Evaluation

While the ACS was not designed specifically for program evaluation, the comprehensive and timely nature of the data can make it a valuable resource for policymakers and planners who want to assess conditions before and after a policy or plan change.

Since ACS data are collected using the same methods across the United States, program evaluators can also compare outcomes in communities where a policy change has occurred with communities that have similar characteristics but have not implemented the policy change. A city may use ACS commuting data to track trends in bicycle commutes to work before and after expanding a network of local bikeways.

Forecasting Population and Housing Needs

Urban and regional planners also use ACS data to help develop short- and long-range forecasts of housing, energy, and transportation needs.

- The National Center for Smart Growth used ACS data to help [project the demand for housing in Maryland by 2030](#) and to develop a framework for improving access to affordable housing in the state over the next decade.
- The California Energy Commission used ACS data on the number of households in the state and the characteristics of those households (size, income category, and number of vehicles) as a baseline for [forecasting changes in energy demand across multiple transportation sectors](#).

Planners can also use ACS data to help ensure that projects meet environmental justice and social equity goals. For example, the Puget Sound Regional Council used ACS estimates to help ensure that their [long-range economic strategy](#) would also promote a healthy environment and the well-being of people living in King, Pierce, Snohomish and Kitsap Counties, Washington.



Current Limitations and Challenges in ACS Design and Data Dissemination

ACS Sample Size and Precision of Estimates

The ACS replaced the decennial census long form after the 2000 Census and provides critical social, economic, housing, and demographic data about our nation every year. However, the sample size of the annual ACS is much smaller than the sample size of the previous decennial “long-form” survey. For example, the 2000 Census long-form questionnaire was sent to approximately 20 million addresses, resulting in 18.3 million final interviews. In 2000, this represented about 1 in every 6 housing units. In contrast, the ACS is now sent to about 3.5 million addresses each year, resulting in just over 2 million final interviews annually.

When cumulated over five years, the goal was for the ACS to provide data with the same level of precision for small geographic areas as the decennial long-form sample. But the number of housing units in the United States continues to increase every year. Between 2000 and 2019, the number of housing units increased by 23.8 million or almost 21%. However, the ACS has sampled approximately the same *number* of addresses each year. For the most recent five-year period from 2015 to 2019, the ACS was sent to a total of 17.7 million addresses resulting in 10.9 million final interviews. This number of final interviews represents only about 1 in every 13 housing units in 2015-2019, compared with 1 in 6 for the 2000 Census long form (see Table 1).

Table 1: Number of Interviews for 2000 Census Long Form and 2019 ACS 5-year Data Files

Data source	Final interviews	Share of housing units interviewed
2000 Census long form	18.3 million	1-in-6
2015-2019 ACS	10.9 million	1-in-13

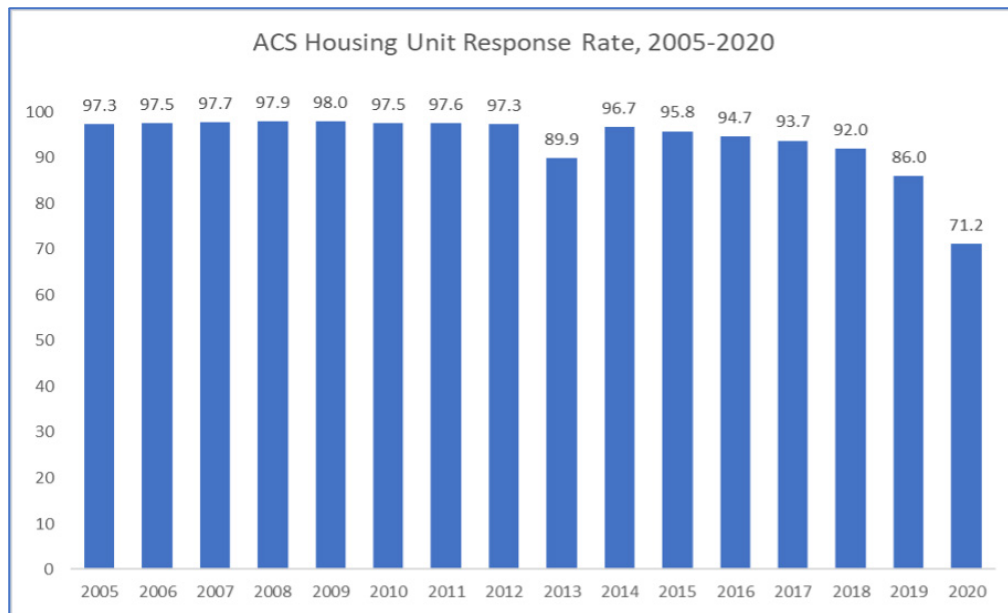
To interview the same *proportion* of housing units in 2015-2019 as in 2000, the ACS would have needed approximately 21.8 million final interviews over this five-year period—almost 11 million more than the actual number of final interviews reported.

Without an increase in sample size, the ACS will continue to interview a smaller share of U.S. housing units each year. And, as the U.S. population continues to grow, the number of census tracts continues to increase. A fixed sample size allocated across more census tracts results in fewer interviews per tract, reducing the precision of ACS estimates and impacting the ability of the ACS to fully replace the data previously provided by the census long form.³

Declining ACS Response Rates

Another factor contributing to the decrease in the number of completed ACS interviews is a decline in the survey response rate. From 2005 through 2012, the ACS response rate was quite high—between 97% and 98%. This is due in large part to the fact that the ACS is mandatory rather than voluntary. The response rate dropped to 90% in 2013 when a government shutdown impacted followup operations. The response rate jumped back up to 97% in 2014, but then declined steadily from 96% in 2015 to only 86% in 2019, prior to the onset of the COVID-19 pandemic (see Figure 8). The government shutdown in 2018-2019 also impacted followup operations, causing a drop of about four percentage points in the response rate in 2019.

Figure 8: The ACS Housing Unit Response Rate Has Dropped Steadily Since 2014



Source: U.S. Census Bureau, American Community Survey Response Rates, <https://www.census.gov/acs/www/methodology/sample-size-and-data-quality/response-rates/>.

The COVID-19 pandemic caused [major disruptions to the 2020 ACS](#), resulting in a final response rate of only 71% and only 1.4 million completed interviews. While response rates for the 2021 ACS have improved, Census Bureau staff have noted that they are not yet back to pre-pandemic levels. Declining response rates are not unique to the ACS—they are being experienced in other federal surveys as well. But unlike the ACS, most of these other surveys are voluntary. Further declines in response rates may reduce the future representativeness and usability of ACS data—especially for small geographic areas and population groups.

Recent Changes to ACS Sample Design

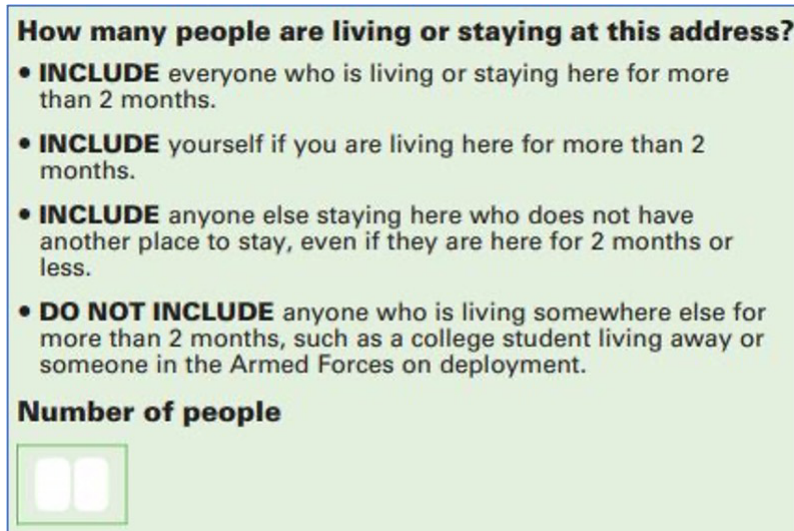
In 2011, the Census Bureau secured additional funding to increase the annual ACS sample size from 2.9 million to 3.5 million. In response to data user concerns about the low levels of precision in ACS estimates for small geographic areas, the Census Bureau also made changes in 2011 to the ACS sample design.⁴ This re-design involved shifting sample from census tracts with larger populations to those with smaller populations to improve the precision of estimates for the smaller areas. The Census Bureau also increased the “nonresponse sampling rate”—the share of nonresponding households selected for followup—to 100% in selected areas based on tract-level mail and telephone response rates.

Census Bureau simulations indicated that these changes in the ACS sample design reduced differences in the precision of estimates between small and large tracts. An analysis of 2008-2012 ACS data for New York City by a National Academy of Sciences (NAS) panel concluded that, “Under the current overall sample size limitations, sample reallocation to ensure CV equalization at the tract level achieves little benefit to precision, and it creates inefficiencies in the geographic aggregation of estimates.”⁵ However, this is just one example, and the conclusion should not be generalized to all areas across the United States.

Better Capturing Household Relationships in the ACS

Increases in cohabitation and births outside of marriage over the past several decades have made household living arrangements more complex and fluid.⁶ So, it's understandable that some respondents are unsure who should be included as a household member when completing the ACS questionnaire. Figure 9 shows the instructions for counting the number of people living or staying at an address.

Figure 9: Portion of 2021 ACS Questionnaire Instructions



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

Source: U.S. Census Bureau, 2021 ACS questionnaire, <https://www2.census.gov/programs-surveys/acs/methodology/questionnaires/2021/quest21.pdf>.

The instructions state that anyone who is living somewhere else for more than 2 months should *not* be included as a household member. While this exclusion rule may be clear in the case of college students living away or members in the Armed Forces who are deployed, it may be less clear in the case of children under age 18 who split their time between multiple households due to joint custody arrangements, parents who live in different households, or childcare arrangements that vary throughout the week.

Indeed, Census Bureau research estimates that about 13% of children under age 5 were missed in the 2015 ACS, and this figure was even higher for Hispanic/Latino children (18%) and non-Hispanic Black children (21%).⁷ These high undercount rates could result in biased ACS statistics about young children, particularly if differences in the children who are included and those who are missed are associated with other social and economic characteristics such as poverty status or food insecurity. Census Bureau research suggests this may be the case. For example, young children who were missed in the 2010 Census were more economically disadvantaged than those who were included.⁸

In the ACS, respondents are instructed to list the name of a person living in the household who owns or rents the housing unit. This individual is called “Person 1,” and the relationship question for all other household members identifies their relationship only to Person 1. The relationships between Person 1 and other household members in turn determine whether a household is considered to be a family or a nonfamily household. While household structure in the U.S. has become more complex, *the current relationship question prevents data users from being able to determine if an adult other than Person 1 is the parent of any resident children.* This is problematic

in cohabiting couple households where a child's classification as an "own" child or "unrelated" child may differ depending on which unmarried partner is listed as Person 1.

Data users also can't determine if resident children are related to both cohabiting adults in a household—only to the one who is arbitrarily designated as Person 1.⁹ Research on the causes of the undercount of young children in the 2010 Census finds that children are more likely to be missed if they live in complex households and those where they are not closely related to the householder.¹⁰ The undercount of young children in the ACS could result in inaccurate assessments of children's living arrangements as well as their social and economic well-being.

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 is 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 rich social, economic, housing, and demographic data provided by the ACS to both study the characteristics of second- and third-generation immigrants—such as educational attainment, family structure, income, and disability status—and to evaluate their well-being compared with other population groups.

Adding, Changing, or Dropping Questions in the ACS Survey

The Paperwork Reduction Act (PRA) of 1995 requires the Census Bureau to submit the ACS questions to the Office of Management and Budget (OMB) for approval prior to collecting any data from the public. Any content changes in the ACS are determined by OMB in consultation with the Census Bureau. The PRA requires that OMB determine the practical utility of all data proposed for collection and keep respondent burden to a minimum. Because participation in the ACS is mandatory, the Census Bureau will only ask, and OMB will only approve, "necessary" questions. To determine what questions are necessary, OMB considers the frequency with which requested data are needed, the level of geography for which they are needed, and whether there is any other data source that could meet the need in lieu of collection on the ACS. The Census Bureau's American Community Survey Office is also responsible for conducting periodic reviews of the justifications for all ACS questions and considering the addition, revision, or deletion of questions. The Census Bureau's goal is to limit the size of and type of content in the ACS so that data quality—indicated by survey and item response rates—remains high.¹¹

OMB, in conjunction with the Census Bureau, co-chairs the Interagency Committee on the ACS that was established by the Interagency Council on Statistical Policy Subcommittee on the ACS (ICSP-SACS). This Committee participates in reviews of ACS content, including tests of new and/or revised questions, and makes recommendations to the ICSP-SACS on any additions, revisions, or deletions of questions on the ACS. With input from other Federal stakeholder agencies, the ICSP-SACS advises the Chief Statistician of OMB and the Director of the Census Bureau on any ACS content changes.¹²

[This formal process](#) helps ensure that the ACS provides the most useful and accurate information with the least amount of public burden. However, requests to test question revisions or add new questions must come from either the Census Bureau itself or another Federal agency stakeholder. This constrains the opportunity for non-Federal agency stakeholders to request consideration or testing of ACS content changes. In addition, even if the ACS Committee, the ICSP-SACS, and OMB's Chief Statistician recommend ACS content changes, final approval rests with OMB's Office

of Information and Regulatory Affairs (OIRA) and the OIRA Administrator who is appointed by the President and confirmed by the U.S. Senate. Thus, even ACS content changes that are supported by research and recommended by the ICSP and OMB's Chief Statistician can be prevented by OIRA from approval and implementation.

ACS Data Access: Limitations and Challenges

The primary tool for accessing ACS data is the Census Bureau's data.census.gov online platform, which replaced American FactFinder in September 2019. Despite extensive data user feedback and ongoing system enhancements, many data users continue to report difficulty in finding the ACS data they need on data.census.gov.

A primary reason for developing data.census.gov was to streamline and standardize data users' experiences in finding, analyzing, and using Census Bureau data. Putting all of the Census Bureau's data in one place should allow data users to spend less time searching for data and more time to using it in their applications. But ACS data prior to 2010 are not available on data.census.gov. Instead, ACS data for 2005 through 2009 must be obtained through the Census Bureau's Application Programming Interface (API) or from Summary Files available through the Census Bureau's FTP site, both of which are designed for advanced users. Thus, novice ACS data users may not be able to access the data from earlier years.

The Census Bureau encourages data users to collapse variable categories and aggregate geographic units to improve the precision of ACS estimates from published tables. However, it is challenging for data users who perform these aggregations to calculate the new measures of precision or error. While the Census Bureau is testing a new tool for accessing and tabulating ACS microdata called [MDAT](#), there is no tool available that enables data users to collapse variable categories, create custom geographic aggregations from ACS tables, or calculate the new measures of error needed for these derived estimates. If the Census Bureau developed a tool enabling data users to collapse categories quickly and easily and/or aggregate geographies in published tables and calculate the standard errors for these new estimates, it would increase the ability of the ACS to meet data user needs for more precise small area data.

The successor to American FactFinder, data.census.gov continues to present challenges. While more experienced data users can navigate to their tables of interest using the Advanced Search feature, novice users are often confused by the single search bar on the home page and the term(s) they should enter to find the information they need. The Census Bureau should continue to work with data users to improve the search function on data.census.gov.

Finally, one of the main strengths of the ACS is that it provides access to estimates on an annual basis. However, viewing and/or downloading data for multiple years in data.census.gov is often a cumbersome process, making it more difficult for data users to measure trends over time.



Enhancements to Improve the Quality, Timeliness, and Robustness of ACS Data

Increasing the Annual Sample Size of the ACS

The annual sample size of the ACS cannot be as large as the census long-form sample because it would be prohibitively expensive. However, the current size of the ACS sample cumulated across five years is much smaller than the 2000 Census long-form sample. Some degree of reduced precision in ACS 5-year estimates relative to those from the 2000 Census long form was expected as the tradeoff for providing more timely annual data updates. 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 be improved by increasing the annual sample size. To reduce ACS standard errors to be only about 25% larger than those from the long-form census, one report calls for “increasing the annual sample size to about 4.8 million housing units,” which would result in a total sample of 24 million housing units when pooled across five years.¹³

Although further changes to the ACS sample design might also be used to increase the precision of small-area ACS estimates, a recent NAS expert panel recommended that any future redesigns carefully evaluate whether further deviations from proportional sample allocation are justified. The panel also concluded that, “The availability of additional funds to improve the precision of estimates would be better used to increase the initial designated sample size, rather than to increase the nonresponse sampling rate.”¹⁴

More Robust Followup Operations

The ACS has suffered from the same decline in response rates that has affected [other government and non-government surveys](#) over the last several decades. The COVID-19 pandemic only exacerbated this challenge. The Census Bureau has a nonresponse followup model that reaches only about one-third of the nonresponding housing units, (unlike the goal in the decennial census nonresponse followup operation to reach 100% of nonresponding housing units). This is due to staffing, workload, and budget limitations currently in place that limit followup operations in the ACS.

Even without an increase in the ACS total sample size, the Bureau needs greater investment in nonresponse followup operations to improve the quality of ACS estimates—especially for smaller geographies and population subgroups. Should Congress consider increasing the sample size of the ACS, this will also increase the size of the nonresponse workload, requiring even greater investment in new and improved methods to address the nonresponse challenge if the ACS is to [reliably and equitably](#) meet the needs of every community.

The COVID-19 experience is perhaps the most disruptive example of periodic challenges the Census Bureau confronts with all its survey followup operations. The ACS, which has the unique mission to provide annual estimates that are comparable across time and all census geographies, faces a continuous challenge to address data collection impacts from natural disasters, extreme weather events, wildfires, civil disorders that lock down cities, public health events and more. When the decennial census confronts these same kinds of challenges, Congress grants the census

professionals flexibility in spending to adjust operations and adapt followup operations to ensure complete coverage and accuracy of data. Similar funding flexibility should be granted to the American Community Survey Office (ACSO) to help them adapt to local, regional, or national events that impact or degrade the self-response to the ACS and ensure future data releases are not delayed due to nonresponse to the survey impacting fitness for use.

Improving Measurement of Household Relationships in the ACS

The Census Bureau has conducted extensive research to better understand why young children are missed in the decennial census and to identify ways to reduce this undercount.¹⁵ Methods identified through this research that are applicable to the ACS should be adopted. For example, decennial census instructions about whom to include as household members could be replicated in the ACS paper and online questionnaire instructions to help reduce the number of children under age 5 who are excluded from the ACS.

Some experts and ACS stakeholders have recommended the addition of questions to the ACS that capture the relationships between all household members rather than just those to Person 1.¹⁶ However, at a minimum, the ACS should add questions similar to the “parental pointers” in the Current Population Survey to establish the relationship of children to all adults in a household. A detailed analysis concludes, “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.”¹⁷ 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 note, “The new CPS family relationship variables are essential for studying cohabiting families.”¹⁸

Adding New Content to the ACS

To enhance the utility of ACS data, new questions in two additional areas could also be considered. The first is adding questions on parental place of birth for all ACS respondents. The Census Bureau previously tested the addition of questions on father’s place of birth and mother’s place of birth in the 2010 ACS Content Test. Based on results from this test, the Census Bureau initially recommended to both the American Community Survey Office and OMB that these questions be added to the 2013 ACS survey.¹⁹ However, in a letter to OMB, the Director of the Census Bureau later requested these two proposed questions be omitted from the clearance package for the 2013 ACS previously sent to OMB. The addition of questions on parental place of birth would enable researchers and policymakers to use the rich social, economic, housing, and demographic data provided by the ACS to study the characteristics and geographic distribution of second- and third-generation immigrants and evaluate their well-being over time.

Second, with the increasing social and political visibility of sexual and gender minority (SGM) populations, there is a growing need for data on the characteristics, geographic distribution, and well-being of these groups. Some voluntary federal surveys such as the [National Health Interview Survey](#) already collect information on respondents’ sexual orientation and gender identity (SOGI) while others—including the Current Population Survey and National Crime Victimization Survey—are researching the potential addition of such questions. More recently, questions to measure SOGI were added to the Census Bureau’s [Household Pulse Survey](#). Drawing on this experience and extensive research conducted by a Federal Interagency Working Group,²⁰ the Census Bureau should evaluate the potential addition of SOGI questions to the ACS. The extensive social and economic data in the ACS, along with data on disability, would enable research on the characteristics and well-being of

SGM populations as well as regional differences in economic and health disparities for these groups.

Future adoption of the combined race/ethnicity question—with the addition of a MENA category—that were proposed and tested by the Census Bureau for the 2020 Census could also improve data quality in the measurement of these characteristics in the ACS.

Incorporating Administrative Data in 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 by filling in missing data using alternative data sources.
- Blending ACS and alternative data to create new data products.

In the most recent *Agility in Action* report,²¹ ACSO described “significant progress” in research to evaluate the use of administrative records to improve data reliability as follows:

- Defined guiding principles and ground rules for the use of administrative data in the ACS.
- Applied the guiding principles to evaluate numerous data sources to identify those with the greatest promise for replacing or supplementing ACS content.
- Determined the eventual viability of using administrative records for housing questions.

This report also outlines the following areas of ongoing research:

- Evaluating use of administrative data to fill in missing data.
- Exploring the differences between administrative and survey response data for property value data.
- Expanding the topics covered by the ACS Program by linking survey responses to administrative data. The current project involves linking ACS respondents ages 19 to 25 to their parents' Internal Revenue Service records to study life course educational attainment by socioeconomic status.
- Better prediction of vacant status of housing units to reduce nonresponse followup costs.

Although challenges remain before these types of administrative records can go into production, the Bureau expects incorporating these records into ACS processes will increase data reliability while reducing respondent burden and saving costs. For example, the Census Bureau was able to use auxiliary data to predict housing unit vacancy status during the suspension of ACS CAPI operations in 2020 due to the coronavirus pandemic. The Census Bureau also successfully used administrative records from the Bureau of Prisons in place of Group Quarters data collection during the pandemic.

At a [NAS workshop in 2018](#), the Census Bureau provided a comprehensive review of their administrative record research results to date and data users shared examples of the use of administrative records in their research.²² With declining ACS survey response rates and rising costs for nonresponse followup, it is important for the Census Bureau to accelerate research on, and implementation of, administrative records use in the ACS.



New Data Products Derived from Modernizing the ACS

For more than 15 years, the ACS has provided the most up-to-date statistics available on America's communities. However, the Census Bureau must constantly adapt to new technologies to meet the changing expectations from ACS data users. Over time, the Census Bureau has made significant strides in this area through:

- Regular improvements to American FactFinder and its successor, data.census.gov.
- Enhancements to the Census Bureau's [Application Programming Interface \(API\)](#).
- The release of new [ACS 1-year supplemental estimates](#).
- The development of a new microdata access tool, [MDAT](#).
- The development of a [Statistical Testing Tool](#) allowing users to test whether differences between ACS estimates are statistically significant.
- The development of specialized tools for particular stakeholder groups, such as [My Tribal Area](#), [COVID-19 Data Hub](#), [OnTheMap for Emergency Management](#), and [Census Business Builder](#).

The Census Bureau has organized [events](#) and provided training materials to help data users access the data they need, including a series of [14 ACS Data User Handbooks](#) tailored to different stakeholder communities.

The Census Bureau has also regularly engaged with ACS data users to gather feedback on data products. In 2015, the Bureau established a Data Products Redesign Group—made up of data users representing different data user communities—that provided input on new or redesigned prototype products. Members of the Census Bureau's [ACS Online Community](#)—an online forum for sharing messages, materials, and announcements related to ACS data—have also provided regular, informal feedback on ACS data products.

Many data users are concerned about the future impact of new disclosure avoidance procedures on the quality and availability of ACS data. At the Census Bureau, disclosure avoidance is a process used to protect the confidentiality of respondents' personal information. Since the 1990 Census, the Census Bureau has protected confidentiality by adding “noise”—or variations from the actual count—to the collected data. For the 2020 Census, the Census Bureau is taking new steps to modernize the procedures used to protect respondent data.

The Census Bureau announced that they will not implement “formal privacy” procedures for the full suite of ACS data products before 2025. However, the Bureau has already started conducting research on [methods to add additional protections to the ACS data](#)—a significant undertaking with future cost implications.

Products that Could be Developed to Better Meet the Needs of ACS Data Users

There are several new products and tools—or enhancements to existing products—that could improve data users' access to ACS data and the usefulness of the 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:

- 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 products or tools that would enable data users to measure trends more easily.
- 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 ACS data through the Census API and tools to help data users access ACS 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.
- Products that provide data users with more up-to-date estimates (e.g., selected monthly statistics, similar to those available from the Current Population Survey).
- New features and functionality to improve access to ACS data through the data.census.gov interface, which continues to present a challenge for many users.

The Census Bureau is also exploring ways to use [Big Data](#) to develop new data products. The use of big data sources would enable the Census Bureau to produce “more accurate, granular and timely statistics at lower costs.”

More broadly, the Census Bureau recently launched an initiative called the “Frames Program” to create Enterprise-wide frames that are linkable in nature.²³ These frames include the Master Address File, the Business Register, the Job Frame, and the Demographic Frame. Linking these frames as part of a new enterprise infrastructure is expected to:

- Reduce respondent burden for both individuals and businesses by re-using data that already exist in one or more frames;
- Reduce duplication of effort within the Census Bureau; and
- Facilitate reproducibility by enabling the tracing of data and code through the linked frames.

The initiative to develop a new enterprise infrastructure at the Census Bureau is taking place within the context of a broader effort to develop “a vision for a new data infrastructure for federal statistics and social and economic research in the 21st century.”²⁴

In a recent [letter](#), stakeholder groups called on the Census Bureau to “harness currently available Big Data technology and methodology to reduce respondent burden and realign the Bureau’s already-existing data from multiple sources into universal ‘frames.’” Doing so, the groups acknowledged, would require a significant increase in funding for Census Bureau research and development.

A Conclusion by The Census Project

As we have illuminated here, the ACS is the premier source for information about America's changing population, households, and workforce—and a crucial component of the American democracy. It is a pervasive and relied upon source of the very kind of information the Founders forecasted the new nation would need to successfully survive and expand across the American continent.

ACS data are pervasively used by federal, state, and local decisionmakers to power our economy and plan our communities. To strengthen it would call for a comparatively small national investment and mitigate the threats to the vital data relied upon by local communities, businesses, and the federal government. Here we try to estimate the scope of the investment required to rescue and expand the ACS in this new information economy and an era of evidenced-based policy making.

What Cost Estimates Are Available for These Investments?

Last year, [stakeholders](#) led by The Census Project first raised the alarm on the need for major new investments in the ACS—months before the Census Bureau announced the delays in releasing the 2020 ACS 1-Year and 5-Year estimates. It was the first, rough effort to assess how much new funding over the current base would be required to begin to modernize the ACS.

That funding proposal to the Congress (as they considered the FY 2022 budget) addressed not only the ACS, but other initiatives as well, including stabilizing the Survey of Income and Program Participation (SIPP), investing in modernizing enterprise data infrastructure at the Bureau, preparing for the 2022 Economic Census, and growing new survey innovations such as the 'Pulse Surveys'—and increasing the ACS sample size by one million. Altogether these enhancements totaled \$335 million. Increasing the sample size of the ACS was estimated to be \$45 million based upon a preliminary forecast from Census leaders consulted by The Census Project.

A more refined cost estimate today would require an in-depth conversation with Census operational leaders, data scientists, and survey methodologists on a comprehensive plan to modernize the ACS, including not just increasing the sample size, but a more robust followup operation, additional questions, and decisions on producing new products, including national or state level estimates never before considered.

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 followup operations costs about \$200 to complete. Increasing the sample size will logically increase the number of cases for nonresponse followup, likely at the rate the Bureau is currently experiencing. Investing in more robust followup operations for just the existing sample size will drive up that \$200/case estimate. Experimenting with the use of Administrative Records for nonresponse followup could drive down the cost per case.

At the moment, the Bureau is in the midst of a year's long transformation of all its survey operations. In the words of Deputy Director Dr. Ron S. Jarmin:

"As we advance into the 21st century, we are experiencing increased demand for our data, struggling with challenges to traditional data collection methods, and exploring rich new data sources and tools that can revolutionize what we do and how we do it. Our success critically depends on our ability to seize the opportunities in front of us to deliver statistical products that address the increasingly complex and diverse needs of our users."

The ACS is both a keystone in this transformation, and a primary beneficiary of the transformation. As a result, it is difficult in this report to fully parse needed investments in the enterprise effort to modernize the Bureau writ large, with the investments required to modernize the ACS alone. For example, the Bureau needs to harness currently available Big Data technology and methodology to reduce respondent burden and realign the Bureau's already-existing data from multiple sources into universal "frames." The Bureau has numerous overlapping samples and products used by programs for different purposes, leading to inefficiencies, redundancies, and duplication. The Census Frames initiative will allow for more nimble operations across the enterprise, producing more granular and timely insights on people, places, jobs, or businesses. This initiative, consistent with the recommendations of the Commission on Evidence-Based Policymaking and utilizing authority granted by the Foundations for Evidence-Based Policymaking Act of 2018 (P.L. 115-435), will integrate data for streamlined use by all Census Bureau surveys, censuses, and products.

Last year, The Census Project supported a significant increase in funding for the Census Frames initiative, which was only funded at about \$12.7 million in FY 2021. Specific to enhancing the ACS, The Census Project pointed out that early indications from the evaluation of 2020 Census data suggest that the disruptions to operations driven by COVID-19 will yield some geographic differences in data quality, such as in college and university towns and areas impacted by hurricanes, wildfires, and other natural emergencies, even as the historic differential undercount persists. States and localities especially cannot afford to wait another 10 years to remedy such potential shortcomings in the 2020 Census count. The Census Bureau needs the flexibility to combine data sources with the ACS; this would provide communities more timely data to fill in any gaps in the 2020 Census results.

Because ACS data "are especially important to small towns and rural areas across the country," the Appropriations Committees [directed](#) the Census Bureau in FY 2021 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 directed in FY 2021. Funding for the ACS has remained relatively stagnant in recent years, including a little over \$226 million in FY 2021. The Bureau needs additional funding (no less than \$45 million to increase the sample size by at least 1 million housing units) to properly plan and execute an expansion of the ACS, beginning in FY 2022. 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 in-depth discussions with Bureau officials.

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 increase in ACS funding of some \$100 to \$300 million to protect the ACS from further data quality deficiencies would have a huge return on investment for the nation.

Indeed, the uses of ACS data continue to expand. Just this month the White House [announced](#) a new tool, the "Climate and Economic Justice Screening Tool," which relies on ACS data to help target the benefits of Federal climate, clean energy, affordable and sustainable housing, clean water, and other investments to disadvantaged communities that are marginalized, underserved, and overburdened by pollution. The ACS will also be essential to fulfilling the ambitions of the [Federal Data Strategy](#).

All that is lacking now is a comprehensive plan of action to save America's most essential source of data.

Endnotes

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