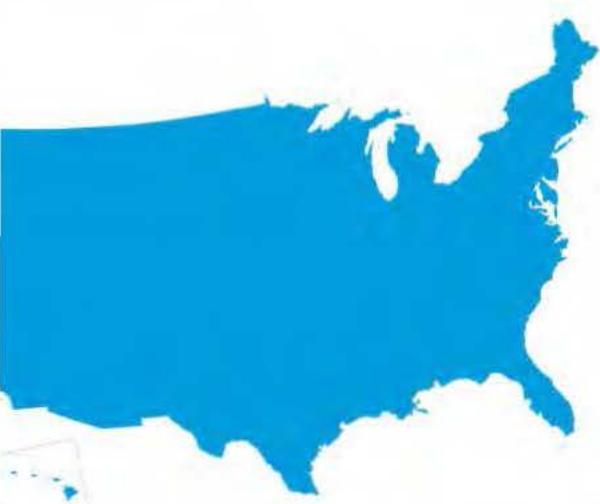


The Value of the American Community Survey:

States



Total population	19,588,586
Median age (years)	37.6
% 65 years and over	17.1%
% White	77.1%
% Black or African American	12.6%
% American Indian and Alaska Native	0.7%
% Asian	5.1%
% Native Hawaiian and Other Pacific Islander	0.2%
% Some other race	0.2%
% Reported two or more races	4.7%
% Hispanic or Latino (of any race)	17.1%
Veterans (currently civilian)	86.6%
% High school graduates (adults 25+)	29.6%
% Bachelor's degree or higher (adults 25+)	25%
Average commute (minutes)	\$30,400
Median earnings for workers (2013 dollars)	\$52,700
Median household income (2013 dollars)	15%
% Income below poverty level (all people)	7%
% Households with a broadband internet subscription	

Source: American Community Survey

Data-Driven Decisions

Federal Government Agencies, States, Local, and Tribal Government

Government agencies use ACS statistics for program evaluation to find waste and to allocate federal funds to your community.

Direct \$400 billion in federal funds to communities, and billions more in state and local funds, each year.

Businesses, civic organizations, and academic institutions use the ACS for a variety of analyses and decisions on resources and planning.

- SCHOOLS
- ROADS
- HOSPITALS



Smart Government, Competitive Businesses, and Informed Citizens



ACKNOWLEDGMENTS

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The Value of the American Community Survey: *Smart Government, Competitive Businesses, and Informed Citizens*



Economics and Statistics Administration
Office of the Chief Economist



April 2015

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FOREWORD

“Better Data for Better Decisions” is my mantra. In my role overseeing the activities of the U.S. Census Bureau and the Bureau of Economic Analysis—two of the United States’ flagship statistical agencies—I seek to safeguard and improve data programs like the American Community Survey.

As I have stated often, the American Community Survey is a national treasure, producing a wealth of data on which our country relies to make important decisions. It is a unique nationwide survey that provides key information about topics such as population, housing, family structure, race, immigration, and veteran status that spans our country as a whole and that lets us understand the characteristics of individual neighborhoods and communities. The American Community Survey is the **ONLY** reliable source of information about the people in our communities and how our communities are changing.

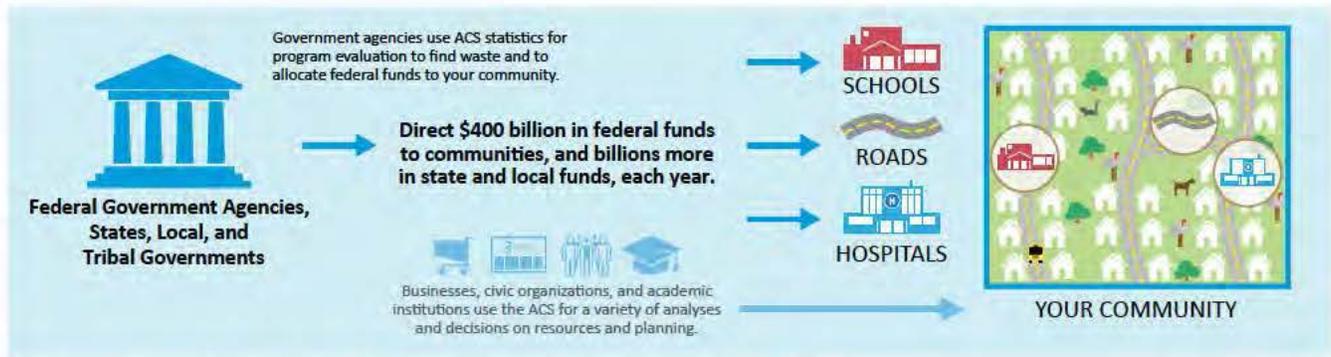
The Census Bureau—like other U.S. statistical agencies—provides this data to the public free of charge. American Community Survey statistics can be downloaded by anyone—from schoolchildren to data scientists. Because we give this data away and because we know that data intermediaries play a key role in data use, our insights into who is using American Community Survey data and why are somewhat limited. Thus, I have asked the Office of the Chief Economist staff, working in cooperation with the Census Bureau, to examine the uses of the survey to develop a better understanding of its value to American communities. The result is this report, which offers new insights into the value of the survey and the many ways American Community Survey data is used throughout the United States.

Not surprisingly, the value of the American Community Survey to our country is immense. Federal decision makers use this data to inform disbursement of over \$400 billion a year in Federal funds. Community leaders use American Community Survey data to analyze how the needs of our neighborhoods are evolving. And, business users rely on American Community Survey data to make key marketing, location, and financial decisions to serve customers and create jobs.

The American Community Survey makes our businesses more competitive, our governments smarter, and our citizens more informed. The challenge before us, one we are committed to meeting, is ensuring we can continue to collect the high quality data provided by the American Community Survey while minimizing the burden on those who respond to the survey.

The Honorable **Mark Doms**
Under Secretary for Economic Affairs
U.S. Department of Commerce

Data-Driven Decisions



How the ACS Helps Our Communities

Federal, state, local, and tribal governments use the ACS to...

Focus programs and investments in the areas where communities need them most. ACS data is used to help communities:

-  **Locate** firehouses, police stations, new roads, and hospitals based on population and demographic trends
-  **Target** disaster preparedness and first-responder resources by locating vulnerable populations in the event of a hurricane, earthquake, tornado, or forest fire
-  **Provide** for our veterans by underpinning projections on disabled vets' employment needs, those homeless or at risk, and demand for hospitals, nursing homes, and cemetery space
-  **Market** communities for economic development and new jobs by highlighting workforce characteristics
-  **Promote** STEM education by providing information on women and other demographic groups in science and engineering fields
-  **Direct** teacher-training resources to underperforming schools
-  **Identify** children in poverty for educational assistance
-  **Assess** the long-term financial health of senior assistance programs
-  **Prevent** discrimination on the basis of race, ethnicity, and national origin
-  **Ensure** federal financial assistance programs reach families in need
-  **Award** grants for environmental cleanup, such as lead control
-  **Award** rural business and industry loans to eligible communities
-  **Make** better decisions through creation of economic measures of GDP, unemployment, inflation, and more

Businesses use the ACS to...

Make critical investments and operational decisions that generate economic activity, boost employment, and improve the standard of living in communities across the country. ACS data is used to:

-  **Determine** when and where to open new facilities or expand existing ones based on population and demographic trends
-  **Create** effective marketing or merchandising strategies to better serve customers and communities
-  **Inform** hiring decisions and workforce evaluation
-  **Forecast** growth and sales to make better strategic decisions
-  **Stock** shelves with the goods suited to local consumer preferences and needs
-  **Invest** in infrastructure improvements
-  **Perform** risk analysis

The ACS is the primary data source to understand conditions and trends throughout America. **Rural areas** benefit greatly because the ACS uniquely provides sufficient sample size in small geographies to analyze those areas.

Title 13 of the U.S. Code protects the confidentiality of all ACS respondents.

EXECUTIVE SUMMARY

The American Community Survey (ACS) is the largest continuous household survey in the United States, providing a wealth of information about the economic, social, and demographic characteristics of persons, as well as housing characteristics. One goal of the ACS is to serve as a cost-effective vehicle for collecting information required by law, regulation, or executive order on behalf of Federal agencies or at the direction of Congress. In conducting the ACS, the U.S. Census Bureau leverages its existing infrastructure and data collection expertise on behalf of the Federal Government. Like the decennial census long form before it, the ACS provides comprehensive and representative statistical information about large and small communities on a variety of important topics—all while protecting respondents' confidentiality. In addition, because the ACS is a continuous survey, the data is published annually, providing more timely information than the once-per-decade long form.

The value of the ACS lies in its ability to provide statistical information representing large and small communities and demographic groups across the Nation that can be used by governments, businesses, and individuals to make better decisions. This ability depends upon sufficiently large samples from these communities, which in turn depends on the mandatory nature of the survey. About 3.5 million households are sampled every year for the American Community Survey, and it takes respondents a total of about 2.4 million hours per year to answer the survey. In exchange, the Nation acquires uniquely comprehensive, representative, topical, and timely data about its communities that serves as an essential component of the information infrastructure relied upon by decision makers throughout the country.

What would happen to the quality of decision making if the ACS were less comprehensive, representative, topical, or timely? The answer depends upon the specific use to which the data would be put and require speculation about what, if any, data would be used instead. Still, Canada's recent experience in moving from a mandatory to a voluntary survey provides some insight into the value of a comprehensive, representative, topical, and timely survey, and what happens when those qualities are compromised. After it became voluntary, the Canadian survey yielded much lower response rates, resulting in information that less comprehensively and reliably covered the small areas of Canada—and at a higher cost. Canadian decision makers were left to use out-of-date data that did not necessarily represent the specific geographic areas in question.

ACS data is uniquely tailored to help guide myriad specific decisions across the country, making government more intelligent, businesses more competitive, and the public more informed. As a tool for smarter government, ACS data offers evidence to help government operate better. Federal agencies rely on the ACS to help them make operational decisions, including managing and evaluating programs, allocating over \$400 billion in funds, determining eligibility for programs, and benchmarking other statistics. For example, the Department of Veterans Affairs (VA) uses ACS data to estimate the number and geographic distribution of veterans with service-connected disabilities who are eligible but not registered for VA health services.

State and local communities use the wealth of information provided by the ACS for a wide variety of purposes, including comprehensive planning, economic development, and research on local issues and conditions. For example, a researcher generated maps of vulnerable populations, such as students, households in poverty, and persons with disabilities in the path of a lava flow on the island of Hawaii, using small-area population and demographic estimates from the ACS. And the Greater Houston Partnership, which works with companies to retain and create jobs, make investments to expand the tax base, and increase general business activity and local incomes, uses ACS data to answer companies' questions about such things as commuting times and the availability of science and engineering workers.

The ACS provides immense value beyond government. Often, intermediaries combine ACS data with other data, analyze it, tabulate it, use it in models, and display it in charts, maps, and tables to help decision makers make better use of it. As a tool for more competitive businesses, ACS data provides reliable information to help businesses make a wide variety of decisions, from where to locate a store to what to stock on the shelves. Locating a business is a critical decision, with more than \$55 billion spent on commercial construction last year. Businesses, such as Kroger, rely on third-party proprietary models that use ACS small area estimates to project sales for potential new grocery stores sites or remodeling of existing stores. Likewise, with retail inventories of over \$563 billion last year, businesses need solid evidence about how to stock their shelves. Retailers, such as Target, use the ACS for neighborhood-level demographic data such as population density, owner-occupancy, and household size to determine the optimal mix of goods with which to stock its stores throughout the country. This report provides other examples of how ACS data has

served as an important component of the information that businesses use to stay competitive—helping them run efficiently, hire wisely, and serve their customers’ needs. And as a tool for a more informed public, ACS data is used by researchers and the media to advance the Nation’s understanding of a broad range of issues. This report discusses examples of these uses as well.

No other source of data offers what the ACS can: timely information about important topics, comprehensively covering communities throughout the Nation with the statistical precision to represent them accurately and to compare them. Without the ACS, decision makers throughout the country would be left to make decisions based on information that is, relative to the ACS, stale, incomplete, unreliable, or not as relevant.

INTRODUCTION

The American Community Survey (ACS) collects information on a large number of economic, social, and demographic characteristics of persons, as well as housing characteristics. The survey is conducted by collecting data from a random sample of housing unit addresses every month, for a total of 3.5 million housing units contacted each year. The large sample size affords comprehensive coverage of the Nation and permits statistically reliable estimation for small and large geographic areas. The ACS program is conducted by the U.S. Census Bureau and provides statistics about thousands of communities across the Nation on a wide range of subjects.

To ensure that all communities are adequately represented, respondent participation is mandatory. The confidentiality of responses is protected by criminal and civil penalties for illegal disclosure. Together these aspects of the ACS help to ensure the data's quality and credibility.

A Brief History of the American Community Survey

The history of the ACS is rooted in the decennial census. The first census, conducted in 1790, had six demographic questions that went beyond the bare enumeration of the Nation's population. Over time, and often at the behest of Congress, more questions about social, economic, demographic, and housing characteristics were added. The development of statistical sampling theory allowed the Census Bureau to collect this detailed data from only a random sample of the population, and from the 1940 Census through the 2000 Census, most households were asked to provide responses to a short set of questions (the "short form"), while a random sample was asked a longer set of questions (the "long form"). In the 2000 Census, the long form was delivered to about 17 percent of addresses, or roughly 20 million households.¹

After the 1990 Census, the Census Bureau began to explore alternatives to the long form, with the goals of simplifying the decennial census, containing costs, and producing timelier information to inform policy decisions and legislative actions. In 2005, after nearly a decade of rigorous testing and experimentation, the Census Bureau fully implemented the alternative to the long form, the American Community Survey.

¹ U.S. Census Bureau. Decennial Statistical Studies Division. *Census 2000 Mail Response Rates*. 2003. Available: <https://www.census.gov/pred/www/rpts/A.7.a.pdf>.

BOX 1: INFORMING DECISION MAKING USING THE AMERICAN COMMUNITY SURVEY—ECONOMIC DEVELOPMENT IN HOUSTON

As an economic development organization, the Greater Houston Partnership works to attract companies to the Houston area to create and retain jobs and increase general business activity. The ACS "is one of the most important tools" in their work:

When a European company wants to open a research and development facility in Houston, they ask about the number of engineers and scientists that live in the region. Why? They need assurance that they can find the technical talent they need to develop their new products. And when a U.S. firm seeks to open a records processing or customer service operation in Houston, the company often asks about commute times. Why? They want to know how long it will take their employees to get to work and whether this will cause staffing problems at the new operation.

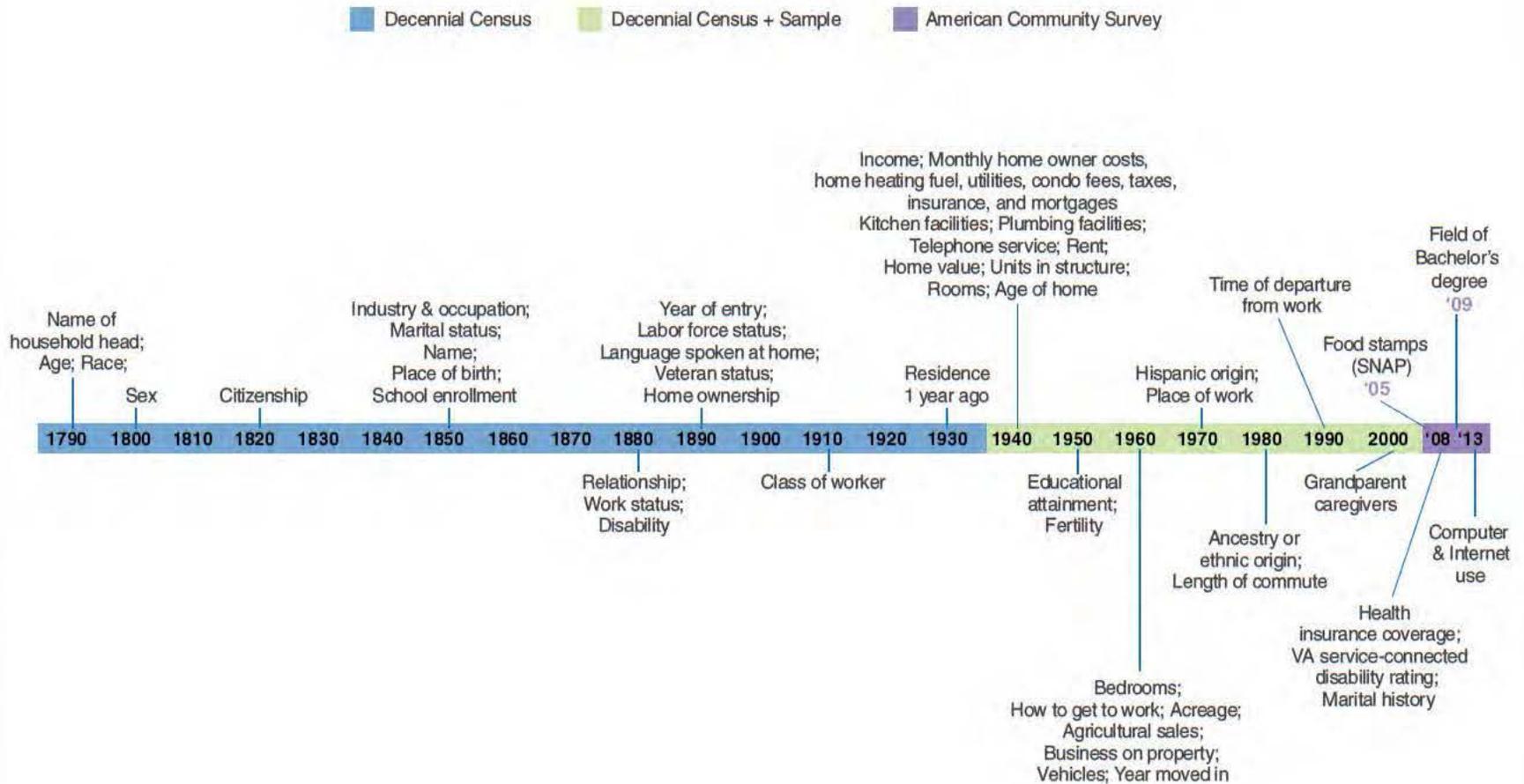
Patrick Jankowski,
Greater Houston Partnership

Source: Jankowski, Patrick. "Pros and Cons of Making the Census Bureau's American Community Survey Voluntary." Testimony before the House Subcommittee on Health Care, District of Columbia, Census and the National Archives. Available: <http://oversight.house.gov/wp-content/uploads/2012/03/3-6-12-Census-Jankowski.pdf>.

Figure 1 shows the timeline for the addition of various topics to the decennial census starting in 1790 through 2000 and to the ACS since it was first fully implemented in 2005. While the first several decennial censuses asked a small number of basic demographic questions (about age, race, and sex), as the Nation expanded geographically and as its population and economy grew in both size and complexity, more questions were added.

This report aims to illustrate the value of the information provided by the ACS by examining how it supports decision making throughout the Nation. The remainder of this report is organized as follows. The first section discusses the ACS's role in providing a broad array of information to represent comprehensively the Nation's communities. The collection of this information has been driven by the Federal Government's need for information, and the value of the ACS lies in the fact

Figure 1.
Timeline of Questions Added to the Decennial Census and American Community Survey



Sources: Infographic: The U.S. Census Bureau: Measuring America's People, Places & Economy Through the Decades <www.census.gov/library/infographics/how.html>; and U.S. Census Bureau, History Web site <www.census.gov/history>.

that it provides a broad range of current and topical information about large and small communities. The section includes discussion about the types of questions asked, confidentiality protections, limitations of the survey, and how the ACS content can be revised to meet the Nation's changing information needs.

The second section of the report focuses on what the Nation gets in return for its investment in the ACS. It provides examples of how ACS data is used to inform decisions across the government and the economy. Although the information needs of the Federal Government are paramount to the mission of the ACS, the section also discusses the importance of the ACS in informing a wide range of state and local community decisions, and how businesses rely on the ACS to improve their operations. Finally, this section discusses the value of the ACS in research and in informing citizens about their communities.

THE AMERICAN COMMUNITY SURVEY: TOPICAL, COMPREHENSIVE, REPRESENTATIVE, AND TIMELY

The value of the ACS is that it provides statistically precise information that is topical, comprehensive, representative, and timely.

The ACS provides *topical* information, driven by the Federal Government's need for information to operate effectively. The ACS questionnaire² contains 48 questions about each person in a given residence and 24 questions about the housing of the respondent. The information it collects includes:

- Individual characteristics such as age, sex, race, ethnicity, ancestry, citizenship, educational attainment, veteran status, disabilities, and language.
- Household structure including family relationships.
- Employment status, industry of employment, occupation, job location, and commuting time.
- Earnings and other income.
- Health insurance.
- Housing characteristics, such as number of rooms and renter/owner-occupied.

² The American Community Survey questionnaires are archived at U.S. Census Bureau. "American Community Survey. Questionnaire Archive." Available: http://www.census.gov/acs/www/methodology/questionnaire_archive/.

BOX 2: INFORMING DECISION MAKING USING THE AMERICAN COMMUNITY SURVEY—STOCKING THE SHELVES

Target, with more than 1,700 stores in 49 states, relies on the ACS for neighborhood-level demographic data so that it can provide appropriate goods for a wide variety of consumers throughout the country. For example, ACS statistics such as population density, age, owner-occupancy, and household size helped Target decide to stock more compact and folding furniture, more apparel, and more youthful fashions in stores located in relatively young urban neighborhoods with smaller homes. In contrast, Target decided to stock larger furniture items, more classic fashions, and less apparel in stores in relatively older suburban areas.

In addition, Target's store in Washington, D.C., is located in an urban area with heavy foot traffic and a large number of metro and bus commuters, so it limits the number of jumbo pack items like paper towels it stocks.

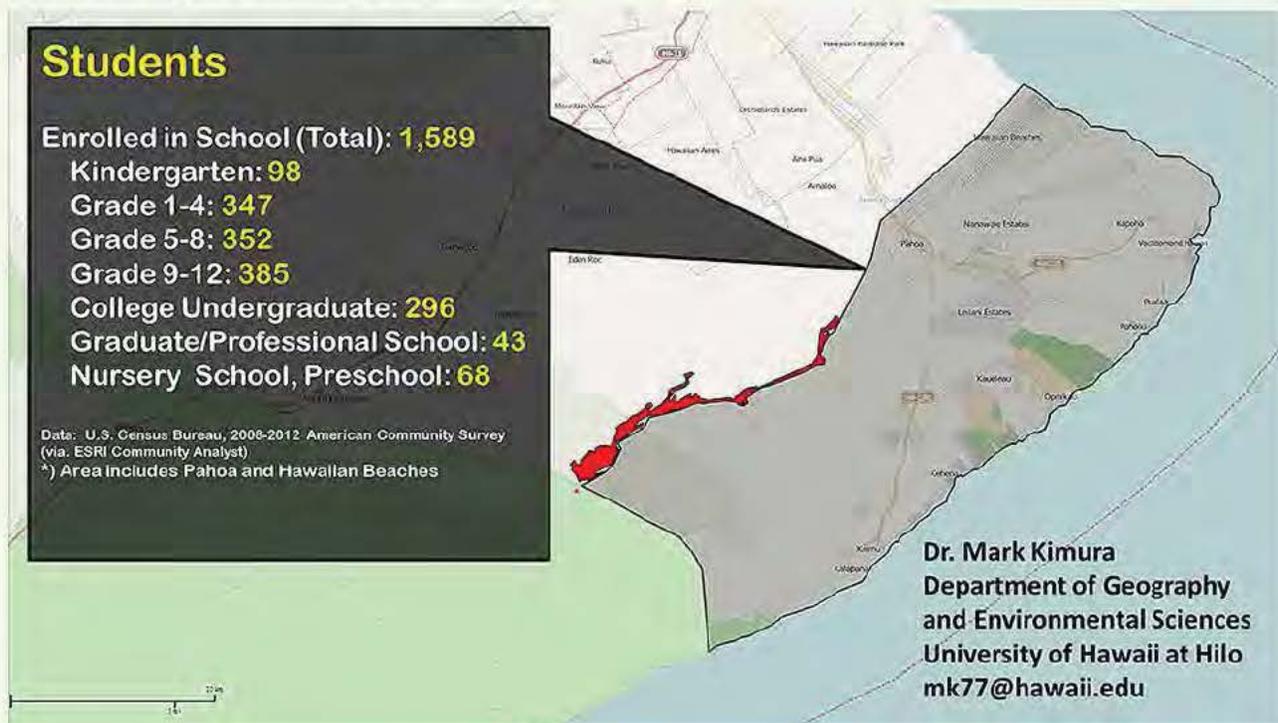
Sources: U.S. Census Bureau. "Stats in Action: Target Uses ACS Data." February 13, 2012. Available: <https://www.youtube.com/watch?v=jgsdQxTv5kY>.

- Expenditures on certain goods and services, such as rent, utilities, and homeowner costs.

The ACS is *comprehensive*, providing a broad array of information covering the entire Nation. The ACS is also *representative* geographically, providing statistically valid information for states, counties, and other large and small areas, such as cities, townships, and villages, congressional and state legislative districts, American Indian and Alaska Native areas and Hawaiian home lands, zip code tabulation areas, and school districts. The ACS is also *representative* of many small distinct populations, for example, reporting 2009–2013 estimates of per capita income by race and Hispanic origin for Crenshaw County, Alabama (2014 estimated population: 13,977). And ACS estimates are *timely*—more current than information based on the once-per-decade Census long form. Because ACS information is based on samples collected continuously each year, new estimates are released annually.

BOX 3: INFORMING DECISION MAKING USING THE AMERICAN COMMUNITY SURVEY—POTENTIAL IMPACTS OF VOLCANO LAVA FLOWS

In late June 2014, lava began flowing from the Kilauea volcano, located on the southern part of the Island of Hawaii, toward the local Puna community. These “Puna lava flows” are the latest since an eruption in 1983. By October, lava continued to flow toward the town of Pahoa. When the Hawaii County Civil Defense office and the Hawaiian Volcano Observatory began to consider possible responses to various potential lava flow scenarios, Mark Kimura, an affiliate faculty member of the geography and environmental sciences department of the University of Hawaii at Hilo saw a need for easily accessible and timely information about demographics and businesses in Puna. Kimura generated maps of vulnerable populations in the path of the Puna lava flow, such as students, households in poverty, and persons with disabilities, using Esri’s Community Analyst tool, which draws on small-area population and demographic estimates from the ACS and other data sources. Such data could inform policy makers’ responses to the lava flow. For example, some students were forced to change schools temporarily.



Sources: Kimura, Mark. “Puna Lava Flow in Graphics & Maps. *UH Hilo Stories*. University of Hawaii. Available: <http://hilo.hawaii.edu/news/stories/2014/09/22/puna-lava-flow-in-graphics-maps/10/>.

“Puna Lava Flow Continues to Slow, But is Still Heading Toward Pahoa Marketplace. *Hawaii News Now*. Available: <http://www.hawaiinewsnow.com/story/27678905/puna-lava-flow-continues-to-slow-but-is-still-heading-toward-pahoa-marketplace>.

The Census Bureau annually publishes estimates based on data covering different time periods for different geographic areas, based on the population size of the areas. Estimates for areas with populations of at least 65,000 are available based on 12 months of collected data (1-year estimates). In contrast, estimates for areas with smaller populations are released annually but are based on 60 months of collected

data.³ Likewise, estimates are released annually for small subpopulations in low-population areas, such as American Indian areas, Alaska Native areas, Hawaiian

³ For additional detail about estimates available for different types of geographic areas, see U.S. Census Bureau. “American Community Survey. Geographic Areas Published.” http://census.gov/acs/www/data_documentation/areas_published/.

BOX 4: INFORMING DECISION MAKING USING THE AMERICAN COMMUNITY SURVEY—STORE LOCATION DECISIONS

Kroger uses ACS data for both primary market analysis and for specialty research projects. Its primary market research involves projecting sales for new and remodeled grocery stores based on population counts and household profiles, which use a variety of data, including the ACS, as a starting point. Kroger makes location decisions based on these models, including in neighborhoods just starting to grow.

Source: Synergos Technologies, Inc. "Kroger." Available: http://www.synergos-tech.com/ss_kroger.htm.

home lands, and racial or ethnic groups, based on 5 years of accumulated data.⁴

Although the use of pooled multiyear data for smaller areas and groups introduces some uncertainty into the estimates, annual releases of data allow users to compare data more frequently than the decennial census would allow. Also, because the ACS uses a consistent methodology to produce estimates, data users can make direct comparisons for a wide range of groups and communities. Such comparisons would be more difficult if communities or other entities independently collected their own data using different methods, definitions, sources, and standards.

American Community Survey Costs and Burdens

To provide statistically valid information about both small and large areas and groups, a sufficient number of completed questionnaires are required, and this drives the cost of the survey. The cost of the ACS includes both the costs to taxpayers, as reflected in the ACS budget, and the time that individuals spend responding to the survey.

The budget for the ACS was \$242 million in 2013, representing an annual cost of about 76 cents per person in the United States. In addition, each respondent spends an estimated average of 40 minutes answering the survey, for a total burden of about 2.4 million hours

⁴ U.S. Census Bureau. National Advisory Committee on Racial, Ethnic and Other Populations Working Group on Small Populations in the American Community Survey. *Small Populations in the American Community Survey Working Group Report*. 2014. Available: http://www2.census.gov/cac/nac/reports/2014-August_ACS_wg-report.pdf.

per year.⁵ Based on average hourly earnings in the private sector of roughly \$24 in 2013,⁶ the estimated value of respondent time spent on the ACS in 2013 was approximately \$58 million.

Another perceived burden of the ACS is concerns about privacy and confidentiality. Some respondents have concerns about divulging information required by some of the survey questions. Therefore, information provided by respondents is kept confidential by law.⁷ The information on individuals and households is aggregated to create statistics about the Nation's communities, devoid of personally identifiable information. Individual-level data is available for certain additional statistical tabulations, but without any information that would allow identification of respondents. The Census Bureau cannot share respondents' answers—including with other government agencies. Violators are subject to fines and incarceration; disclosure of information that could identify respondents can result in up to 5 years in prison, or \$250,000 in fines, or both.

The ACS is a mandatory collection of information for statistical purposes. The mandatory nature of the survey ensures that the sample sizes for all areas are sufficient for reliable statistics. It also helps to achieve this reliability while minimizing the cost to taxpayers. To maintain a sufficiently large sample under a voluntary survey scenario, the Census Bureau would need to increase efforts at following up with respondents who choose not to respond initially, and would need to administer additional questionnaires to compensate for the increase in nonrespondents. This would take more time and more taxpayer money.

Prior to the full implementation of the ACS, and at the request of Congress, in 2003 and 2004 the Census Bureau studied the impact of a voluntary, rather than mandatory, ACS. The Census Bureau found that a voluntary ACS would decrease the response rate by about 20 percentage points and negatively affect the reliability of the survey estimates. As Table 1 shows, if in 2013 the ACS had been voluntary, and no additional

⁵ National Research Council. *Benefits, Burdens and Prospects of the American Community Survey: Summary of a Workshop*. National Academies Press. 2013. Available: <http://www.nap.edu/catalog/18259/benefits-burdens-and-prospects-of-the-american-community-survey-summary>. (Reporting Census Bureau estimates of anticipated average annual respondent burden for 2012–2015 as 2,435,568 hours at p. 156.)

⁶ U.S. Bureau of Labor Statistics. "Current Employment Statistics, Average Hourly Earnings of all Employees, not seasonally adjusted: 2013." Available: <http://data.bls.gov/pdq/SurveyOutputServlet>.

⁷ Under Title 13, U.S. Code, Section 9, the identities of respondents who supply information for statistical purposes must be protected, and the information may only be used for statistical purposes. Cornell University Law School. Legal Information Institute. "13 U.S. Code § 9—Information as confidential; exception." Available: <https://www.law.cornell.edu/uscode/text/13/9>.

Table 1.

Estimated Cost, Sample Size, and Variance Increases Under a Voluntary American Community Survey

(FY2013 projection)

	Outcome of mandatory survey	Outcomes of voluntary survey		
		If cost maintained	If reliability maintained*	If sample size maintained
Sample size (thousands)	3,540	2,918	4,457	3,540
Additional cost Includes: costs of initial mail collection and nonresponse follow-up by telephone and by in-person interviews. Excludes: \$71 million in fixed costs and cost of surveys of Puerto Rico and group quarters.				
Millions of dollars	\$0	\$0	\$89	\$36
Percent increase	0%	0%	52%	21%
Percent increase in variance Increase in variance equates to a loss of estimate precision.	0%	53%	0%	26%

*Larger samples needed for low-response sub-populations.

Note: The budgeted cost of the ACS was \$242 million in FY 2013. The Griffin and Hughes (2012) analysis, from which this table is excerpted, used a baseline cost for initial mail collection and nonresponse follow-up by telephone and by in-person interviews of \$171 million (\$242 million *minus* \$71 million in fixed costs and the costs of surveys of Puerto Rico and group quarters).

Source: Office of the Chief Economist calculations based on Griffin, Deborah and Todd Hughes. U.S. Census Bureau. American Community Survey Office. "Projected 2013 Costs of a Voluntary American Community Survey" 2012. Available: http://www.census.gov/acs/www/Downloads/library/2012/2012_Griffin_03.pdf.

measures were taken, there would be a notable loss in reliability of the survey results (53 percent increase in statistical variance); increasing the initial sample size in order to maintain the reliability of the survey in 2013 would have cost an additional \$89 million (52 percent more than the actual cost). Simply maintaining the current ACS sample size would have cost an extra \$36 million due to additional respondent follow-up and would have also resulted in a less reliable survey.⁸

Further, additional nonresponse as a result of voluntary methods may be unevenly distributed across demographic, social, and economic subgroups, so that the representativeness and completeness of the data from the survey would be at risk. Figure 2 depicts the projected detrimental effect that voluntary methods would have on the percentage of census tracts within a county with acceptable quality data, based on the 2006–2010 5-year American Community Survey

results.⁹ In both panels darker-shaded counties have a higher share of census tracts with acceptable quality data than lighter-shaded counties. The top panel depicts the share of census tracts with various levels of acceptable data quality under a mandatory survey. It shows that only about 5 percent of counties have the lowest level of quality (i.e., the share of tracts with acceptable quality data is less than 20 percent) covering only about 2.5 million people. The top panel also shows that about 42 percent of counties covering 55 million persons have more than 80 percent of tracts with acceptable data quality. In contrast, the bottom panel shows that under a voluntary survey, 24 percent of counties covering 61 million persons would have less than 20 percent of tracts with acceptable data quality, while 17 percent of counties covering about 9 million persons have 80 percent or more of their tracts with acceptable data quality.

⁹ Tracts are statistical divisions of counties. They generally cover a contiguous area and have a population size between 1,200 and 8,000 people, with an optimum size of 4,000 people. (U.S. Census Bureau. "2010 Geographic Terms and Concepts." Available: <http://www.census.gov/geo/reference/terms.html>. A tract does not have acceptable quality if it is flagged as having serious data quality issues (the estimated coefficients of variation for the majority of the key estimates are larger than 30 percent). For more information, see Sub-Requirement F1–6.2 at U.S. Census Bureau. "Information Quality: Statistical Quality Standard F1: Releasing Information Products." Available: <https://www.census.gov/quality/standards/standardf1.html>.

⁸ Even if the overall nationwide sample size were maintained, the sample sizes for particular localities and demographic subgroups might not be sufficient to provide reliable estimates. As a result, even with an overall fixed sample size, shifting to a voluntary survey would result in less precise and less reliable estimates.

Figure 2A.
2006–2010 ACS 5-Year Under Mandatory Methods

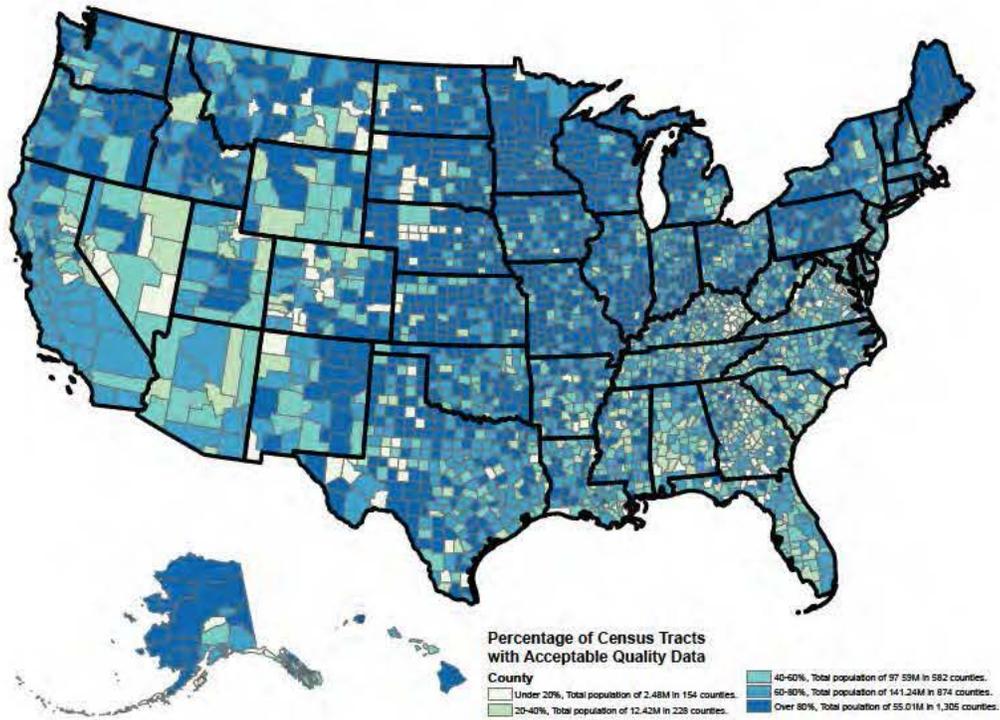
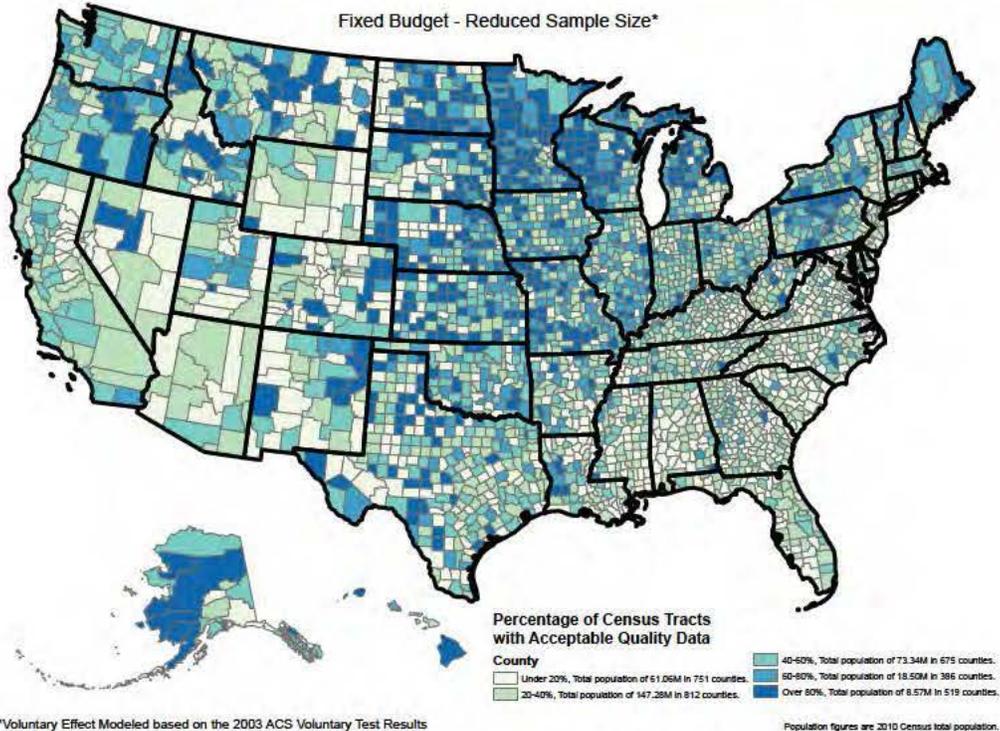


Figure 2B.
2006–2010 ACS 5-Year Under Simulated Voluntary Methods



Source: U.S. Census Bureau. "American Community Survey: Mandatory vs. Voluntary Methods."
 Available: http://www.census.gov/acs/www/methodology/mandatory_vs_voluntary_methods/.

Finally, a less reliable ACS would also be detrimental to other Census Bureau products, since the ACS is used as a benchmark for surveys and other populations and statistical reporting purposes.

In addition to the Census Bureau research, the experience of Canada shows that response rates decline when shifting from a mandatory to a voluntary survey. In Canada, the response rate to a survey similar to the ACS fell from 94 percent in the last year it was mandatory to 64 percent in the first year it was voluntary, a 25 percentage point drop.¹⁰ (See Box 5.) Given the lower response rates, the mandatory nature of the survey is fundamental to its cost-effectiveness as a comprehensive and representative source of data.

Limitations of the American Community Survey

The ACS is a unique source of topical, comprehensive, representative, and timely information, but it is not without limitations that derive from its nature as a survey that generates statistical information from a population sample.

The ACS was designed to preserve the continuity of the long form while responding to calls from policy makers for more frequent data about communities throughout the country.¹¹ Limited budgets and the need to minimize respondent burden made it infeasible to simply conduct the long form survey more frequently. Therefore, the approach taken by the ACS program was to survey fewer people each year than the long form, but to survey on a continuous basis and to pool responses from multiple years to provide statistics about smaller, less populous, communities. However, as a result of the smaller annual sample size, the statistical precision of the ACS is lower than that of the long form, and there may be considerable volatility in the point estimates of smaller groups from year to year, notably for census tract and block group estimates.¹² Further, the use of pooled data requires that ACS estimates be interpreted as multiyear estimates, which might be less intuitive or relevant than estimates that pertain to a point in time.

¹⁰ Office of the Auditor General of Canada. *2014 Spring Report of the Auditor General of Canada*, Ontario: Office of the Auditor of Canada. 2014. Available: http://www.oag-bvg.gc.ca/internet/English/parl_oag_201405_e_39319.html.

¹¹ Anderson, Margo. "The American Community Survey and the Business of the Country. An Historical Analysis of Statutory Policy Making, Survey Goals and Methods." Department of Commerce response to the Joint Explanatory Statement that accompanied the Consolidated and Further Continuing Appropriations Act, 2013 (P.L. 113–6). University of Wisconsin-Milwaukee. July 2014.

¹² Williams, Jennifer D. "The American Community Survey. Development, Implementation, and Issues for Congress." Congressional Research Service, R41532, June 17, 2013 (at page 10).

A more general limitation of the ACS derives from its very nature as a survey, dependent on accurate responses by participants. For some data categories, however, other sources of timely, detailed local area demographic information might provide as accurate, or more accurate, information with less respondent burden. For example, others have noted that information generated from administrative records systems, such as motor vehicle bureau records and social security tax records, might provide some of the information currently provided by the ACS. Other countries maintain population registers to produce many of their basic population statistics.¹³

A recent report by the National Academy of Sciences discussed ways to improve the ACS, focusing on two priority areas: identifying methods to improve the quality of the data for small geographic areas and population groups and suggesting changes that would increase the survey's efficiency in responding to new data needs. The report provides several recommendations related to sample design and recommends continued research on the use of administrative records as sources of data for items on the questionnaire and whether they could adequately substitute for survey questions.¹⁴

Changes to the American Community Survey—A Flexible Approach

As noted above, prior to 2005 the long form served to collect much of the information now collected by the ACS. The long form content stemmed from amendments to the Census Act, a long series of laws enacted by Congress and codified in Title 13 of the U.S. Code to provide guidance for each decennial census. In contrast, the Secretary of Commerce created the ACS under the broad authority given in Title 13, U.S. Code Sections 141 and 193. This gives the Census Bureau more flexibility to adjust the questions to collect the data the Federal Government needs on a timelier basis.

In 2006, a flexible content policy was established for the ACS, whereby the Office of Management and Budget (OMB) requires that, for any questions on the ACS, the practical utility of the data must be demonstrated and respondent burden must be minimized. Further, OMB, in consultation with the Census Bureau, would determine whether sources other than the ACS could meet the needs of a Federal program (considering such factors as the frequency and level

¹³ *Ibid.* Anderson: 39.

¹⁴ National Research Council. *Realizing the Potential of the American Community Survey: Challenges, Tradeoffs, and Opportunities*. Washington: National Academies Press, 2015. Available: <http://www.nap.edu/catalog/21653/realizing-the-potential-of-the-american-community-survey-challenges-tradeoffs>.

BOX 5: THE CANADIAN EXPERIENCE WITH A VOLUNTARY SURVEY

Unlike the United States, which conducts a census every 10 years, Canada conducts a census every 5 years. From 1971 to 2006, the census in Canada consisted of a mandatory long-form survey, but for the 2011 census, the Canadian government replaced the census long-form survey with the voluntary National Household Survey (NHS). This change resulted in a 25 percentage point decline in the response rate despite increasing the number of sampled households, at a cost of \$22 million.^a Even among those who chose to respond to the NHS, fewer completed all questions than in the 2006 census long form. Further, response rates to the NHS varied significantly by region and subpopulation. This resulted in sample sizes that were too small in many cases to allow for statistical inferences, particularly for less populous areas and among indigenous Canadians. Thus, data for 25 percent of Canada's 4,567 census subdivisions was not released due to poor data quality, compared to only 4 percent for the 2006 long-form.

Local communities and businesses relied on the Census long form to understand the demographic and economic characteristics of their communities, particularly small communities for which other survey data was either unavailable or unreliable. The Director General of Statistics Canada's Census Management Office stated "we don't have [comparative] sources at the small level, very small towns. So we can't say if the information is in line with reality in these locations."^b

The drop in quality from the mandatory long-form Census to the voluntary NHS has likely affected

the quality of other Canadian government surveys, because it could no longer serve as a dependable benchmark for those surveys. The long form would provide statistical weights to "adjust" other surveys—for example, by using a group's census weight to generate aggregate wage information. According to Canada's chief statistician, with the change from the mandatory long form to the voluntary NHS, Canada "lost its anchor."^c

Preliminary evidence suggests that the shift to a voluntary NHS already has adversely impacted the ability of Canadian policy makers to make informed decisions. For example, the city of Peterborough, Ontario, had a voluntary response rate of only 64 percent, and therefore chose instead to use nearly 10-year-old data from the 2006 census (the last mandatory census) to estimate the percentage of children with specific illnesses. While some observers have suggested that administrative data like hospital visits might substitute for survey data on illnesses, others reply that not all sick persons go to the hospital.^d In larger cities such as Edmonton, the city's chief economist has argued that the move to a voluntary survey has degraded the quality of data at the neighborhood level and within demographic groups and that, for decisions regarding provisions of services, such as where to build a library or fire hall, the city is "depending on information that's increasingly foggy." And the head of social research and analysis in Toronto stated that the city is no longer making historical comparisons between the 2006 data and otherwise comparable NHS data.^e

^a Office of the Auditor General of Canada. *2014 Spring Report of the Auditor General of Canada*. "Chapter 8—Meeting Needs for Key Statistical Data—Statistics Canada." Available: http://www.oag-bvg.gc.ca/internet/English/parl_oag_201405_08_e_39339.html.

^b Paperny, Anna Mehler and Rebecca Lindell. "Household Survey of Long-Form Census? Tories to Choose (Again) for 2016." *Global News*. September 17, 2013. Available: <http://globalnews.ca/news/843498/household-survey-or-long-form-census-tories-will-make-the-choice-all-over-again-for-2016/>.

^c Sheikh, Munir. "Canada Has Lost Its Census Anchor." *The Globe and Mail*. May 9, 2013. Available: <http://www.theglobeandmail.com/globe-debate/canada-has-lost-its-census-anchor/article11795465/>.

^d Marshall, Aarian. "The Tragedy of Canada's Census." *The Atlantic Citylab*. February 26, 2015. Available: <http://www.citylab.com/politics/2015/02/the-tragedy-of-canadas-census/385846/>.

^e Grant, Tavia. "Scrapping of Long-Form Census Causing Long-Term Issues for Business." *The Globe and Mail*. February 6, 2015. Available: <http://www.theglobeandmail.com/report-on-business/scrapping-of-long-form-census-causing-long-term-issues-for-business-groups/article22846497/>.

of geography of data collection). Content changes for the ACS are reviewed and recommended by the Interagency Council on Statistical Policy Subcommittee on the American Community Survey, which includes participation of three Federal statistical agencies in addition to OMB and the Census Bureau. Any new or modified content undergoes cognitive and field testing to assess whether the changed content produces valuable estimates and, if so, to determine the best wording, format, and placement.

In 2008, for example, to provide more useful information to the U.S. Department of Veterans Affairs (VA), the Census Bureau added a new two-part question on veterans' service-connected disability ratings. Service-connected disability ratings measure the extent of a service-related injury or medical condition and are used to determine eligibility and benefit levels for a number of VA programs. The new ACS question filled an information gap about the Nation's veterans, helping the VA improve its projections of the veteran population and in particular providing better estimates of the number of veterans with service-connected disabilities that do not use the VA's healthcare services. (Other information was inadequate because it did not provide sufficient geographic detail or demographic and income information on a timely basis.) The VA can now better serve veterans by using these projections to allocate more precisely its funding to local VA medical centers. Thus, the changes in the ACS questions on veterans enabled the VA to make better decisions to target its efforts where they were needed most. This illustrates the importance of the ACS as a vehicle for more effective government.

In 2014, the Census Bureau initiated a comprehensive review of the content of the ACS to ensure that the questions asked of respondents were worth the burden to respondents and to eliminate any questions that were not. As a result of the review, the Census Bureau has proposed eliminating five questions: undergraduate field of degree of any college graduates living in a sampled household; whether a person in the household had gotten married, divorced, or widowed in the past year; the year the person was last married; how many times the person was married; and whether a business or medical office was located on the respondent's property. A final decision on the 2016 ACS content is forthcoming (June 2015).

USES AND USERS OF THE AMERICAN COMMUNITY SURVEY

ACS data is part of the information infrastructure that decision makers in government and beyond rely on to make better decisions. The information needs of the Federal Government have driven the content of the ACS. However, available evidence suggests that many users of ACS data are outside the Federal Government sector.

For example, some direct users outside of the government may rely on the ACS to help make business decisions. Many other direct users may access the ACS data, add value to it, and disseminate it. Such intermediaries include consulting firms that analyze and customize ACS data to meet the needs of their customers; researchers who analyze and customize the ACS data and disseminate findings to provide evidence on important issues; and journalists, analysts, and writers that use ACS data to provide context to their stories. Because of the absence of any attribution requirement, many indirect users may not even realize that ACS data is at the foundation of the information they receive and use for effective decision making.

Below, is a sample of the many uses of ACS data both within and beyond government.

Federal Government Uses of American Community Survey Data

One goal of the ACS is to serve as a cost-effective vehicle for collecting information required by law, regulation, or executive order on behalf of Federal agencies or at the direction of Congress. In conducting the ACS, the Census Bureau leverages its existing infrastructure and data collection expertise on behalf of the Federal Government.¹⁵ ACS data is used for multiple Federal purposes. For example, statistics based on questions about place of birth or citizenship are needed by Federal agencies to develop programs for refugees, immigrants, and other foreign-born individuals, and to support enforcement of nondiscrimination policies by Federal and state agencies. The U.S. Department of Education uses these statistics to determine eligibility

¹⁵ U.S. Census Bureau. *American Community Survey Program Review Final Report*. 2013. Available: http://www.census.gov/acs/www/Downloads/operations_admin/2012_program_review/ACS_Program_Review_Report.pdf.

for its programs and to allocate funds to states and school districts.¹⁶ Without the ACS, Federal agencies would need to find alternative sources for their information or collect the information themselves.

The 2014 content review, conducted by the Census Bureau to assess the need for all ACS questions, cataloged in great detail over 300 uses of ACS data by Federal agencies. For each of the uses documented by the Federal agencies, questions from one or more of 72 ACS questions were needed. Counting all uses of each question category, there were well over 2,000 instances in which a question category was required for a Federal purpose.¹⁷

For example, the ACS asks about the relationship of each person in a household to the respondent. This information serves as the foundation for estimates of the number of households and household size, which underlie other estimates, such as average household income and the proportion of households with incomes below the poverty level. In turn, many Federal agencies

¹⁶ U.S. Census Bureau. *American Community Survey (ACS): Questions on the Form and Why We Ask*. "Place of Birth, Citizenship, and Year of Entry." Available: <http://www.census.gov/acs/www/Downloads/QbyQfact/citizen.pdf>.

¹⁷ It is important to note that this is a lower-bound estimate of Federal uses since additional Federal Government uses likely were not captured by the responses of Federal executive agencies. For example, the Congressional Budget Office has used information from the ACS to discuss the rising demand for services for elderly people, as well as to analyze immigration policy. (For examples, see Congressional Budget Office. *Rising Demand for Long-Term Services and Supports for Elderly People*. 2013. Available: <http://www.cbo.gov/sites/default/files/44363-LTC.pdf>; Congressional Budget Office. *A Description of the Immigrant Population: An Update*. June 2011. Available: <http://www.cbo.gov/sites/default/files/06-02-foreign-bornpopulation.pdf>. In addition, the Government Accountability Office has used ACS data to study a wide variety of policy areas such as improvements to third party liability efforts for Medicaid, to understand the increased use of mobile devices, and to determine the demographic characteristics of childcare and education workers. (For examples, see Government Accountability Office. *Medicaid: Additional Federal Action Needed to Further Improve Third-Party Liability Efforts*. January 2015. Available: <http://www.gao.gov/assets/670/668134.pdf>; Government Accountability Office. *Mobile Devices: Federal Agencies' Steps to Improve Mobile Access to Government and Information Services*. December 2014. Available: <http://www.gao.gov/assets/670/667693.pdf>; Government Accountability Office. *Early Child Care and Education: HHS and Education are Taking Steps to Improve Workforce Data and Enhance Worker Quality*. February 2012. Available: http://www.naccrra.org/sites/default/files/default_site_pages/2012/gaostepstoimprovedata2012.pdf.)

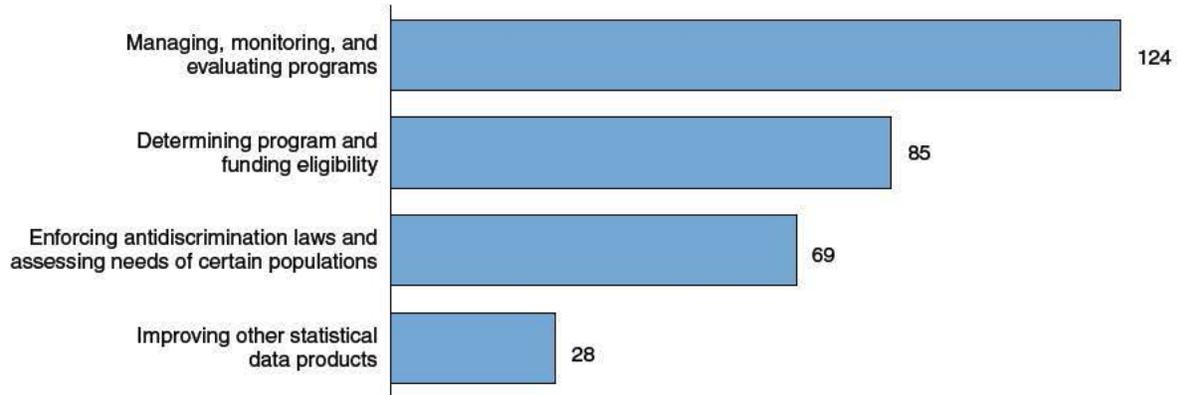
rely on these estimates for multiple purposes: the U.S. Department of Education relies on these estimates for numerous purposes related to education funding; the U.S. Department of Health and Human Services relies on these estimates to allocate funds and for technical adjustments to several of its own health surveys; the U.S. Department of Housing and Urban Development uses family estimates to determine income eligibility for housing programs; and the U.S. Department of Transportation relies on estimates of households and commuting times for transportation infrastructure planning. In total, the information on household relationships is tied to 94 specific Federal agency uses, including use related to 20 Federal laws.

Figure 3 shows the breakdown of Federal agency uses of ACS data, by category of major function, and Table 2 provides some examples of each function.¹⁸ About 41 percent (124) of Federal uses of ACS data are for program management, monitoring, and evaluation. Another significant use of the ACS data is to enforce antidiscrimination laws and support impact analysis and needs assessment for certain populations (69 uses or about 23 percent). In addition, the ACS is used for determining program and funding eligibility (85 uses or about 28 percent), which includes developing eligibility criteria for programs or identifying eligible entities and developing formulas for allocating grants to states and local communities and other organizations. Previous research showed that ACS questions were used to help allocate over \$400 billion in Federal funds.¹⁹ Finally, the ACS is used to help design samples for other surveys, benchmark other surveys so that their estimates of subpopulations better reflect national representation, and to provide content for other statistical data products (28 uses or about 9 percent).

¹⁸ For purposes of this report, ACS questions are categorized based on the question categorization in U.S. Census Bureau. American Community Survey Office. *Handbook of Questions and Current Federal Uses*. October 2014. Available: http://www.census.gov/acs/www/Downloads/congress/ACS_Federal_Uses.pdf.

¹⁹ Reamer, Andrew D. "Surveying for Dollars: The Role of the American Community Survey in the Geographic Distribution of Federal Funds." 2010. Brookings Institution. Available: <http://www.brookings.edu/research/reports/2010/07/26-acs-reamer>.

Figure 3.
Federal Uses of American Community Survey Data by Function



Notes: This chart is based on best data available from Federal agencies as of February 2, 2015, and might not reflect all uses. Census Bureau content review analysis is ongoing and additional information may become available.

Source: Office of the Chief Economist analysis of categories based on the U.S. Census Bureau's American Community Survey Office content review tabulation of Federal Uses of the ACS.

Table 2.
Examples of Federal Uses of ACS Questions by Function

Function	Examples
<i>Program management, monitoring, and evaluation</i> 	<p>Head Start Act Used by Head Start agencies to conduct community-wide needs assessments, including demographic and income makeup, to determine the areas having the greatest need for Head Start services.</p> <p>Workforce Investment Act Used in the continuing evaluation of the programs and activities carried out under Title I of the Workforce Investment Act (which requires states to establish workforce investment boards and to develop 5-year strategic plans for workforce investment).</p> <p>Broadband Data Improvement Act Used to assess the extent of access to, and adoption of, broadband.</p>

Table 2.

Examples of Federal Uses of ACS Questions by Function—Continued

Function	Examples
<p><i>Evaluating programs for diversity and equity</i></p> 	<p>Developmental Disabilities Assistance and Bill of Rights Act of 2000 Used to assess the racial and ethnic diversity of the consumer advisory committees of the University Centers for Excellence in Developmental Disabilities Education, Research, and Service, which must also include a majority of individuals with developmental disabilities and family members of such individuals.</p> <p>Fair Housing Act of 1968 and Equal Credit Opportunity Act of 1974 Used to define the racial and ethnic composition of census tracts to determine whether a lending institution has different marketing or lending practices for areas with different concentrations of racial or ethnic groups, where the purpose of such differences is to discriminate on a prohibited basis.</p> <p>Vietnam Era Veterans’ Readjustment Assistance Act Used to require Federal Government contractors and subcontractors to take affirmative action to employ, and advance in employment, specified categories of veterans protected by the Act and to prohibit discrimination against such veterans.</p> <p>Voting Rights Act Used to determine which voting jurisdictions must provide translated election materials based on Section 203 of the Voting Rights Act, which requires that “any state or political subdivision” conducting an election must provide language assistance for “applicable minority groups,” such as translated voting notices, forms, instructions, and any other material relating to the electoral process.</p>
<p><i>Allocation of resources</i></p> 	<p>Individuals With Disabilities Education Act Used to allocate funds for parent training and education centers based on the ratio of number of children ages 0 to 21 in the state to the number of children in all states.</p> <p>Older Americans Act Used in Community Service Employment for Older Americans Program Grants to ensure equitable distribution of funds to states and within states.</p> <p>Carl D. Perkins Career and Technical Education Act of 2006 Used in career and technical education grant programs to allocate state funds to local educational agencies based on population estimates.</p>
<p><i>Eligibility for programs</i></p> 	<p>Elementary and Secondary Education Act of 1965 Used to determine eligibility for mathematics and science partnership grants based on the percentage of children ages 5 to 17 from families below the poverty level.</p> <p>Community Services Block Grant Act Used in the Community Services Block Grant program to determine the allocation of funds from states to eligible entities and to determine poverty guidelines used for participant eligibility. It is also used to assess the need for assistance for low-income households.</p> <p>Richard B. Russell National School Lunch Act, Healthy, Hunger-Free Kids Act Used to streamline administration of the National School Lunch Program and School Breakfast Program by replacing administrative paperwork with ACS estimates of students eligible for free and reduced-price meals. If successful, the ACS eligibility estimates could determine U.S. Department of Agriculture reimbursements to districts for schools that provided free meals to all students, thereby offsetting some of the respondent burden of the ACS.</p>

Table 2.
Examples of Federal Uses of ACS Questions by Function—Continued

Function	Examples
<p><i>Statistical data products</i></p> 	<p>Crime Victims With Disabilities Awareness Act Used to help measure the criminal victimization of individuals with developmental disabilities in conjunction with the National Crime Victimization Survey conducted by the U.S. Bureau of Justice Statistics.</p> <p>Used by the National Center for Health Statistics in the National Vital Statistics System and various National Health Surveys to design samples; to calculate survey weights; to impute missing data; to perform nonresponse bias analyses; and to link contextual information to survey data by geographic area.</p> <p>Used in the National Survey on Drug Use and Health to significantly improve the efficiency of the sample design and weighting procedures, and the accuracy of small area estimates.</p> <p>Used by the U.S. Bureau of Labor Statistics to update and improve the Consumer Price Index (CPI) including improvements to keep the CPI Housing Survey sample continuously updated.</p>

Source: U.S. Census Bureau. American Community Survey Office. *Handbook of Questions and Current Federal Uses*. October 2014. Available: http://www.census.gov/acs/www/Downloads/congress/ACS_Federal_Uses.pdf and Office of the Chief Economist categorization.

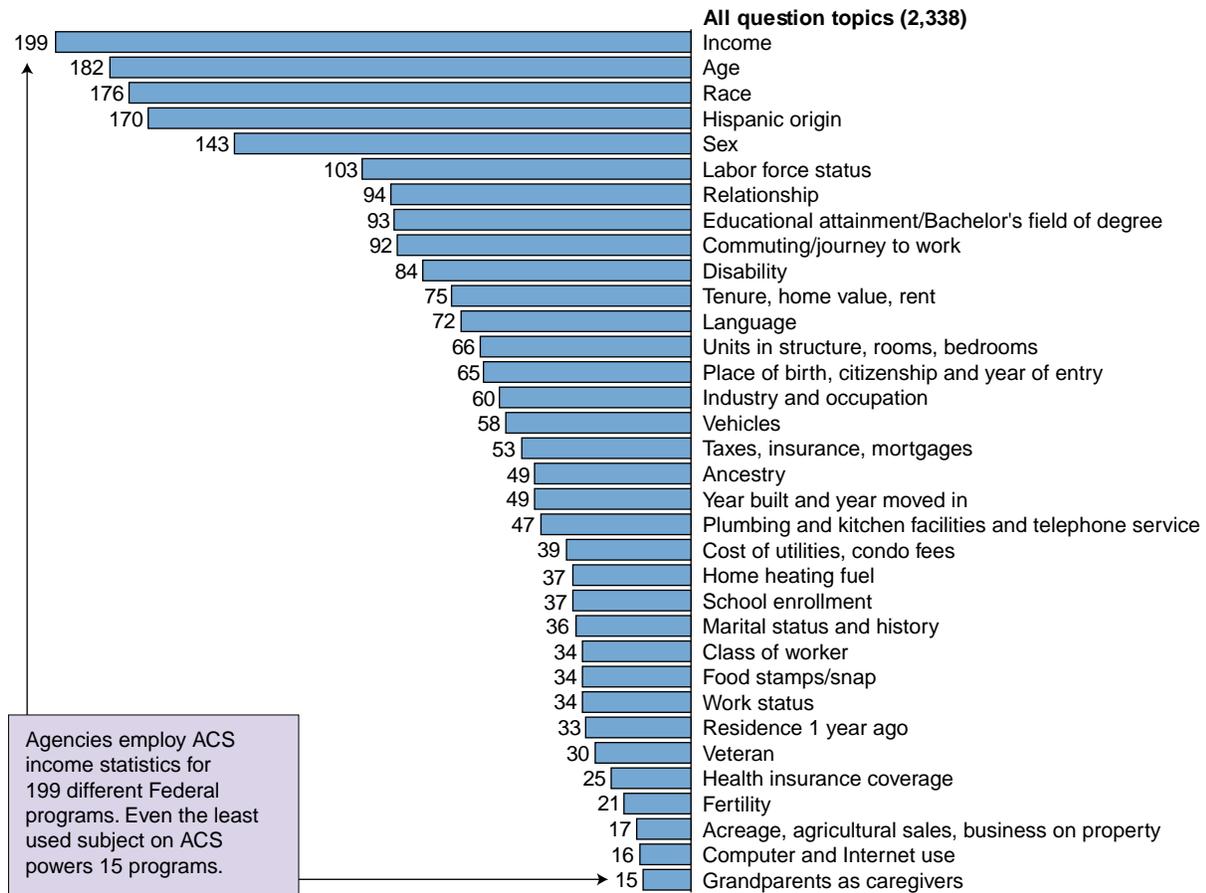
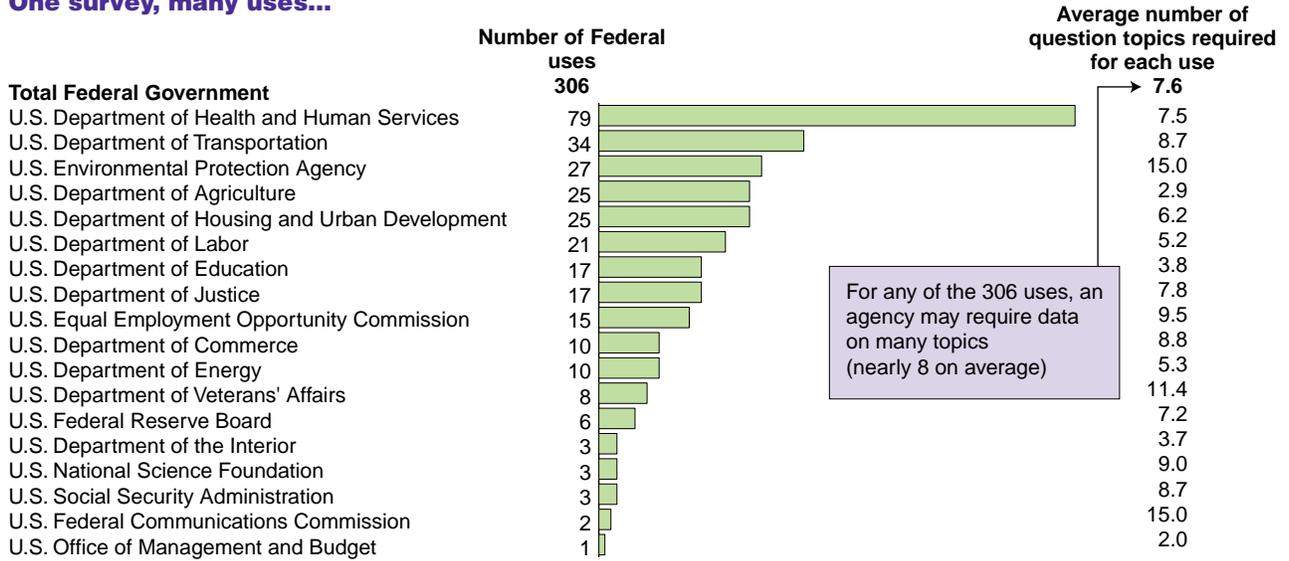
Figure 4 shows the number of Federal uses of ACS data by Federal agency and by particular question topics. Overall, 18 Federal agencies rely on ACS for a total of 306 uses of the data, and the average use of ACS data relies on nearly 8 ACS question topics, for a total of 2,338 uses of ACS question topics across the Federal Government. However, there is a lot of variation across Federal agencies in both the number of uses of the ACS and the average number of questions topics needed for each use. The U.S. Department of Health and Human Services is by far the most extensive user of ACS data, with 79 uses (or about 26 percent of the total number of Federal uses). The U.S. Environmental Protection Agency and the U.S. Federal Communications Commission rely on the broadest array of ACS question topics (each averaging 15 question topics per use). About two-thirds of Federal uses of ACS data rely on the question on income; about half of Federal uses rely on the question about sex, and more than half rely on the other basic demographic questions (age, race, and Hispanic origin). Table 3 provides examples of how the income question is used, as well as the other top five questions used for Federal purposes.

A large number of Federal agency uses of ACS data require highly granular geographic detail. Figure 5 shows the share of Federal agency uses by the smallest geographic area required for that use. ACS data are most commonly needed at the following geographic levels: census tracts, block groups, states, places, and counties. Table 4 defines these geographic levels and provides examples of Federal agency uses for each. Figure 6 illustrates on a map of Texas the relationship between states, counties, places, census tracts, and block groups. Figure 5 shows that information at the block group level (the smallest geographic category in the ACS) is essential for 58 (about 19 percent) Federal uses. The next smallest geographic category, census tracts, is required by 70 (about 23 percent) Federal uses. In other words, 42 percent of Federal uses rely on the smallest geographic areas—suggesting that the ACS’s unique geographic granularity is important to the operation of many Federal programs. Eighteen percent of uses (54) require data at the state level, while 16 percent (48) of uses require place-level data, and 10 percent (30) require county-level data.

Figure 4.

Federal Uses of the American Community Survey by Agency and Question Topics

One survey, many uses...



Notes: This chart is based on best data available from Federal agencies as of February 2, 2015, and might not reflect all uses. Census Bureau content review analysis is ongoing and additional information may become available.

Source: Office of the Chief Economist analysis of categories based on the U.S. Census Bureau's American Community Survey Office tabulation of Federal Uses of the ACS.

Table 3.

Examples of Federal Uses of Particular American Community Survey Questions

Question	Examples
<p><i>Income</i></p> 	<p>Home Mortgage Disclosure Act (HMDA) Used to prepare public disclosure statements and reports on mortgage lending by financial institutions covered by HMDA, which helps detect discriminatory marketing or lending practices in lower-income or predominantly minority neighborhoods, and determine whether financial institutions are meeting the housing and financial needs of their communities, as stated in the statute.</p> <p>Elementary and Secondary Education Act of 1965 Used to determine eligibility for teacher and principal recruiting and training funds, based on the number of children ages 5 to 17 and the percentage of children ages 5 to 17 from families below the poverty level.</p> <p>Older Americans Act (as amended) Used by state and local agencies on aging to consider “greatest economic need” (which is defined as income below the poverty level) in delineating planning areas and allocating funds within each state—state and area agencies on aging must assure special preference in service provision to elderly persons in greatest economic or social need, including low-income minority elderly. This information is made available to tribal organizations.</p>
<p><i>Age</i></p> 	<p>Workforce Investment Act Used to allocate funds to states based on the number of qualifying adults in each state. A qualifying adult is someone at least 16 years of age, beyond the age of compulsory school attendance, without a secondary school diploma.</p> <p>Age Discrimination in Employment Act of 1967 Used to analyze the employment status of workers by age and enforce nondiscrimination provisions in employment.</p> <p>Social Security Administration Used to estimate the current and projected financial status of the trust funds presented in the <i>Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds</i>.</p>
<p><i>Race and Hispanic Origin</i></p> 	<p>Estimation of population and employment of American Indian and Alaska Native populations (alone or in combination with other races) by Tribal Statistical Areas, and by county, for the statutory requirement of the American Indian Population and Labor Force Report due biennially to Congress.</p> <p>Title VI of the Civil Rights Act of 1964 and Section 1557 of the Affordable Care Act Title VI prohibits discrimination on the basis of race, color, and national origin in programs and activities of Federal fund recipients. Section 1557 prohibits discrimination on the basis of race, color, and national origin in certain health programs and activities. Both of these authorities prohibit discrimination on the basis of national origin. Failure to provide language assistance services to individuals with limited English proficiency (LEP) could constitute national origin discrimination.</p> <p>Used by the U.S. Department of Justice and other Federal agencies to comply with and enforce the prohibition against discrimination on the basis of race, color, and national origin in programs and activities receiving Federal financial assistance.</p>

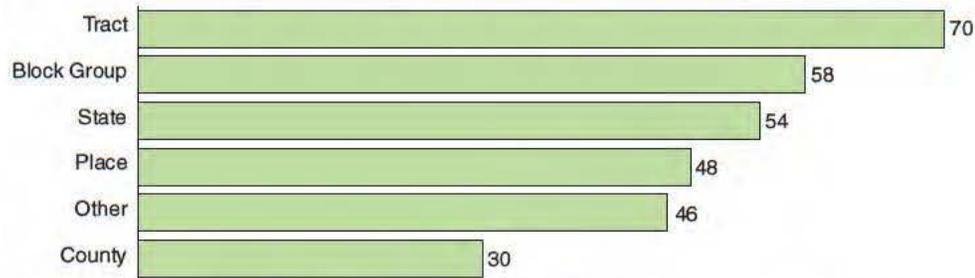
Table 3.

Examples of Federal Uses of Particular American Community Survey Questions—Continued

Question	Examples
<p><i>Sex</i></p> 	<p>National Science Foundation Act Used to provide information on the women, minorities, other demographic group members, and persons with disabilities in the science and engineering workforce.</p> <p>Used by the U.S. Department of Justice, Civil Rights Division to enforce the prohibition against discrimination on the basis of sex in education programs and activities receiving Federal financial assistance.</p> <p>Study of the Determinants of Homelessness Among Veterans The U.S. Department of Veterans Affairs (VA)-sponsored research has found that Veteran status is a significant predictor of homelessness. To document and understand this finding, VA researchers have relied on the use of ACS data to describe the poverty and income status of veterans and nonveterans classified by age, sex, race, service-connected status, and geography (counties and aggregations of places). Such data has been combined with administrative data produced by shelters as well as VA and U.S. Department of Housing and Urban Development in an attempt to understand and document what interventions reduce homelessness among veterans.</p>
<p><i>Relationship</i></p> 	<p>Used to provide family formation and stability measures as part of performance evaluations of the Temporary Assistance for Needy Families program.</p> <p>Federal Reserve Act Used to define permissible public welfare investments for state member banks. Used to identify low- and moderate-income communities or families that an investment must target in order to qualify as a public welfare investment.</p> <p>McKinney-Vento Homeless Education Assistance Improvements Act Used to allocate funds to states based on the percentage of children ages 5 to 7 from families below the poverty level.</p>

Source: U.S. Census Bureau. American Community Survey Office. *Handbook of Questions and Current Federal Uses*. October 2014. Available: http://www.census.gov/acs/www/Downloads/congress/ACS_Federal_Uses.pdf.

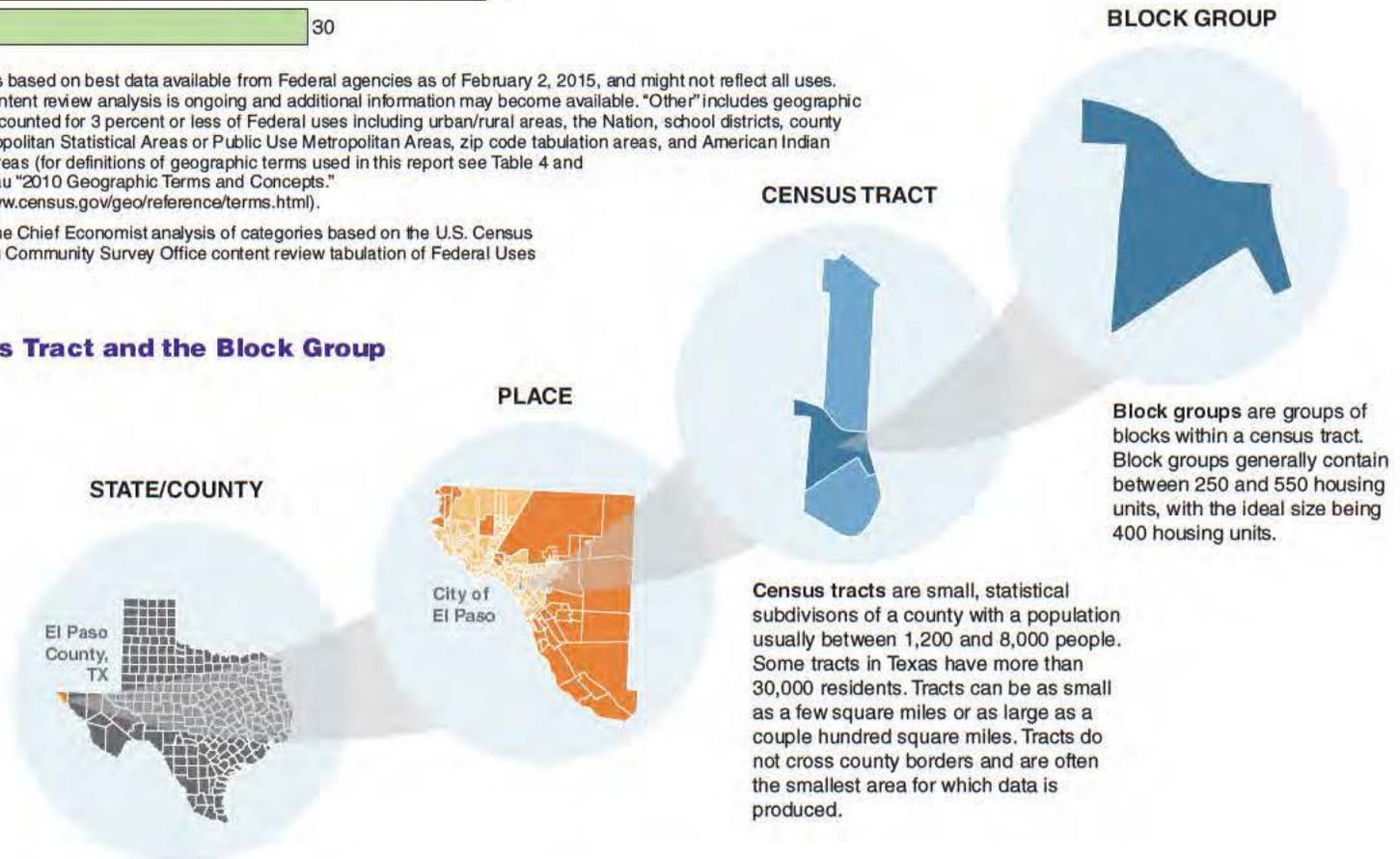
Figure 5.
Federal Uses of the ACS by Smallest Required Geographic Area



Notes: This chart is based on best data available from Federal agencies as of February 2, 2015, and might not reflect all uses. Census Bureau content review analysis is ongoing and additional information may become available. "Other" includes geographic areas that each accounted for 3 percent or less of Federal uses including urban/rural areas, the Nation, school districts, county subdivisions, Metropolitan Statistical Areas or Public Use Metropolitan Areas, zip code tabulation areas, and American Indian or Alaska Native areas (for definitions of geographic terms used in this report see Table 4 and U.S. Census Bureau "2010 Geographic Terms and Concepts." Available: <http://www.census.gov/geo/reference/terms.html>).

Source: Office of the Chief Economist analysis of categories based on the U.S. Census Bureau's American Community Survey Office content review tabulation of Federal Uses of the ACS.

Figure 6.
The Census Tract and the Block Group



Source: U.S. Census Bureau's MAF/TIGER database. Boundaries are as of January 1, 2013.

Table 4.

Examples of Federal Uses of American Community Survey Data by Smallest Required Geographic Area

Geographic Level Definition	Examples
<p>State</p> <p><i>States and equivalent entities are the primary governmental divisions of the United States. In addition to the 50 states, the ACS treats the District of Columbia and (in a separate survey) Puerto Rico as statistical equivalents of states for the purpose of data presentation.</i></p>	<p>The U.S. Department of Education allocates funds to the states for its College Access Grant Program based on each state’s number of children ages 5 to 17 living below the poverty line.</p> <p>The Low Income Home Energy Assistance Program (LIHEAP) of the U.S. Department of Health and Human Services uses state-level data on household income and type of home heating fuel to:</p> <ul style="list-style-type: none"> ▪ Estimate the number of eligible households. ▪ Estimate the costs of home heating fuels used by households at various income levels to calculate block grant allocations. ▪ Estimate the number of LIHEAP-eligible households with at least one elderly member, young child, or person with a disability. <p>The U.S. Department of Housing and Urban Development uses ACS data on “substandard rental units” and household income to allocate Housing Trust Fund appropriations to increase and preserve the supply of rental housing for extremely low-income families (with incomes between 0 and 30 percent of area median income) and very low-income families (with incomes between 30 and 50 percent of area median income, including homeless families).</p>
<p>County or Statistically Equivalent Entity</p> <p><i>The primary legal divisions of most states are termed counties. In Louisiana, these divisions are known as parishes. In Alaska, which has no counties, the equivalent entities are the organized boroughs, city, and boroughs, municipalities, and census areas; the latter of which are delineated cooperatively for statistical purposes by the state of Alaska and the Census Bureau. In four states (Maryland, Missouri, Nevada, and Virginia), there are one or more incorporated places that are independent of any county organization and thus constitute primary divisions of their states. These incorporated places are known as independent cities and are treated as equivalent entities for purposes of data presentation.</i></p>	<p>The Center for Medicare and Medicated Services of the U.S. Department of Health and Human Services uses ACS data on languages spoken at home and English proficiency to identify county-level concentrations of limited English proficient potential enrollees in Medicare Parts C and D. This information is provided to Medicare Prescription Drug Plan sponsors and Part C sponsors to help them comply with regulations requiring them to translate Medicare Parts C and D marketing materials.</p> <p>Under the Rehabilitation Act of 1973, the U.S. Department of Housing and Urban Development (HUD) uses county-level data on the share of total population with disabilities to determine the extent to which housing providers receiving Federal financial assistance set aside accessible or adaptable units for persons with disabilities.</p> <p>Under Section 202 of the Supportive Housing for the Elderly Act of 2010, HUD awards Senior Preservation Rental Assistance Contracts (SPRACs) to eligible Section 202 Supportive Housing for the Elderly properties. The purpose of the SPRAC program is to prevent the displacement of currently unassisted income-eligible elderly residents residing in eligible Section 202 Direct Loan properties that may result from the owner’s refinancing or recapitalization of the property. HUD used ACS data to determine the SPRAC eligibility criteria for projects: projects must be located in counties where more than 6 percent of elderly households have incomes at or below 80 percent of area median income and that have at least one housing problem (lack of sufficient plumbing; more than one person per room; and pay more than 30 percent of monthly income on rent.)¹</p> <p><small>¹ U.S. Department of Housing and Urban Development. Office of Affordable Housing Preservation. Senior Preservation Rental Assistance Contract (SPRAC) Program Frequently Asked Questions (FAQ) Guide. 2014. Available: http://portal.hud.gov/hudportal/documents/huddoc?id=sprac_faq_2014.pdf.</small></p>

Table 4.

Examples of Federal Uses of American Community Survey Data by Smallest Required Geographic Area—Continued

Geographic Level Definition	Examples
<p>Place</p> <p><i>Incorporated places are legal entities such as cities, towns, or villages, established to provide governmental functions for a concentration of people. Census designated places are the statistical counterparts of incorporated places, and are delineated to provide data for settled concentrations of population that are identifiable by name but are not legally incorporated under the laws of the state in which they are located.</i></p> <p><i>In determining the smallest geographic area for each Federal use in this report, places were treated as smaller than counties, but there are some exceptions. While places always are within a single state or equivalent entity, they may extend across county boundaries (e.g., the incorporated city of Laurel, Maryland, is entirely in Prince George’s County, but adjacent unincorporated areas of Prince George’s, Howard, Montgomery, and Anne Arundel counties are also named “Laurel;” see http://en.wikipedia.org/wiki/Laurel,_Maryland). Moreover, some places may be composed of multiple whole counties (e.g., New York City is composed of five whole counties).</i></p>	<p>The U.S. Department of Agriculture defines eligible rural areas as those outside of cities or towns with population greater than 50,000 and their adjacent urbanized areas. These areas are eligible for the following programs:</p> <ul style="list-style-type: none"> ▪ Rural Business and Industry Loan Program ▪ Rural Business Development Grant Program ▪ Rural Business Opportunity Grant ▪ Rural Cooperative Development Grants ▪ Rural Economic Development Loan and Grant ▪ Rural Energy for America Program <p>The National Center for Emerging and Zoonotic Infectious Diseases of the Centers for Disease Control and Prevention within the U.S. Department of Health and Human Services uses place-level ACS data to identify communities where in-home plumbing is lacking.</p> <p>The National Institute on Deafness and Other Communication Disorders of the National Institutes of Health within the U.S. Department of Health and Human Services use ACS data to estimate the place-level prevalence of persons who have serious difficulty hearing and/or are deaf in order to support research on disorders of hearing or other communication processes.</p>

Table 4.

Examples of Federal Uses of American Community Survey Data by Smallest Required Geographic Area—Continued

Geographic Level Definition	Examples
<p>Census Tract</p> <p><i>Census tracts are statistical divisions of counties. They generally cover a contiguous area and have a population size between 1,200 and 8,000 people, with an optimum size of 4,000 people.</i></p>	<p>The National Center on Birth Defects and Developmental Disabilities of the Centers for Disease Control and Prevention within the U.S. Department of Health and Human Services uses tract-level data on persons with disabilities for planning for emergency and disaster preparedness and response for this particularly vulnerable subpopulation.</p> <p>Under the Highway Safety Act and the Moving Ahead for Progress in the 21st Century Act, the U.S. Department of Transportation uses tract-level ACS data to provide information on the following topics to support program development:</p> <ul style="list-style-type: none"> ▪ Carpool and vanpool usage. ▪ Bicyclists and pedestrians. ▪ Congestion mitigation and air quality improvement.
<p>Block Group</p> <p><i>Block groups are statistical divisions of census tracts and generally are contiguous and contain between 600 and 3,000 people. Block groups never cross state, county, or census tract boundaries, but they may cross the boundaries of any other geographic entity.</i></p>	<p>Under the Air Pollution Control Act (Clean Air Act) and the Federal Water Pollution Control Act (Clean Water Act), the U.S. Environmental Protection Agency (EPA) uses block group-level ACS data to research and report on the relationships among different development patterns, including housing and travel information, and public health and pollution.</p> <p>The EPA also uses block group-level ACS data to estimate:</p> <ul style="list-style-type: none"> ▪ The benefits of environmental regulations (i.e., by researching systematic variation in reported housing values, rent, income, and household migration as it relates to data from other sources on environmental exposures, pollution concentrations, and other environmental externalities). ▪ The distributional effects of the incremental costs of environmental regulations. <p>The U.S. Department of the Interior uses block group-level data to assess community vulnerability to natural hazards, such as the ability to interpret hazard information and public shelter demand.</p> <p>Under the Residential Lead-Based Paint Hazard Reduction Act, the U.S. Department of Housing and Urban Development uses block group-level ACS data to estimate the prevalence and dispersion of housing potentially subject to lead disclosure, remediation, or abatement; to assist in the award to lead hazard control grants, and to enforce lead safety regulations.</p>

Sources: U.S. Census Bureau. American Community Survey Office. *Handbook of Questions and Current Federal Uses*. October 2014. Available: http://www.census.gov/acs/www/Downloads/congress/ACS_Federal_Uses.pdf. Office of the Chief Economist categorization based on the Census Bureau's American Community Survey Office content review tabulation of Federal Uses of the ACS. U.S. Census Bureau. "2010 Geographic Terms and Concepts." Available: <http://www.census.gov/geo/reference/terms.html>.

BOX 6: STATE DATA CENTERS—DISSEMINATING AMERICAN COMMUNITY SURVEY DATA TO LOCAL COMMUNITIES

In order to more effectively distribute Census Bureau data to States and communities, dissemination is often done through a network of State Data Centers (SDCs). The State Data Center program was created in 1978 to make data available locally to the public through a network of state agencies, universities, libraries, and regional and local governments. The SDCs are an official source of Census Bureau data for states, and the Census Bureau provides data products, technical support, and training at no cost. State and local governments may request special products and tabulations for a fee. SDCs themselves provide data for their respective regions while

offering assistance to data users and sharing feedback with the Census Bureau about their products.

SDCs also disseminate data to other data users, including media sources, academic researchers, and private sector businesses. Data requests from media sources account for the largest share of SDC requests, followed by academic and research sources and private businesses, but demand for data among state and local governments is also strong. The SDCs responded to nearly 85,000 government data requests in 2013, the most current year for which data is available.

Source: U.S. Census Bureau. "State Data Center Program." Available: <https://www.census.gov/sdc/>.

State and Local Community Uses of American Community Survey Data

The preceding section highlighted how the ACS helps the Federal Government make informed decisions for a wide range of programs. Many of these decisions, in turn, directly affect local communities. Many rely on Federal funds that are allocated with the help of ACS data. A study of ACS-related data used to distribute Federal funds found that, in 2008, more than \$360 billion in Federal funds were allocated directly to states based on ACS data, \$72 billion to local areas, \$48 billion to counties, and \$10 billion to school districts.²⁰ (See Table 5 for examples of state and local government and nonprofit organization uses of ACS data.)

The ACS is also a critical source of information to help state and local communities make decisions. It is often the only available reliable source of data for the demographic and economic characteristics of small and rural areas. To target most effectively their scarce resources and better serve their residents, these communities must first understand the basic demographic and economic characteristics of their populations. Without the ACS, these thousands of communities would be forced to collect information themselves or make decisions without the benefit of timely local data. In addition, ACS data makes it possible to conduct objective comparisons across communities because it uses consistent methodologies and concepts. State and local areas

use ACS data in *community planning* to help inform decisions related to transportation, housing, disaster management, and health care planning and allocation. They also use the ACS for *economic development*, to attract businesses and encourage business expansion.

Comprehensive Planning in State and Local Governments

Cities, townships, and counties throughout the United States develop comprehensive plans to guide future growth and development. These provide a roadmap for land use and encompass areas such as transportation systems; sewer and water systems; educational facilities; recreational facilities; and natural resources and air and water quality management programs. The all-inclusive nature of these plans often provides citizens with a broad set of community goals and the rationale for the decision making processes of their local leaders. Local governments throughout the Nation rely on the ACS for data to inform their comprehensive planning. ACS data provides these local communities with important evidence about the demographic and economic characteristics of their citizens, such as educational attainment and languages spoken, resident migration, and work commuting patterns.²¹

²¹ For examples of local community comprehensive plans, see Grayson County, Virginia. *Grayson County Comprehensive Plan—2013*. 2013. Available: http://www.graysongovernment.com/uploadimages/GraysonCompPlan_12_18_13.pdf and Dakota County, Nebraska. *Dakota County Comprehensive Plan 2014*. 2014. Available: http://www.dakotacountyne.org/pdfs/Comprehensive_Plan_2014.pdf.

²⁰ *Ibid.* Reamer.

Table 5.

Examples of State and Local Uses of American Community Survey Data

<p><i>Housing</i></p> 	<p>Dakota County, Nebraska</p> <p>A major element of the county's 2014 comprehensive development plan was an assessment of the county's housing needs in order to help inform land use regulations, such as zoning and subdivision regulations, and to work with large employers to help provide housing. The plan relied heavily on data for Dakota County from the 2007–2011 ACS 5-year data release, including estimates of the share of housing units that were owner-occupied; housing values; the age of housing units; gross rent as a percentage of household income; and demographic profiles of households. Based on ACS data, the plan concluded that housing development should focus on construction of:</p> <ul style="list-style-type: none"> ▪ Rental units for households with older and disabled members ▪ Owner-occupied units for older adults consisting of single-family homes and townhome units ▪ Two- and three-bedroom affordable rental housing for families of varied income levels <p>Source: Siouxland Interstate Metropolitan Planning Council. Community and Economic Development Department. <i>Dakota County Comprehensive Plan 2014</i>. Available: http://www.dakotacountyne.org/pdfs/Comprehensive_Plan_2014.pdf.</p> <p>Lexington-Fayette Urban County, Kentucky</p> <p>The Lexington-Fayette Urban County Human Rights Commission conducted a comprehensive report on local housing fairness, choice, and affordability to “encourage discussion and collaboration around housing issues” among local stakeholders. In the report, published in 2013, the authors collected a wide variety of ACS demographic, economic, and housing data, including poverty rates, educational attainment, homeownership, and employment rates with a particular focus on protected classes such as female-headed households with children, racial minorities, and persons with disabilities. Key findings of the report are:</p> <ul style="list-style-type: none"> ▪ The number of non-native English speakers increased by 186 percent between 2005 and 2012. ▪ Median rent as a share of median income of renters was 35 percent (higher than the 30 percent threshold established by the U.S. Department of Housing and Urban Development for households with severe housing cost-burden). <p>Source: Lexington-Fayette Urban County Human Rights Commission. <i>State of Fair and Affordable Housing Report</i>. February 2013. Available: http://www.lfuchrc.org/publications_copy(1)/LexingtonFairHousingReport_WEB.pdf.</p>
<p><i>Senior Citizens Issues</i></p> 	<p>Oklahoma County, Oklahoma</p> <p>Local governments often utilize the ACS to assess the state of their aging populations. For example, in 2008, Oklahoma County, Oklahoma, and the United Way conducted a study of the county's senior community in order to provide a “snapshot” or “baseline” to identify what was needed during the ensuing years to make Oklahoma County a more senior-friendly community. The ACS was a primary data source for poverty, home ownership, and the prevalence of disabilities among senior citizens.</p> <p>Source: Oklahoma County Department of Training & General Assistance. <i>Envision 2020. Seniors in Oklahoma County</i>, 2008. Available: http://www.oklahomacounty.org/departments/SocialServices/documents/SeniorStatReport08.pdf.</p>

Table 5.

Examples of State and Local Uses of American Community Survey Data—Continued*Health***Idaho**

Local communities use the ACS as a source of data to build profiles of health needs. For example, the Idaho State Office of Rural Health and Primary Care created a profile of Idaho health disparities using data from the ACS and other sources. The purpose of the report was to inform policy makers of the potential disparities in quality health care available to citizens across the state, and included ACS demographic and economic data to provide a general overview of Idaho demographics.

Source: Galen, Louis. Idaho State University for the Idaho State Office of Rural Health and Primary Care. *Profile of Idaho Health Disparities: A Compilation of Data from U.S. Census, American Community Survey, Idaho Vital Statistics, and the Behavior Risk Factor Surveillance System*. 2007. Available: <http://www.healthandwelfare.idaho.gov/Portals/0/Health/Rural%20Health/IdahoDisparities.pdf>.

Santa Clara County, California

In 2013, the Santa Clara County Public Health Department issued a report on lesbian, gay, bisexual, transgender, and queer (LGBTQ) persons. The report was largely based on data collected in a survey of the county's LGBTQ adult population conducted by the Public Health Department, as well as data from a wide variety of other sources. The report relied on ACS data to compare the educational attainment and income of the county's entire population to that of the county's LGBTQ population and found:

- LGBTQ persons age 25 and older had higher educational attainment than the general county population (65 percent had a college degree or more compared to 47 percent, respectively)
- LGBTQ adults in Santa Clara County were less likely than the overall population to have annual household incomes of \$75,000 or more (41 percent versus 57 percent).

Source: Santa Clara County [California] Public Health Department. *Status of LGBTQ Health: Santa Clara County 2013*. Available: http://www.sccgov.org/sites/sccphd/en-us/Partners/Data/Documents/LGBTQ%20Report%202012/LGBTQ_Report_WEB.pdf.

Utah

The Urban Institute's Health Policy Center estimated eligibility, enrollment, and costs for a Basic Health Program (BHP) for Utah under the rules defined by the Patient Protection and Affordable Care Act using ACS data along with results from the Urban Institute's Health Insurance Policy Simulation Model. The basic health care coverage and demographic data were provided by the ACS and the large sample size of the survey allowed the Health Policy Center to "examine the Utah population in the relatively narrow income eligibility range for the BHP." Findings include:

- 55,000 Utahans would qualify for BHP
- Between 31,000 and 41,000 would likely enroll, if BHP is structured like the state's current Children's Health Insurance Program (CHIP)

Source: Buettgens, Matthew, Stan Dorn, Jeremy Roth, and Caitlin Carroll. The Urban Institute. *The Basic Health Program in Utah*. 2012. Available: <http://www.urban.org/UploadedPDF/412695-The-Basic-Health-Program-in-Utah.pdf>.

Table 5.

Examples of State and Local Uses of American Community Survey Data—Continued

<p><i>Education Planning</i></p> 	<p>School Districts Throughout the Nation</p> <p>The National Center for Education Statistics within the U.S. Department of Education, created the School District Demographic System (SDDS) to help educators, community leaders, researchers, and students plan for improved educational programs and opportunities. The SDDS uses census data, including the ACS, to “provide a variety of demographic projections about children, parents, and other populations residing in education-related geographies.” The SDDS also includes a “central repository of education-related geographic entities like school locations, school district boundaries, and school attendance areas.”</p> <p>Source: U.S. Department of Education. National Center for Education Statistics. “School District Demographic System.” Available: http://nces.ed.gov/surveys/sdds/index.aspx.</p> <p>New York City</p> <p>The ACS has been used to help local governments project public school enrollment trends in cities. For example, New York City uses ACS data on foreign-born populations to help project the number of immigrant schoolchildren.</p> <p>Source: Statistical Forecasting, LLC. Prepared for the New York City School Construction Authority. <i>Enrollment Projections for the New York City Public Schools 2012–13 to 2021–22 Volume II</i>. February 2013. Available: http://www.nycsca.org/Community/CapitalPlanManagementReportsData/Demographics/2012-2021StatisticalForecastingReport.pdf.</p>
<p><i>Rural Issues</i></p> 	<p>The ACS is the only source of comprehensive information on less-populated rural communities and remote incorporated areas. Data from the ACS has been used to provide evidence about conditions in rural areas regarding several important policy issues. For example, ACS data has been used to determine that disabled veterans are concentrated in rural areas and in the South, to find that rural child poverty has increased in 41 states, to help rural areas effectively place water and waste disposal systems, and to determine eligibility for rural business assistance grants.</p> <p>Source: The Census Project. “American Community Survey Fact Sheet, “How the Census Bureau’s Largest Sample Survey Benefits America’s Rural Communities.” Available: http://www.thecensusproject.org/factsheets/acs/Rural_Communities_and_ACS-Fact_Sheet_June2014.pdf.</p>
<p><i>Homelessness and Hunger</i></p> 	<p>Many organizations use the ACS to understand better both the extent of homelessness and hunger in the United States and to provide effective services for the affected populations.</p> <p>The National Alliance to End Homelessness publishes an annual report on “The State of Homelessness in America” that relies on a multitude of ACS statistics to identify populations that are at risk of becoming homeless. The report is intended to be a comprehensive reference for policy makers, journalists, community, and state leaders.</p> <p>Food banks throughout the Nation, including those of Cleveland, New York City, and Pittsburgh, utilize Feeding America’s “Map the Meal Gap” tool, which uses ACS data to produce a county-level analysis of food insecurity to direct additional food and services to the areas of highest need.</p> <p>Sources: National Alliance to End Homelessness. <i>The State of Homelessness in America 2014</i>. Available: http://www.endhomelessness.org/library/entry/the-state-of-homelessness-2014. Feeding America. “Map the Meal Gap.” Available: http://www.feedingamerica.org/hunger-in-america/our-research/map-the-meal-gap/.</p>

Table 5.

Examples of State and Local Uses of American Community Survey Data—Continued

Disaster Planning and Response



Planners for emergency first response at both the state and local levels use ACS data to identify and create action plans to assist vulnerable community members, such as the elderly, families with incomes below the poverty level, citizens with disabilities, and those with special language needs. Examples of state and local emergency preparedness plans that utilize ACS data include:

- Maryland Emergency Management Agency. State of Maryland Core Plan for Emergency Operations. August 2009. Available: <https://www.mwcog.org/security/security/otherplans/Maryland%20Emergency%20Operations%20Plan.pdf>.
- Consolidated City of Jacksonville/Duval County, Florida. Comprehensive Emergency Management Plan. November 2010. Available: <http://www.coj.net/departments/fire-and-rescue/docs/emergency-preparedness/comp-2010-with-city-council-resolution.aspx>.

Hurricane Katrina

The events related to Hurricane Katrina in 2005 illustrate the importance of having current information about specific localities to make before and after comparisons. ACS tabulations for the hurricane-hit region reflected data collected “before” and “after” the hurricane, providing estimates for a wide range of characteristics, such as housing conditions and population shifts, at a time when the Nation needed evidence about the hurricane’s impact. The continuous nature of the ACS allowed for impact estimates that would not have been possible with a once-per-decade survey like the long-form.

Source: Koerber, Kin. Housing and Economic Household Statistics Division. U.S. Census Bureau. “Migration Patterns and Mover Characteristics from the 2005 ACS Gulf Coast Area Special Products.” Available: http://www.census.gov/newsroom/emergencies/pdf/gulf_migration.pdf.

State and local governments often use a wide variety of ACS data to further their understanding of the local labor force, household income, educational attainment, commuting characteristics, and the industry and occupations of their citizens. Utah, for example, used ACS data to conduct a study of the extent to which the Great Recession still affected Utah’s largest metropolitan areas, including Logan, Ogden-Clearfield, Provo-Orem, St. George, and Salt Lake City.²²

Economic Development in Local Communities

Local communities also use ACS data to aid in economic development planning. One of the most important aspects of economic development is site selection, and local communities rely on the ACS to develop community profiles that they then incorporate into their site selection decision making process. Many states and local governments, to help promote themselves as attractive locations for new and expanding businesses, also explicitly tout data about their communities that

²² Martinson, Eric. “The Lingering Effects of the Great Recession. A pre- to post-recession comparison of ACS economic indicators.” *Trendlines* (2013): 12–13. Available: <https://jobs.utah.gov/wi/pubs/trendlines/spring13/theoutlook.pdf>.

is derived from the ACS. For example, the official Web site of Lenexa, Kansas, states that “Johnson County ranked 1st among all U.S. counties with populations exceeding 250,000 in the percentage of adults with at least a high school education, 4th in percentage with at least a bachelor’s degree, and 19th with a graduate or professional degree.”²³

Aside from using the ACS as a key source for community planning and economic development, state and local communities also conduct a variety of research studies on special topics in order to better understand the needs of their citizens.

American Community Survey Users Beyond the Government

Although the government’s need for information is the major impetus for the ACS, the information also serves a wide variety of nongovernment users. Businesses are able to access ACS data directly from the Census Bureau to inform their decisions. (See Table 8 for examples of business uses of ACS data.) To facilitate

²³ Lenexa, Kansas. “Business Information.” *Lenexa Chamber of Commerce* (2011). Available: <http://www.lenexa.org/edc/bizinfo.htm>.

Table 6.

Measures of American Community Survey Data Access Requests

Method of accessing ACS data	Number of table or page views and number of downloads in 2014 (millions)
Application Programming Interface (API) downloads*	217.3
American FactFinder table views**	13.3
American Community Survey Web site page views	5.1
DataFerrett downloads***	0.1
Total	235.8

*Includes Census Bureau downloads for its own apps.

**Excludes missing data for December 23–30, 2014.

***Extrapolated to annual estimate based on data for November 2014 through February 2015.

Source: U.S. Census Bureau e-mail correspondence.

such uses, the Census Bureau strives to make ACS data easily accessible.²⁴ However, identifying these data users, and the uses of the data, is challenging because the Census Bureau disseminates the data free of charge and with no requirements for attribution. Further, users often obtain ACS data through the products and services of companies that combine ACS data with other data, analyze and synthesize the data in unique ways, or otherwise add value before disseminating it to their own customers and users. As a result, it is difficult to capture comprehensively the many ways in which ACS data is used or the contribution of the ACS to a data product.

Despite these difficulties, there is evidence that the demand for ACS data is strong. For example, the Census Bureau provides ACS data to web developers (including Census Bureau applications developers) and other users through its Application Programming Interface (API).²⁵ This API allows web developers to pass the data to their own users or to download specific data to serve their own infrastructure. Another way to access ACS data is through the American FactFinder application on the Census Bureau Web site, which

provides tabulations of data from numerous censuses and surveys.²⁶ This data can also be accessed from the ACS Web site, which provides information about the ACS, summary tables, and ACS summary files that can be downloaded via file transfer protocol. In addition, the ACS Web site provides Public Use Microdata Sample (PUMS) data for download. PUMS data includes untabulated records about a sample of anonymized (to protect confidentiality) individuals and their housing units for creating customized tables.²⁷ Finally, both the ACS summary files and the PUMS data are accessible through DataFerrett, another Census Bureau application that enables researchers to extract and analyze the data, including creating customized spreadsheets, graphs, and maps.²⁸ Including all of these sources, the total number of various “hits,” or instances in which ACS data were accessed from the Census Bureau, was about 236 million in 2014. (See Table 6.) It is important to note that this total is a lower-bound estimate because it excludes data accessed through institutions other than the Census Bureau.²⁹

²⁴ For an example of a comprehensive guide to the ACS intended for business users, see U.S. Census Bureau, *A Compass for Understanding and Using American Community Survey Data. What the Business Community Needs to Know*, Washington: U.S. Census Bureau, 2008. Available: <http://www.census.gov/acs/www/Downloads/handbooks/ACSBusinessHandbook.pdf>.

²⁵ U.S. Census Bureau. “Developers.” Available: <http://www.census.gov/developers>.

²⁶ U.S. Census Bureau. “American FactFinder.” Available: <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>.

²⁷ U.S. Census Bureau. “American Community Survey.” Available: <http://www.census.gov/acs/www/>.

²⁸ U.S. Census Bureau. “DataFerrett.” Available: <http://dataferrett.census.gov/>.

²⁹ For example, see Inter-university Consortium for Political and Social Research. University of Michigan. Available: <http://www.icpsr.umich.edu/icpsrweb/landing.jsp>.

Table 7.

User Sectors of Subscribers to American Community Survey E-mail Updates

E-mail address sector	Number	Percent
Personal (U.S.)	19,511	64.4
Business	3,720	12.3
Government.	1,999	6.6
Nonprofit	1,840	6.1
Higher education	1,364	4.5
Non-U.S. personal	962	3.2
Foreign entity	584	1.9
Other (invalid and miscellaneous)	299	1.0
Totals	30,279	100.0

Source: Office of the Chief Economist analysis of Census Bureau e-mail update subscribers as of November 2014. Additional details available in a technical appendix upon request.

Additional evidence about ACS users comes from a list of subscribers to e-mail alerts about ACS news and releases. These subscribers serve as a rough proxy for the number of users who obtain ACS information directly from the Census Bureau. As shown in Table 7, the majority of subscribers to this service use private e-mail addresses, while less than 7.0 percent of subscribers have public or government e-mail addresses. (For additional information about this analysis, a technical appendix is available upon request.) Notably, about 12.3 percent of users are U.S. businesses. While it is plausible that government users are not well represented in this e-mail subscription service, these results nevertheless suggest a sizable number of ACS users come from outside government and access the data directly from the Census Bureau.

Included in these direct users are intermediaries who add value to the data and then disseminate it to their customers and audiences; thus, there may be many more “indirect” ACS users not accounted for by these tabulations. Intermediaries include a wide variety of commercial and noncommercial data providers, and they play an important role in customizing ACS data to suit the particular needs of their customers. The value-added of these firms is the ability to recognize the specific information needs of their clients and to offer custom-tailored products and services to address these needs—a service that is often beyond the mission of a government statistical agency in delivering broadly applicable data to the public.

The ACS is an important input into the products and services offered by many of these commercial data vendors. The business relationships of these intermediaries may involve nondisclosure agreements and trade secrets that prevent full disclosure of the role of the ACS in the products and services. Also, because it is but one input into their outputs, it is impossible to quantify precisely the value of the ACS to these firms and their clients, but the revenues of firms that intensively use government data, such as the ACS, were between \$24 and \$221 billion in 2012.³⁰ Thus, the data from the ACS are an important component of the information infrastructure that supports the decisions of businesses throughout the Nation, but their importance is not easily disentangled from the other components.

Business Uses of American Community Survey Data

The ACS is an important component of the information that businesses need to make decisions to help them run efficiently, hire wisely, and serve their customers’ needs. There is a long history of business use of Census Bureau data, and business use of the ACS is a continuation of that history. As far back as 1860, there was a business demand for comprehensive and representative data. In that year, the New York Chamber of

³⁰ U.S. Department of Commerce, Economics and Statistics Administration, *Fostering Innovation, Creating Jobs, Driving Better Decisions. The Value of Government Data*. Washington: U.S. Department of Commerce, Economics and Statistics Administration. 2014. Available: <http://www.esa.doc.gov/reports/fostering-innovation-creating-jobs-driving-better-decisions-value-government-data>.

BOX 7: COMMERCIAL DATA VENDORS AND THE AMERICAN COMMUNITY SURVEY

Commercial data vendors, such as Esri, Nielsen, Synergoes Technologies, and Applied Geographic Solutions, among others, bring value to the economy by packaging public data, including ACS data, into consumer- and business-friendly products such as Geographic Information System (GIS) mapping services and individualized demographic reports that assist businesses with site selection, market segmentation, and media strategies.

Vendors also combine data from multiple sources in order to produce unique statistics to track a wide range of economic and demographic characteristics that help businesses, for example, analyze the most attractive markets for expansion or more efficiently market their products. Along with repackaging ACS data into individualized reports, many data vendors incorporate ACS data into their own proprietary products. For instance:

- Esri’s “Tapestry Segmentation” system incorporates data from the ACS, 2010 Census, Esri’s demographic updates, Experian’s ConsumerViewsm database, and other consumer surveys to “capture the subtlety and vibrancy of the U.S. marketplace.”^a
- Nielsen’s PRIZM segmentation system is “based on Census data, leading consumer surveys and compiled household files, and other public and private sources of demographic and consumer information” and used to help businesses analyze customer preferences.^b
- Applied Geographic Solutions’ “Demographic Dimensions” database, based fully upon 2010 Census and ACS data, is a “modeling database at the block group and higher levels of geography that is useful in creating statistical models, site signature reports, and general executive summary information.”^c

^aEsri. “Tapestry™ Segmentation: Methodology.” Esri White Paper. August 2014. Available: http://downloads.esri.com/esri_content_doc/dbl/us/J9941Tapestry%20Segmentation%20Methodology.pdf.

^bNielsen. “MyBestSegments: Frequently Asked Questions.” Available: <http://www.claritas.com/MyBestSegments/Default.jsp?ID=51&pageName=Frequently%2BAsked%2BQuestions&menuOption=learnmore>.

^cApplied Geographic Solutions. “Demographic and Business Dimensions. 2014A Release.” August 2014. Available: http://www.applied-geographic.com/MethodologyStatements_2014/DimensionsDemoBus2014A.pdf.

Commerce petitioned Congress for economic data to be collected during the census, noting that the census can provide “data of the highest value for the guidance of statesmen and merchants; and at the same time essentially aid students of social science.”³¹

Over time, business use of census data blossomed. In 1954, a survey of 700 business users of census data found that large firms, such as General Motors, U.S. Steel, and General Electric, as well as smaller firms, employed census data “to determine policy and procedures on the basis of analytic facts.”³² Census data was regarded highly because it was essential, comprehen-

sive, reliable, continuous, comparable, and available to all.³³ These characteristics of Census Bureau data still ring true today.

Whether businesses obtain ACS directly from the Census Bureau or indirectly through intermediaries, there are certain types of business decisions for which ACS data is crucial. For example, businesses rely on the ACS to make *site selection* decisions. These involve issues related to the best place to put a business. Businesses are often concerned about whether there is sufficient population in a given area to support their business, in addition to the profile of the potential employee pool in that area. Businesses also rely upon ACS data to support *category management*, that is, inventory decisions about how to best stock shelves to meet customer demand. Often, demographic data from the ACS is combined with a firm’s proprietary market data to help with such decisions.

³¹ Kelman, Steven. “Why Should Government Gather Statistics, Anyway? Historical Justifications For Public Data Collection in the United States and Theories of the Role of Government.” *Journal of Official Statistics*, 1 (4): 361–379. 1985. Available: <http://www.jos.nu/Articles/abstract.asp?article=14361>, citing *Memorial of the Chamber of Commerce of New York Praying that Provision be made for Collecting Commerce Statistics in Taking the Census*. Senate Miscellaneous Documents, 36th Congress, 1st Session n. 14 (February 2, 1860).

³² Borden, Neil H., et al. “An Appraisal of Census Programs for Marketing Programs for Marketing Uses.” *The Journal of Marketing* (1954): 331–360 at page 334.

³³ *Ibid.* Borden. 332.

ACS data is also used to support *market segmentation*, the creation of demographic profiles of geographic areas. Market segmentation helps businesses identify where their “ideal customers” are located, better understand customer demand, and assess why certain business locations perform better than others. For example, they can distinguish between the demographic characteristics common to neighborhoods surrounding more successful stores compared to less successful stores. Along the same lines, businesses can also analyze neighborhood demographics to determine whether they need to provide signs in various languages or hire workers who speak certain languages. These categories of business decisions are discussed below, and specific examples of business uses of ACS data are highlighted in Table 8.

Site Selection and Real Estate Decisions

Over \$55 billion was spent on commercial construction in 2014. With such dollars at stake, businesses often engage in extensive research and analysis before investing in a particular location. The analysis required for site selection can be complicated, and the data that is required is often specific to the particular business in question. A small business entrepreneur deciding on the site of a new restaurant will need different information than an automotive manufacturer searching for a location for a new multibillion-dollar plant, while a clothing retailer opening a new boutique will use different metrics than a medical conglomerate opening a high-tech research laboratory. Many types of businesses offer site selection services, including firms providing comprehensive location advisory services as their core business, real estate brokers, professional service firms, economic development consultants, and corporate real estate executives.³⁴

Certain data is generally necessary when making site selection decisions: for example, an annual survey of businesses engaging in site selection, conducted by Area Development Magazine, found that the most important factors in their site selection decisions were the availability of skilled labor, highway accessibility, labor costs, and occupancy or construction costs.³⁵ In addition, one corporate site selection company provides an outline of its site selection process on its Web site,

³⁴ International Economic Development Council. *Knowledge is Power: Working Effectively with Site Selectors*. 2012. Available: http://www.iedconline.org/clientuploads/directory/docs/EDRP_Site_Selectors.pdf.

³⁵ Area Development Online. *28th Annual Survey of Corporate Executives: Availability of Skilled Labor New Top Priority*. Halcyon Business Publications Inc. 2014. Available: <http://www.areadevelopment.com/Corporate-Consultants-Survey-Results/Q1-2014/28th-Corporate-Executive-RE-survey-results-6574981.shtml>.

showing the process consists of community evaluation, site analysis and negotiation, and final selection.³⁶

In all of these cases, establishing a demographic community profile is a necessary first step in the site selection process, and the ACS allows site selectors to establish such a profile of possible sites that is useful across a wide variety of needs. ACS data on age, income, labor force status, educational attainment, undergraduate field of degree, and other variables is used to identify local demographic trends, working age population, the race and ethnic diversity of a population, and housing in a local area. Among the site selection data identified as most essential by the International Economic Development Council, approximately two-thirds is derived from public data sources, such as the Census Bureau (including data from the ACS) and the Bureau of Labor statistics.³⁷

Product and Marketing Decisions

Aside from location decisions, many other business decisions are also highly data-driven. For example, with U.S. retail inventories valued at almost \$563 billion in 2014, inventory management is an important driver of business success and an important focus of business analytics. Category management is a data-intensive business process that customizes product categories on a store-by-store basis to satisfy customer needs.³⁸ It can involve assessing the factors that drive performance, analyzing the shopping behavior of different customer segments, determining which types of promotions are most appropriate at particular stores, and offering products to attract key customer segments. Businesses combine their own financial performance data and store and customer characteristics with other data such as weather, competitor locations, local retail sales data, and local demographic data. The ACS is a foundation for that local demographic data.

The Use of American Community Survey Data to Support Research and Inform the Public

This report has shown that ACS data is used by the Federal Government, state and local communities, and businesses to help drive decisions on a range of important issues. However, ACS data is also a vital source of information to advance research and inform public discourse. This section provides evidence about where ACS information is published and the general

³⁶ Greyhill Advisors. *Corporate Site Selection*. Available: <http://greyhill.com/corporate-site-selection/>.

³⁷ International Economic Development Council. “Site Selection Data Standards.” Available: <http://www.iedconline.org/web-pages/resources-publications/site-selection-data-standards/>.

³⁸ Nielsen Marketing Research. *Category Management: Positioning Your Organization to Win*. Chicago: Contemporary Books, 1993.

Table 8.

Uses of American Community Survey Data by Businesses

Financial Services



Investing in Innovative Small Businesses

Smaller businesses have found novel uses of the ACS. Pave is a private loan servicer based in New York City that offers low rate loans for up to \$25,000 over a 2–3 year term. Pave focuses on providing loans to help young people start careers and to enable successful professionals to have a direct impact in helping others. The company’s unique proprietary funding model relies on data from several sources, including the ACS to help predict earnings over the period of the loan agreement.

Source: Pave. “Our Model.” Available at <https://www.pave.com/funding-model>.

Helping Customers Better Understand Their Finances

Credit Sesame is an online tool that provides financial services and free credit scores to help customers manage their credit cards and loans and ultimately make wise credit decisions that save them money. Credit Sesame uses ACS data on income distribution and other demographic variables to help customers put their own financial information into context.

Source: Sean Donn, Vice President of Engineering, Credit Sesame.

Deciding Where to Invest



Planning Affordable Housing

Ribbon Demographics provides custom data to the housing market industry—especially the affordable housing segment. Their services include custom demographic and psychographic analysis and report writing. In partnership with another intermediary, Nielsen, Inc., the company uses ACS data on population, household income, and housing units to help determine the need for various type of housing in particular areas. For such decisions, ACS data is combined with other data, such as information from site visits and interviews with local experts. The data helps Ribbon Demographics estimate the number of potential residents for new and renovated housing developments, as well as the types of housing that are best suited for those residents.

Source: Julia LaVigne, Ribbon Demographics.

Locating Senior Living

Datastory Consulting provides location analytics consulting to a range of clients. It combines and analyzes data from disparate sources including products and services from another intermediary, Esri. Data from the ACS helps Datastory advise retail, healthcare, and banking clients about the characteristics of potential markets. For example, Datastory helped a senior living property management company provide a map-based model that allowed the company to rapidly evaluate local market opportunities across the country. As a result, the company “is making better decisions, faster. They’re exploring new opportunities to expand, and prioritizing their strategy by quantifying each market of interest.”

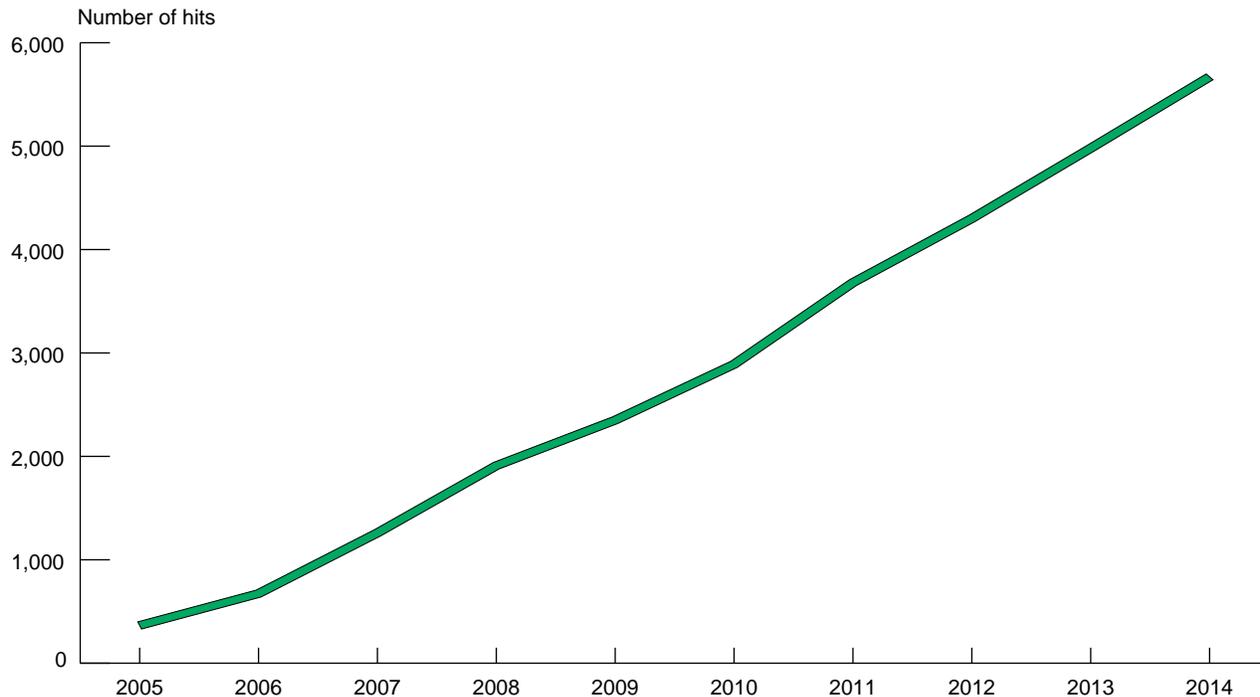
Source: Datastory Consulting. “Senior Village Management.” Available: http://datastoryconsulting.com/portfolio_page/senior-village-management/.

Hiring Decisions

National chains have to meet local needs to survive, and ACS data can help such chains meet the needs of local customers. For instance, Walgreens used data from the ACS to decide to hire a bilingual pharmacist fluent in both English and Polish for a Chicago store location with a large Polish population. “We try to find pharmacists or store staff that speak English and [any] other language that’s predominant in a community,” said Walgreens spokesman Robert Elfinger. “It makes for a more helpful staff.”

Source: CNN Money. “How to Cash in on the Census: Who Gets Hired—Walgreens. Available: <http://money.cnn.com/galleries/2010/news/1003/gallery.census/5.html>.

Figure 7.
Google Scholar Hits for “American Community Survey”: 2005–2014



Note: There may be some duplications in the hits (e.g., an unpublished working paper and its final published version may each be counted twice). The hits also include some U.S. Census Bureau publications and working papers.
 Source: Office of the Chief Economist tabulations of Google Scholar search results for “American Community Survey” by calendar year, excluding citations, patents, and case law. (Available: scholar.google.com; accessed April 6, 2015.)

research subjects and topics upon which it bears. It also highlights some specific examples of these uses of the ACS.

American Community Survey Data in Publications

Another way to gauge the usage and hence the value of the ACS is to use bibliometrics—quantifying the frequency, publication type, and subject matter of articles that cite the ACS.³⁹

To give a broad sense of the way the ACS data supports research and informs the public, the Nexis database was used to identify instances in which the ACS

was cited in scholarly publications.⁴⁰ In 2005 (the year the survey was first implemented), there were 199 instances; by 2014, there were 1,798 instances—almost a 9-fold increase. However, such an analysis does not account for increases in citations due simply to changes in the Nexis database’s coverage of publications over time. Furthermore, the analysis includes only a limited number of scholarly publications. An alternative measure of ACS usage, based on the number of hits obtained when searching for “American Community Survey” in Google Scholar, shows a total of about 29,300 hits. Figure 7 shows the annual number of hits from 2005

³⁹ For an example of this type of research using the Canadian National Population Health Survey, see Hamilton, Elizabeth C. “The Impact of Survey Data: Measuring Success.” *Journal of the American Society for Information Science and Technology*. 58(2): 190–199, 2007.

⁴⁰ According to its home Web page, Nexis curates “over 26,000 news and business sources.” (See “Nexis.” Available: <http://www.lexisnexis.com/en-us/products/nexis-ab.page>. This analysis is limited to the “US Publications” subset of Nexis sources, which includes “magazine, newspapers, newsletters & transcripts published in the United States and ... wire services.” (See “Nexis Source Information. US Publications. Available: <http://w3.nexis.com/sources/scripts/info.pl?368413>. In addition, this analysis excludes wire service items in order to omit announcements by the U.S. Census Bureau about ACS products.

through 2014. Over that period, ACS hits increased from 365 to 5,670—a more than 15-fold increase.⁴¹

In order to obtain estimates of ACS usage by broad subject categories, overall and by publication type, the ProQuest⁴² database was also used to identify instances of the phrase “American Community Survey” that appeared in newspapers, magazines, trade journals, and scholarly journals with full-text coverage from 2004 through 2014.⁴³ This search yielded 1,600 articles. It is important to note that restricting the focus to publications with full-text coverage created a consistent sample over the decade, allowing for meaningful analysis of trends overall and by publication types. However, because the restricted sample excluded many instances of citations to the ACS, it did not provide a useful measure of the full extent to which the ACS was cited over the period.

Figure 8 shows the breakdown of articles by broad subject category for the overall sample and the three publication types. In the overall sample, articles about subnational areas (“State/County/Local”) were the most common, followed by health and demographic topics. Among newspaper and magazine articles, subnational topics were by far the most common, possibly reflecting the interest of the general public, especially readers of local newspapers and magazines, in the small area estimates for which the ACS is designed. Health topics were by far the most frequently appearing in scholarly journals, with demographics a distant second. Finally, state/county/local and macroeconomic conditions lead by far among topics in trade journals, which may be related to interest in local area marketing and site location. In sum, the prevalence of various subjects in each publication type likely reflected the current interests of the readership for each publication type.

Examples of Academic and Researcher Use of American Community Survey Data

For years, researchers made extensive use of data from the Census long form to understand topics such

as health policy, demographics, childcare, social trends, and education performance.⁴⁴ With the change from the long form to the ACS, ACS data has taken over this research support function. In fact, the Census Bureau has published a guidebook for researchers using the ACS.⁴⁵ The availability of annual ACS data affords the flexibility for research to examine before and after events. Such an analysis was not possible with the once-per-decade long form data.⁴⁶ The subjects to which ACS data are applied is wide-ranging. For example, economists have recently used ACS data on taxi drivers and chauffeurs in specific U.S. cities for comparisons with drivers who partner with Uber Technologies, a relatively new private transportation services platform.⁴⁷ (See Table 9 for additional examples of research using ACS data.)

Informing Citizens About Important Issues

The ACS also serves as a vital source of information for the public about conditions and trends in the Nation’s communities. Although it is possible to access ACS data directly from the Census Bureau, the public is often made aware of ACS data through the news media. Sometimes, trends based on ACS data are the heart of a story; other times, ACS data provides important context for a more specific story.

Newspapers with a national audience use the ACS to provide evidence about new trends and emerging issues. For example, the Financial Times recently highlighted ACS data in a story on the availability of broadband internet service (see Figure 9). The New York Times used ACS data to highlight, for every county in the country, the rates of prime-age men who are not working (see Figure 10). Local news outlets also use ACS for stories to inform their local readers about their communities, often compared to other locales. (See Figure 11 for just a few examples of headlines for such stories.)

⁴¹ Google Scholar. Available: scholar.google.com (accessed April 6, 2015).

⁴² ProQuest is a database search application that contains full texts of articles published by a large number of newspapers, magazines, trade journals, and scholarly journals, as well as many other documents (<http://www.proquest.com/>). A technical appendix (available upon request) goes into greater detail about the methodology used to analyze citations of the ACS.

⁴³ Newspapers and magazines target a general audience. Trade journals target readers in specific industries who are likely interested in practical applications of the ACS to business topics. Scholarly journals serve an academic audience interested in empirical studies using the ACS. Definitions for these publication types are available in a technical appendix upon request.

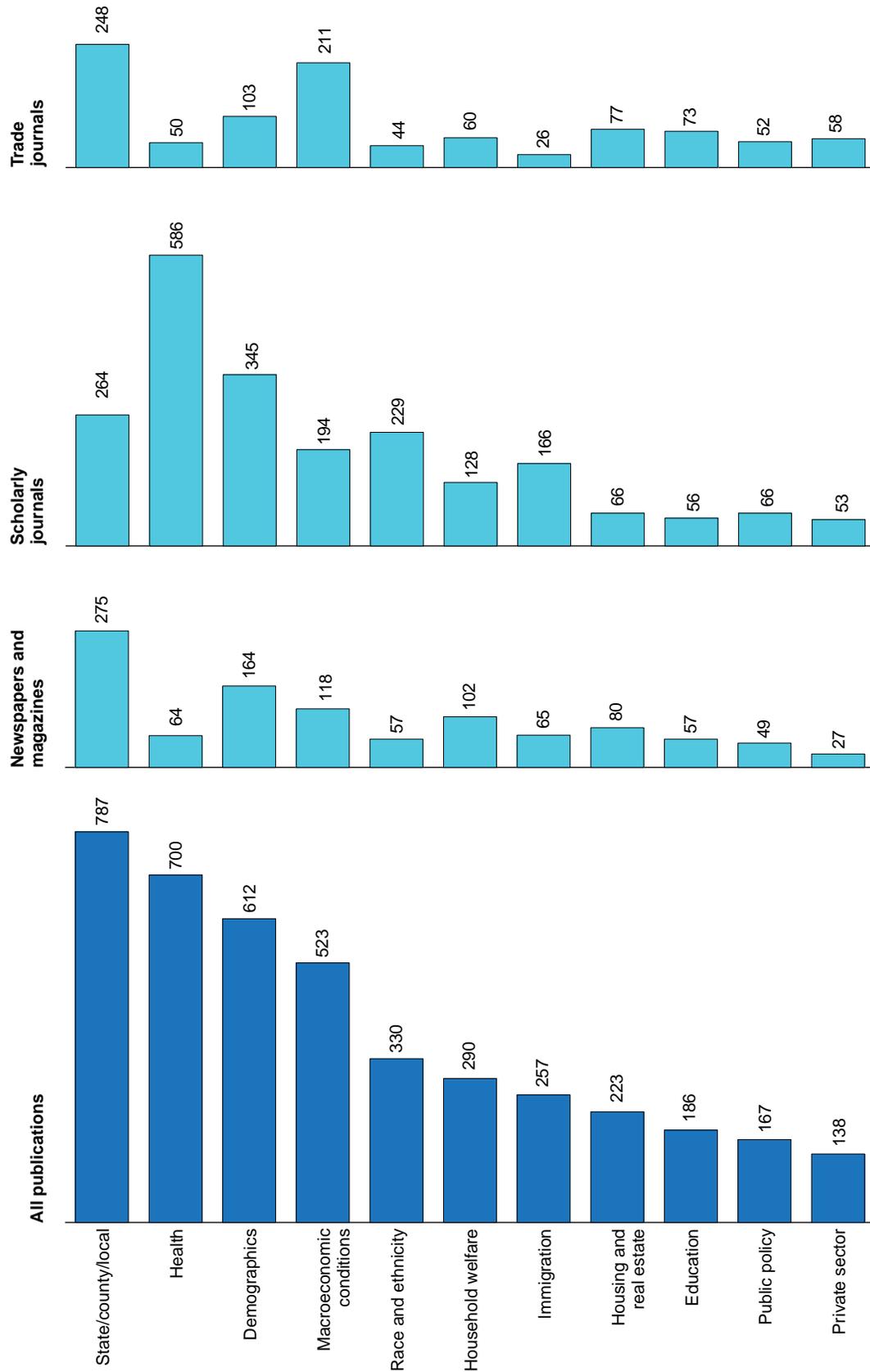
⁴⁴ Constance F. Citro and Graham Kalton. *Using the American Community Survey: Benefits and Challenges*. Washington: The National Academies Press, 2007.

⁴⁵ U.S. Census Bureau. *A Compass for Understanding and Using American Community Survey Data: What Researchers Need to Know?* 2009. Available: <http://www.census.gov/acs/www/Downloads/handbooks/ACSResearch.pdf>.

⁴⁶ *Ibid.*

⁴⁷ Hall, Jonathan V. and Alan B. Krueger. “An Analysis of the Labor Market for Uber’s Driver-Partners in the United States.” 2015. Available: <https://irs.princeton.edu/sites/irs/files/An%20Analysis%20of%20the%20Labor%20Market%20for%20Uber%E2%80%99s%20Driver-Partners%20in%20the%20United%20States%20587.pdf>.

Figure 8. Citations of American Community Survey by Type of Publication and Subject



Note: Restricted sample includes only periodicals with full-text coverage between January 1, 2004 and December 31, 2014.
 Source: Office of the Chief Economist tabulations of ProQuest search results for "American Community Survey" for periodicals with full-text coverage between January 1, 2004 and December 31, 2014.

Table 9.

Uses of American Community Survey Data in Academic Research

<p><i>Health Policy Research</i></p> 	<p>The ACS provides important information about health insurance coverage for researchers and policy makers. Relative to other surveys, such as the Current Population survey, the ACS provides more precise state and sub-state estimates of health insurance coverage at a point in time.</p> <p>The ACS can help in efforts to evaluate the success of health insurance reforms—for example, assessing whether state and local health reforms have reduced the number of uninsured. In conjunction with other data sources, ACS data on income and household structure makes it possible to simulate eligibility for Medicaid and the State Children’s Health Insurance Program. The estimates from ACS can be used by state budget analysts and the Congressional Budget Office to “score” legislative proposals at the state and Federal level,* and they have been used to simulate the potential effectiveness of automatic Medicaid enrollment.**</p> <p>*Source: Davern, Michael and Brian C. Quinn, Genevieve M. Kenney, and Lynn A. Blewett. “The American Community Survey and Health Insurance Coverage Estimates: Possibilities and Challenges for Health Policy Researchers.” <i>Health Services Research</i>. 44(2 Pt 1): 593–605. 2009. Available: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2677056/.</p> <p>** DeLeire, Thomas, Lindsey Leininger, Laura Dague, Shannon Mok, and Donna Friedsam. “Wisconsin’s Experience with Medicaid Auto-Enrollment: Lessons for Other States.” <i>Medicare & Medicaid Research Review</i>. 2(2). 2012. Available: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4006387/.</p>
<p><i>The Impacts of Social Security</i></p> 	<p>Research from the Heritage Foundation’s Center for Data Analysis combined ACS data with other data for a simulation model of social security taxes and benefits to assess the expected payments and payouts in 435 congressional districts.</p> <p>The research found that the experiences with the Social Security system depended greatly on the demographic profile of the congressional district.</p> <p>According to the Heritage researcher, “This analysis provided a great deal of information for individual members of Congress and also the Nation at large just in terms of national policy, using a very large database that allowed ... very highly targeted types of analyses. ... In order to get these highly concentrated, highly specialized analyses, you really do have to have the 250,000 households every month that would be collected by the American Community Survey. And in the absence of that, you’re not going to be able to get that information about local areas.”</p> <p>Sources: The Brookings Institution. “Brookings Briefings on the Census; Better Data for Better Decisions: The Value of the American Community Survey to the Nation.” Event in Room 2154 Rayburn HOB, June 23, 2006. Available: http://www.brookings.edu/~media/events/2006/6/23community%20development/20060623_transcript.pdf and http://www.brookings.edu/events/2006/06/23community-development.</p>
<p><i>State of Children</i></p>  <p><i>Impact of Education</i></p> 	<p>Researchers have used the ACS to better understand the conditions of the Nation’s children. For example, the ACS has been used to identify the percentage of children with at least one disability, by state.* ACS data on household composition, school attendance and educational attainment, income, and participation in government assistance programs are fundamental for providing estimates of the number of students eligible for free and reduced-price meals.** ACS data has been used to assess the extent to which children’s enrollment in Medicaid has “crowded out” private coverage.***</p> <p>*Murphey, David, Mae Cooper, and Kristin A. Moore. “Children with Disabilities: State-Level Data From the American Community Survey.” <i>Child Trends Research Brief</i> (Publication 2012-29). October 2012. Available at http://www.acacamps.org/sites/default/files/images/research/connect/documents/Child_Trends-2012_10_01_RB_ChildDisabilities.pdf.</p> <p>**Schirm, Allen and Nancy Kirkendall, eds. National Research Council. <i>Using American Community Survey Data to Expand Access to the School Meals Programs</i>. Washington: National Academies Press. 2012. Available: http://www.nap.edu/catalog/13409/using-american-community-survey-data-to-expand-access-to-the-school-meals-programs.</p> <p>***Muhlestein, David B. and Eric E. Seiber. “State Variability in Children’s Medicaid/CHIP Crowd-Out Estimates.” <i>Medicare & Medicaid Research Review</i>. 3(3). 2013. Available: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3983728/.</p> <p>The ACS has been used to provide a range of insights about the role of education. For example, research combining the ACS with a survey of U.S. immigrants found little difference between the earnings impact of foreign education and the impact of domestic education.* Other research examined the lifetime earnings for approximately 80 college majors, producing an interactive tool to allow comparisons among bachelor’s degree graduates with earnings for workers with less education.**</p> <p>*Akee, Randall and Mutlu Yuksel. “A Note on Measures of Human Capital for Immigrants: Examining the American Community Survey and New Immigrant Survey.” <i>IZA Discussion Paper</i> (no. 3897). 2008. Available: http://ftp.iza.org/dp3897.pdf.</p> <p>**Hershbein, Brad and Melissa S. Kearney. <i>Major Decisions: What Graduates Earn Over Their Lifetimes</i>. The Hamilton Project. 2014. Available: http://www.hamiltonproject.org/papers/major_decisions_what_graduates_earn_over_their_lifetimes/.</p>

Table 9.

Uses of American Community Survey Data in Academic Research—Continued

Research on Rural America



ACS data has been used by researchers to show the geographic distribution of counties with high levels of human services needs, as defined by the top 10-percentile ranking of all counties.* ACS data helped identify the broad range of needs across rural America. ACS is the primary data source to understand conditions and trends in rural America because it is the only data set that provides the geographic detail with a sufficient sample size to analyze those areas.**

*Hefflin, Colleen and Kathleen Miller. Rural Policy Research Institute. *The Geography of Need: Identifying Human Service Needs in Rural America*. 2011. Available: http://www.rupri.org/Forms/HefflinMiller_GeogNeed_June2011.pdf.

**Miller, Kathleen. Rural Policy Research Institute. "The American Community Survey and Rural Data Analysis." 2012. Available: http://www.rupri.org/Forms/Miller_APDU_August2012.pdf.

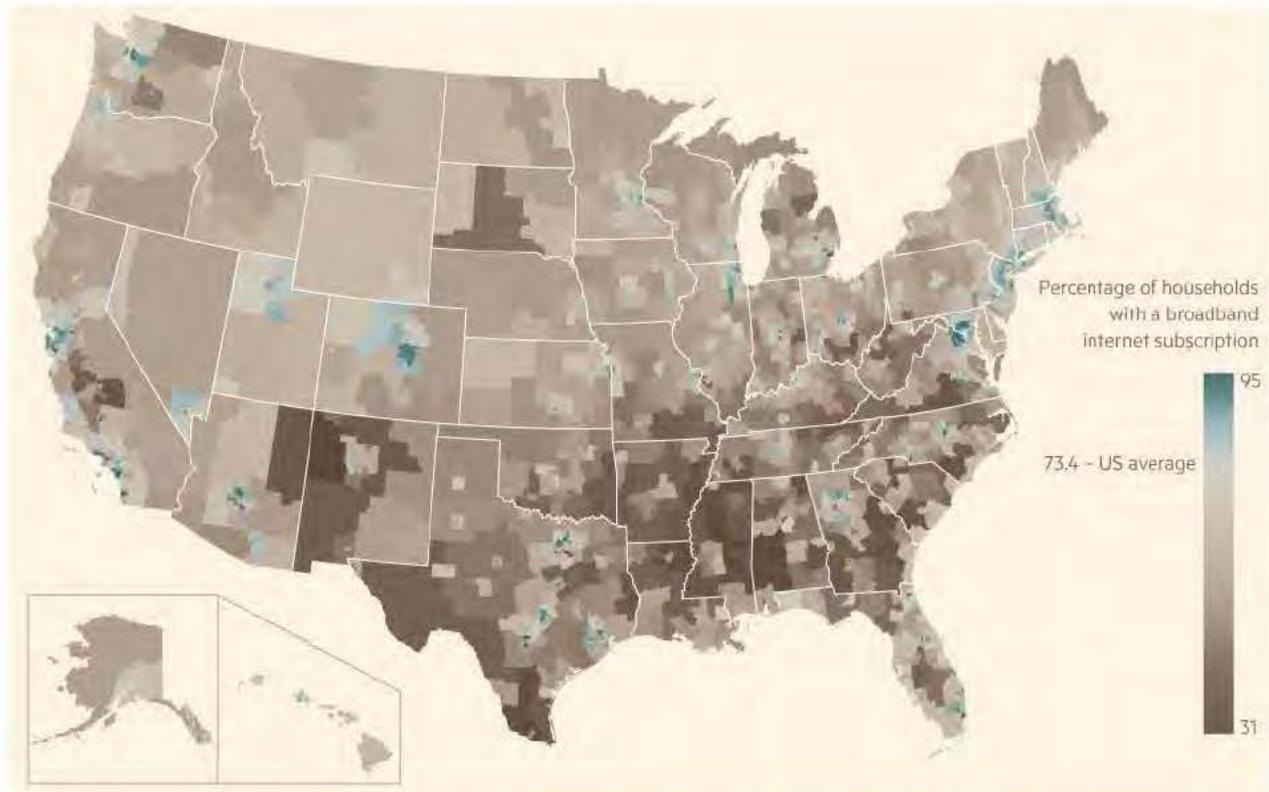
Figure 9.

Using the American Community Survey to Identify Areas With Low Rates of Broadband Internet Adoption

October 28, 2014 4:03 pm

Digital divide exacerbates US inequality

David Crow in New York

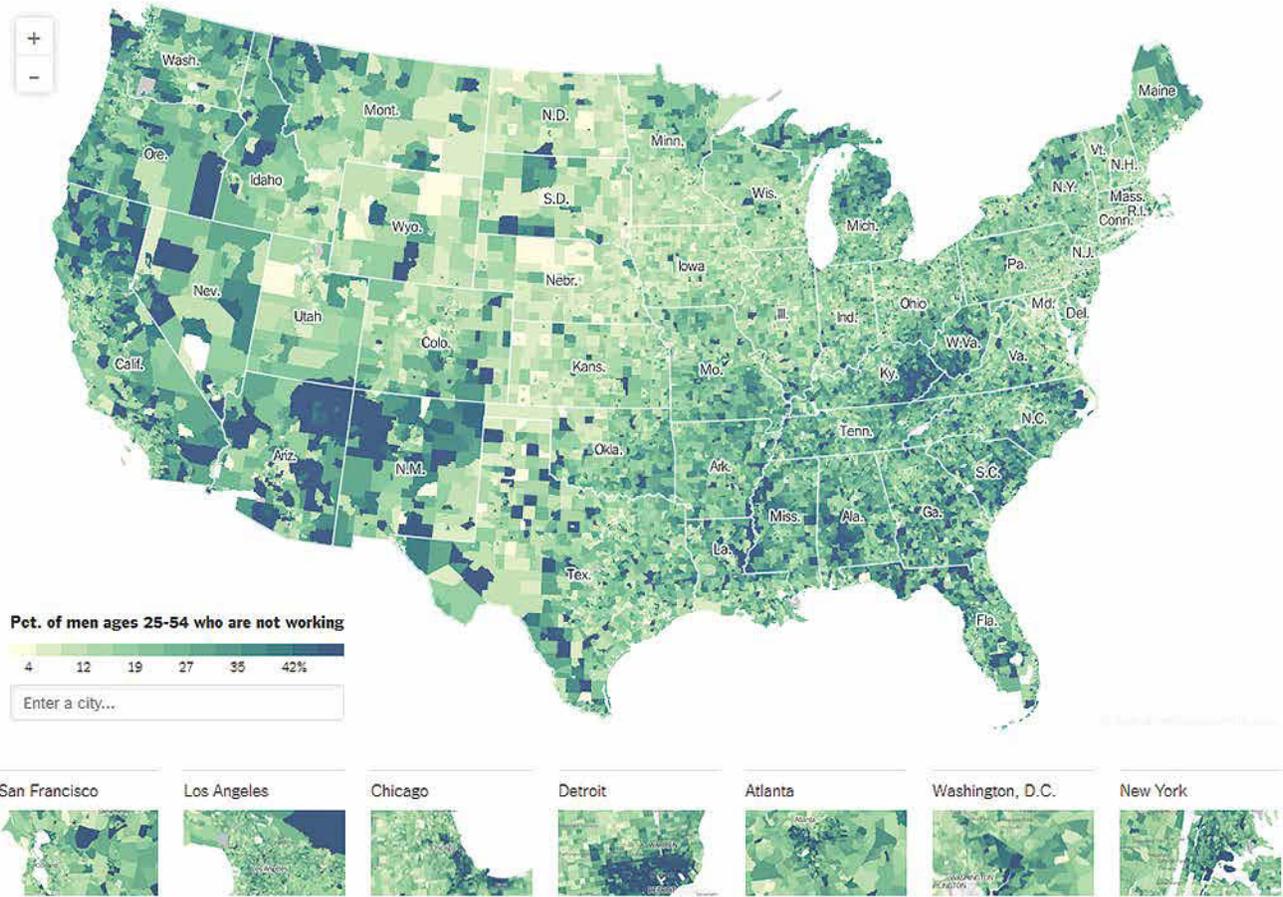


Source: David Crow. "Digital Divide Exacerbates U.S. Inequality." *Financial Times*, October 28, 2014. Maps by Robin Kwong and Steve Bernard. <http://www.ft.com/cms/s/2/b75d095a-5d76-11e4-9753-00144feabdc0.html#axzz3S7PAoc6o>.

Figure 10.
Using the American Community Survey to Examine Economic and Social Conditions

Where Men Aren't Working

By GREGOR AISCH, JOSH KATZ and DAVID LEONHARDT DEC. 11, 2014



Source: Aisch, Gregor, Josh Katz, and David Leonhardt. "Where Men Aren't Working." The New York Times, December 11, 2014.
Available: <http://www.nytimes.com/interactive/2014/12/12/upshot/where-men-arent-working-map.html?hp&action=click&pgtype=Homepage&module=photo-spot-region®ion=top-news&WT.nav=top-news&abt=0002&abg=1>.

Figure 11.
The American Community Survey Supports the News



CONCLUSION

The ACS contributes key economic, social, demographic, and housing characteristics data to the American information infrastructure. The examples in this report illustrate the many ways planners, decision makers, analysts, and researchers use ACS data to inform their decisions. However, valuing this data is far from straightforward. This data is a public good, provided free to users across the economy. Information intermediaries, such as commercial data vendors, often play a key role in leveraging ACS data for specific uses. Because these intermediaries use ACS data as a component of their products and services, their customers—community planners, business decision makers, and the many others who are informed by data—may not know they are using Census Bureau data, much less ACS data.

The ACS is a mandatory survey which helps maintain the high quality of the data collected while also keeping down the costs of collecting it. The Canadian experience in making changes to a similar survey provides valuable insights into the first order effects of making the survey voluntary instead of mandatory. Data quality declines, and the statistical agency's ability to provide comprehensive, representative data about communities also declines. The Census Bureau's analysis of the possible implications of similar changes to the ACS suggests that similar impacts would likely occur in the United States. High-quality data for small geographic areas, low-population rural areas, and small population groups could likely only be maintained through costly expansion of the sample size and more follow-up with nonrespondents.

As shown in this report, ACS data are used in a wide variety of ways by Federal, state, and local planners. Detailed population and housing characteristics data

from this survey informs Federal decision makers considering topics that range from Head Start to housing for older Americans. State and local planners use the data to understand what their communities look like now and how they may be changing. ACS data are used to answer questions like: will we need more schools? Will we need better transportation options for older residents? Is the Spanish speaking population growing, and if so, where are similar communities that have already wrestled with changes like these? Are the veterans in my state living in urban or rural areas and what does this imply for outreach or services to tackle issues like veteran homelessness? What are the characteristics of populations in my community that are at a greater risk for natural disaster, such as in a floodplain or in the path of lava flows?

The same data that informs policy makers also informs businesses and researchers. As this report shows, commercial data vendors incorporate ACS data into their products. Their clients use that evidence to inform decisions about site selection and what items to stock on the shelves in various locations. Like government users, these data users make better decisions when they understand the communities in which they operate.

The data provided by the ACS on the economic, social, and demographic characteristics of the population and on the characteristics of America's housing is part of the increasingly important data infrastructure in the United States. The survey is unique in providing up-to-date statistics about small groups, small communities, low-population rural communities, and providing comparable data about cities, densely populated urban areas, and larger groups. In doing so, it provides decision makers with insights that span the breadth of the Nation.

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