



Research Brief

The Commonwealth's Official Source for Population and Economic Statistics

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2010 Census and the American Community Survey: Where is the Socio-Economic Data?

PENN STATE HARRISBURG – By now, most data users have accessed population counts and basic demographic data available from the 2010 Census. However, some users of data remain confused when it comes to locating the latest socio-economic data available from the U.S. Census Bureau. Since the release of the first local decennial census counts in March, the Pennsylvania State Data Center has received a large number of inquiries from individuals looking for the detailed socio-economic data that was derived from the past decennial census sample data. This research brief seeks to end the confusion surrounding the re-engineered 2010 Census, the American Community Survey and answer the question: Where is the socio-economic data?

Decennial Census Long Form Replaced

The 2010 Census was “short form” only, which means the questionnaire contained only 10 questions on population and housing. In previous decennial censuses, like the 2000 Census, the Census Bureau also selected a sample of households to receive a “long form” that asked for more detailed household information. This more detailed data was released in Summary File 3. For the 2010 Census, the Census Bureau replaced the “long form” with an ongoing survey of households called the American Community Survey (ACS) to collect data on the detailed characteristics of the population. For this reason, the detailed socio-economic data formerly contained in the decennial census Summary File 3 is now available through the American Community Survey.

What Is the Census?

How does the decennial census differ from the American Community Survey? A census is a “snapshot” of the entire population at a single point in time. The U.S. Census determines how many people reside within the country's borders, who they are, and where they live. Every 10 years since 1790, data from the decennial census have been used to apportion seats in the U.S. House of Representatives, as mandated by the U.S. constitution. The 2010 Census enumerated the resident population of the United States as of April 1, 2010 and presented the basic demographic characteristic of the population such as age, sex, race and ethnicity.

What is the American Community Survey?

The American Community Survey (ACS) is a continuous survey that provides more timely and updated socio-economic information about the nation's changing and diverse population every year. The ACS, like all surveys, uses data gathered from a sample of the target population to represent the total population. Respondents are asked to report their answers to several questions, which are then used to derive estimates of the various socio-economic characteristics, providing detailed information on how the population lives. The ACS provides data relating to income, poverty, educational attainment,

commuting, disability, employment and much more. ACS estimates are based on an annual, nationwide household sample of about 250,000 addresses per month, or 2.5 percent of the population per year. Beginning with the June 2011 monthly sample, the sample will increase to approximately 295,000 addresses per month or 3.5 million addresses annually.

Using the ACS

ACS produces single-year, 3-year, and 5-year period estimates that represent the average characteristics of the population over a specific period of time. Single-year estimates include information collected over a 12-month period and are available for geographic areas with 65,000 people or more, 3-year estimates represents data collected over a 36-month period (20,000 or more), and 5-year estimates include data collected over a 60-month period (20,000 or less).

The differences in time periods between single-year and multi-year ACS estimates affect decisions about which set of estimates should be used for a particular analysis. Single-year estimates present the most current estimate available, while 5-year estimates provide the greatest precision by means of a larger sample size. ACS 3-year estimates offer a trade-off between the two because they are more reliable than 1-year and more current than 5-year estimates. The Census Bureau encourages comparing estimates based only on the same survey period.

For example, if a data user wanted to make a comparison between Harrisburg, which receives both 3-year and 5-year multi-year data from the ACS, with estimates for Pittsburg, he or she would have to choose between 3-year and 5-year multi-year estimates. Harrisburg is below the population threshold (65,000 or more) for receiving 1-year estimates; therefore single-year estimates are not available. If a more recent estimate is required, the data user would be better served comparing 2008-2010 estimates for Harrisburg with 2008-2010 estimates for Pittsburgh, as 3-year estimates are available for both geographies and provide the most current data. However, if the precision of the estimate is paramount, the larger sample size provided by the 5-year estimate would make it more appropriate for the analysis.

Assessing Change

In addition to finding a balance between currency and reliability, data users must take caution when analyzing change over time. Comparing successive multi-year estimates is not recommended for year to year changes as the change in a specific characteristic may be attributed to the fact that two-thirds of the data in a 3-year estimate overlap with the data in the next year's 3-year estimate. Or, similarly, four-fifths of the data in a 5-year estimate are derived from the same sample cases as succeeding 5-year release. Therefore, data users are encouraged to wait for non-overlapping estimates (ACS 2005-2007 and ACS 2008-2010, or ACS 2005-2009 and the future ACS 2010-2014).

In terms of assessing change since the previous decennial census, generally it is safe to compare ACS estimates with data from the Census 2000 sample. However, because ACS variables change over time, some areas and subjects must be compared with caution, or not compared at all. Also, there are differences in the universe, question wording, residence rules, reference periods, and the way in which the data are tabulated which can impact comparability.

Select Data from the Latest ACS Release

The 2008-2010 ACS 3-Year Estimates, release in late October, are based on data collected from January 1, 2008 to December 31, 2010 and are available for geographic areas of 20,000 or more.

- The median household income in Pennsylvania was \$50,289 during the period 2008-2010, slightly below the national average of \$51,222. The Commonwealth's median household income ranked 23rd among the states and District of Columbia.

- The percentage of people living below the poverty level in Bradford County declined from 15.0 percent in 2005-2007 to 12.9 percent during the period 2008-2010.
- During the period 2008-2010, the median value of an owner-occupied housing unit in Easton, Pennsylvania was \$140,600. The median housing value statewide was \$165,200 during the same time period.

Differences between the American Community Survey and the Decennial Census

Item	American Community Survey	Decennial Census
Principal Purpose	The primary purpose of the ACS is to measure the changing social and economic <i>characteristics</i> of the U.S. population. The ACS determines how people live, and includes data relating to income, poverty, education, commuting, and much more.	The main function of the U.S. decennial census is to provide <i>counts</i> of people for the purpose of Congressional apportionment. The U.S. Census determines how many people reside within the country's borders, who they are, and where they live.
Geography	The level of geography available depends on type of estimate. Three types of estimates are available from the American Community Survey: 1-year, 3-year, and 5-year estimates. Five-year estimates are available for areas with a population less than 20,000, including census tracts and blocks.	Nation, regions, states, counties, and other geographies down to the block level. Other geographies such as, places, MSAs, congressional and state legislative districts are also included.
Sample Size	Sample includes approximately 250,000 addresses per month, or about 3 million per year. The sample size for ACS from 2005 - 2009 estimates included 9.3 percent of households in Pennsylvania.	The census does not use a sample, but seeks to gather a 100 percent count of the population and housing units.
Data Collection Method	Three phases of data collection: mail-out, mail-back, telephone interviewing for non-response, personal interviews of a sample of remaining unanswered forms. About half the responses are obtained by mail. Response is mandatory and kept confidential.	Mail-out, mail-back, door-to-door personal interview, and personal interview non-response follow up. Nearly three-quarters (74 percent) of the households in the United States filled out and mailed back their 2010 Census Questionnaire.
Residency Status	The ACS includes a person at the address where they are at the time of the survey if they have been there, or will be there, more than 2 months, whether or not they have a "usual residence elsewhere."	Usual place of residence is the standard. Self-identification of where you live most of the year.
Population Universe	The ACS population universe includes both the civilian and military population in households.	The population universe is the resident population of the United States.
Time Period Covered	ACS collects data continuously throughout the year and the reference period for select questions (like income and the number of weeks worked) is the 12-month period prior to the response month. Data covers the average characteristic of an area over a given time period (2005-2009)	The decennial census provides a snapshot of the U.S. population once every 10 years. The 2010 Census enumerated the resident population of the United States as of April 1, 2010. Data covers a single point in time.
Accuracy	ACS estimates are based on samples and are therefore subject to sampling error. Estimates of the sampling error associated with all ACS estimates are calculated and appear alongside published ACS estimates as margins of error.	Because it is based on the full enumeration of the population, the decennial census is the most accurate source of data for counts of people and housing units.

The Pennsylvania State Data Center is the commonwealth's expert in demographics and Census datasets. To request custom American Community Survey data tables or maps, contact the Pennsylvania State Data Center at 717.772.2710.

Source: U.S. Census Bureau, 2008-2010 American Community Survey

The Pennsylvania State Data Center is the commonwealth's official source for population and economic statistics. It is based at Penn State Harrisburg's Institute of State and Regional Affairs. The Pennsylvania State Data Center is part of the U.S. Census Bureau's National State Data Center Program.

Editors: For additional data, contact the Pennsylvania State Data Center's State Capital Office at 717.772.2710 or for faculty comment on this topic, contact Penn State Harrisburg's Public Information Office at 717.948.6029.

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