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Overview

It is written in the US Constitution that every 10 years, a count of all the people in the United States must be made. Now, more information pertaining to demographic, economic, health, and other categories are taken along with population count and it is called the Decennial Census. In present day, the Census Bureau oversees this process as well as a number of other programs to collect demographic and economic data about the US. The Census Bureau states that their goal is to, “provide the best mix of timeliness, relevancy, quality and cost for the data we collect and services we provide.”

One of these other programs is the American Community Survey (ACS), which comes in year estimates of 1 year, 3 years, and 5 years. The primary purpose of the ACS is to help communities decide where to put resources. The audience is both the general public, to learn about their country, states, county, or city, but it is also for people that work in civic fields. They call this type of data “administrative data” because it greatly helps the administrations with operations and planning that go into civic services such as hospitals, post offices, taxes etc.

Around 1 in 38 people will take the ACS each year. The ACS 2017 data we are looking at is separated by Census Tract and there are 116 census tracts for Chatham county, Georgia, alone. The dataset paints a picture of the state of the American people.

“The ACS is an ongoing annual survey that shows what the U.S. population looks like and how it lives. The ACS helps communities decide where to target services and resources.”

- The US Census Bureau
Access

US Census data can be accessed in a couple different ways. The data comes in either raw tables, more visualized forms, or synthesized reports.

1. **Data.census.gov** - The new census database from the US Census Bureau. The site includes modifiable tables, can suggest different data sets, and allows you to explore the data more thoroughly.  
   https://www.socialexplorer.com/a9676d974c/explore

2. **Factfinder from the Census Bureau** - The official searchable database from the US Census Bureau, which contains all US Census, ACS, and other survey data from past years.  
   https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

3. **Quickfacts** - A more consolidated and summarized site of Census statistics. Also includes map and chart views for visualizations of the data.  
   https://www.census.gov/quickfacts/fact/table/US/PST045218

4. **Socialexplorer.com** - An interactive map of Census data. The map has features which allow you to change the location scope and parameters, visualization on the map, and filters.  
   https://www.socialexplorer.com/a9676d974c/explore
Standards

ACS Dataset Example - The dataset contains both raw values (such as number of population) and percentage values (such as percent of the population that is 12-17). The data is structured by rows and columns, with each census tract being a column, and different types of data about that area being a row. The rows have hierarchical structure due to the categorizing of the different types of data.

Table from the ACS Data Guide - This table shows the differences between the 1, 3, and 5-year ACS datasets. It compares the three in terms of what data is included, the scope of the dataset, and the reliability. For our purposes, we will be relying on the 5-year dataset.

https://census.gov/programs-surveys/acs/guidance/estimates.html
**Codebook**

**Changes in Race Categories**

*1996-1998*
- “Black, African Am.”
- “Indian (Amer.),” “ Eskimo,” and “Aleut,”
- “Hawaiian”
- “Guamanian”
- “Multiracial”

*1999-2002*
- “Black, African Am., or Negro”
- “American Indian or Alaska Native.”
- “Native Hawaiian.”
- “Guamanian or Chamorro.”
- Mark one or more races

*2003-2007*
- “Black or African American”

*2008-2013*
- “Black, African Am., or Negro.”

*2014-2018*
- “Black or African Am.”

Examples were added to the “Other Asian”

*2005 Puerto Rico Community Survey separates questions on race and Hispanic origin were included on the questionnaire.*
Poverty Status - the Census Bureau uses both
income threshold in the past 12 months, the family
size and the number of family members under 18
years old (children) to determine if a family or family
members live in poverty.

For example, consider a family of three with one
child under 18 years of age, interviewed in July 2018
and reporting a total family income of $14,000 for
the last 12 months (July 2017 to June 2018). The base
year (1982) threshold for such a family is $7,765,
while the average of the 12 inflation factors is 2.571.
Multiplying $7,765 by 2.571 determines the
appropriate poverty threshold for this family type,
which is $19,964. Comparing the family’s income of
$14,000 with the poverty threshold shows that the
family and all people in the family are considered to
have been in poverty.
Codebook

Mobility

Number of Available Vehicles

The information can provide insight into vehicle travel and aid in forecasting future travel and its effect on transportation systems. The data also serve to aid in the development of emergency and evacuation planning, special transportation services, and forecasting future energy consumption and needs.

The 1996-1998 ACS question provided a space for the respondent to enter the number of vehicles. Since 1999, the American Community Survey question provided seven pre-coded response categories ranging from "None" to "6 or more."

*Exclusions: Motorcycles or other recreational vehicles, dismantled or immobile vehicles, vehicles kept at home but used only for business purposes.

Travel Time to Work

Travel time to work refers to the total number of minutes that it usually took the worker to get from home to work during the reference week. The elapsed time includes time spent waiting for public transportation, picking up passengers in carpools, and time spent in other activities related to getting to work.

*Exclusions: Workers who work from home, or respondents indicate they “worked at some time during the reference week.”
Data Biography

Allen Hyde

A professor in History and Sociology department Georgia Tech
- PhD in Sociology
- contributes his work in the community filed of Smart Cities Grant
- Specifically interested in Hudson Hill/Woodville area

His Uses of Data

- He uses 5-year average of ACS from 2013 to 2017 to minimize the error brought by sampling, collecting and processing;

- He is cautious admitting the errors of the data because people recognize data as the fact;

- In general practice, census tract is a way of approximating “block”. Block stands for too small a unit of measure with less significance in value.

His Findings

"The big thing that stood out (in Hudson Hill and Woodville area) is that child poverty is really high. There are a lot of children in this neighborhood, and they have a higher probability of being poor. There are also a lot of single parent households in this neighborhood. That means that if there is flooding, children will be at a really high risk.”
**Visualization**

**Hudson Hill Comparisons Bar Graph**
This graph compares three major indicators of social vulnerability for the census tract of Hudson Hill, the city of Savannah, and the state of Georgia. The three indicators are “Less than high school degree”, “Child poverty”, and “Having no health insurance”. The percentages for all three of these values are very similar for Savannah and Georgia, but there is a noticeable difference between the Hudson Hill area bars and the adjacent two.

**Social Explorer Poverty Map**
For a geographic frame of reference, the census tract map of Chatham County is included to the right. The yellow star indicates the Hudson Hill tract. As indicated, this tract has about 40% of its population under age 18 living in poverty. Interestingly, if you look at the adult poverty, aged 18-64, the percentage is only 20%. You can see that the tract to the west of Hudson Hill has lower child poverty rates, but the other two surrounding tracts have extremely high rates.
https://www.socialexplorer.com/a9676d974c/explore
Travel Time for Work Comparison

Hudson Hill and Woodville in Chatham stands out with and little amount of time commuting. The pattern is self-explanatory for people who live in small neighborhood tend to work close to their home.

From the social explorer map, Hudson Hill and Woodville is more representative of northern Savannah where large portion of people tend to travel 10-19 minutes to their work. And it remains valid for the majority of Atlanta.

Yet, from the pie chart, it can be told that “majority” has its variation from approximate a quarter to nearly half.
**Visualization**

**Vehicle Availability Comparison**

As shown in the pie chart, Hudson Hill and Woodville in Chatham is significant for dominant group of households which own 1 vehicle. The story can be continued from the last comparison. Excessive use of vehicles may not be not necessary if people work close to their home.

Socialexploro tells a slightly different story in terms of representativeness of Hudson Hill and Woodville of Georgia. The state is covered with even portion of 1-vehicle-available households and 2-vehicle-available households.

The different conclusions drawn from the pie chart and map may guide us to dig into the difference of distribution of households across census tract.

**Can you think of other reasons?**
Data Life Cycle

**Who**
- Data Collectors
  - US Census Bureau employees

**Why**
- To learn about the needs of the US residents, plan, and adjust budgets accordingly

**How**
- Sample of US Residents
  - Annual ACS takes a sample of 1 in 38 US residents
  - Decennial census tries to take account of 100% of US Residents

**How is data collected?**
1. Through the mail
2. Online
3. In person for group housing

**Influences**
- How can data be accessed?
  1. census.gov – US Census Bureau website, contains extensive data guides, reports and archives
  2. factfinder.census.gov – advance search – “American Community Survey” for table or topic name, “Chatham County, Georgia” for state, county or place – download
  3. socialexplorer.com – change data – choose year – choose category – choose “by census tract” – pan and zoom in to find Savannah
4. All census data before 1940 is completely public an has been realeased to library archives

**What**
- Information about Population
  - Examples: Citizenship Status, Commuting, Disability Status, Education, Employment Status, Health Insurance, Income, Occupation, Poverty Status

- Information about Housing
  - Computer and Internet Use, Food Stamps Program (SNAP), House Heating, Occupancy/Vacancy Status, Plumbing Facilities, Rent Rooms, Telephone Service Available

**Motivation**
- Data Users
  - **1. Community bodies**
    - Federal Gov. – Decided $625 billion of budget allocation
    - State Gov. – Evaluate needs for more city infrastructure
    - Local Gov. – Assess need for local programs
    - Nongovernmental Organizations – used by nonprofits and community groups to inform their decisions, also used to apply for grants and funding
    - Emergency planners – Helps understand vulnerable populations and where natural disasters may be more of a threat
    - Businesses – Use ACS data for strategic decision making
  - **2. Media/press**
    - The New York Times cites population data in “HURRICANE FLOYD: THE CITY, Slowly and Testily, Savannah Empties” to contrast with the order of the government, quotes from privileged and disadvantaged groups. The population data gives context to inequal distribution of commuting system inside the city.
    - The population data is also cited in “The Charm, and Challenge, of Savannah” in business section to show Savannah as a vibrant city with development potentials.
  - **3. Researchers**
    - Allen Hyde, an associate professor of history and sociology at Georgia Tech uses education level, ages, income, household type, races, employment, poverty status to identify social vulnerable groups in Savannah.
    - He uses 5-year average of ACS to reduce the error in data.
    - Census tract is a unit he uses to approximate “block”.
    - He is cautious admitting errors in ACS because readers take it for granted that ACS data tell “fact”.

**Notes**
- Motived by the need to learn about the needs of the US residents, plan, and adjust budgets accordingly.
This news also cites the population data to give context of evacuation during Hurricane Floyd in Savannah. It aims to give contrast of the huge load of evacuation work and order. By connecting the data with quotes by Savannah residents, the article gives praise to organization by the government. However, the article also gives voice to people in disadvantage who do not have access to public transportation to break the seemingly orderly scene. The contrast is obvious to raise awareness of inequality during evacuation.

Sources

ACS “Why we ask each question”:
https://www.census.gov/acs/www/about/why-we-ask-each-question/index.php

Census “data guides”:
https://census.gov/programs-surveys/acs/guidance/estimates.html

Census General Handbook

Chatham county census tract map - socialexplorer.com:
https://www.socialexplorer.com/a9676d974c/explore

Data guide from social explorer(which is where the .xls is pulled from):
https://www.socialexplorer.com/data/ACS2017_5yr/documentation/d3bf310c-1d05-41cb-b21e-706067ce086d#d3bf310c-1d05-41cb-b21e-706067ce086d%22%20target=%22_blank%22%20class=%22doc_ExternalLink

Factfinder:
https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

New York Times Article

Author Background

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