

# Introduction to the American Community Survey Public Use Microdata Sample (PUMS) Files

March 11, 2020

Toll free audio access: 888-946-3820 (corrected)

Passcode: 5500300#

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# The American Community Survey

## About the U.S. Census Bureau

- The U.S. Census Bureau is the federal government's largest statistical agency.
- We conduct more than 100 censuses and surveys each year, including
  - **The Decennial Census** – the once-a-decade population and housing count of all 50 states and U.S. territories
  - **The American Community Survey** – the ongoing, annual survey of the social, economic, housing, and demographic characteristics of the nation's population
  - **The Economic Census** – the official five-year measure of American businesses
- Our mission is to serve as the nation's leading provider of quality data about its people and economy.



# The American Community Survey

## Outline

- **American Community Survey (ACS) and PUMS basics**
- PUMS Geography
- Accessing PUMS Data through the File Transfer Protocol (FTP)
- Creating custom PUMS Tables on [data.census.gov](https://data.census.gov)
- Resources for learning more
- Questions

# The American Community Survey

## The Foundation

***The American Community Survey is on the leading edge of survey design, continuous improvement, and data quality***

- The nation's most current, reliable, and accessible data source for local statistics on critical planning topics such as age, children, veterans, commuting, education, income, and employment
- Surveys **3.5 million** addresses and informs over **\$675 billion** of Federal government spending each year
- Covers **40+ topics**, supports over **300** evidence-based Federal government uses, and produces **11 billion** estimates each year
- Three key annual data releases:
  - 1-year Estimates (for large populations)
  - 1-year Supplemental Estimates (for small populations)
  - 5-year Estimates (for very small populations)

13190012

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**Census**  
Bureau

## The American Community Survey

This booklet shows the content of the American Community Survey questionnaire.

### Start Here

You have two ways to respond:

Respond online today at:  
<https://respond.census.gov/acs>

OR

Complete this form and mail it back as soon as possible.

**Your response is required by law.**  
The American Community Survey is conducted by the U.S. Census Bureau. This survey is one of only a few surveys for which all recipients are required by law to respond. The U.S. Census Bureau is required by law to protect your information.

If you need help or have questions about completing this form, please call 1-800-354-7271.

Telephone Device for the Deaf (TDD):  
Call 1-800-582-8330.

¿NECESITA AYUDA? Llame sin cargo alguno al 1-877-833-5625.

For more information about the American Community Survey, visit our website at: <https://www.census.gov/acs>

Please print the name and telephone number of the person who is filling out this form. We will only contact you if needed for official Census Bureau business.

Last Name

First Name  MI

Area Code + Number  -

**How many people are living or staying at this address?**

- **INCLUDE** everyone who is living or staying here for more than 2 months.
- **INCLUDE** yourself if you are living here for more than 2 months.
- **INCLUDE** anyone else staying here who does not have another place to stay, even if they are here for 2 months or less.
- **DO NOT INCLUDE** anyone who is living somewhere else for more than 2 months, such as a college student living away or someone in the Armed Forces on deployment.

Number of people

**Fill out pages 2 – 7 for everyone, including yourself, who is living or staying at this address for more than 2 months. Then complete the rest of the form.**

FORM **ACS-1(INFO)(2020)**  
(07-13-2019)

OMB No. 0607-0810  
OMB No. 0607-0936

13190012

# The American Community Survey

## Content Overview

POPULATION		HOUSING
<b>SOCIAL</b> Ancestry Citizenship Citizen Voting Age Population Disability Educational Attainment Fertility Grandparents Language Marital Status Migration School Enrollment Veterans	<b>DEMOGRAPHIC</b> Age Hispanic Origin Race Relationship Sex	Computer & Internet Use Costs (Mortgage, Rent, Taxes, Insurance) Heating Fuel Home Value Occupancy Plumbing/Kitchen Facilities Structure Tenure (Own/Rent) Utilities Vehicles Year Built/ Year Moved In
	<b>ECONOMIC</b> Class of Worker Commuting Employment Status Food Stamps (SNAP) Health Insurance Hours/Week, Weeks/Year Income Industry & Occupation	

# The American Community Survey

## Overview of PUMS

- PUMS stands for the Public Use Microdata Sample
  - Microdata file is a subsample of the full ACS records
    - 1-year (approximately 1% of U.S. households)
    - 5-year (approximately 5% of U.S. households)
  - Additional data disclosure measures are applied to PUMS to protect confidentiality
- PUMS allows data users to create their own estimates which may not be published on [data.census.gov](https://data.census.gov)
- Statistical programs, such as SAS, R, Python, or STATA are recommended to calculate PUMS estimates and MOEs

# The American Community Survey

## Why Use PUMS?

**DETAILED OCCUPATION FOR THE FULL-TIME, YEAR-ROUND CIVILIAN EMPLOYED FEMALE POPULATION 16 YEARS AND OVER**

Survey/Program: American Community Survey    Universe: Full-time, year-round civilian employed female population 16 years and over    TableID: B24126    Product: 2018: ACS 1-Year Estimates Detailed Tables

Data Notes	Selections	Geographies	Years	Topic	Survey	Code	Hide	Filter	Sort	Transpose Table	Margin of Error	Restore Layout	Download	Print	Share	More Data	Map
United States																	
										Estimate		Margin of Error					
▼ Total:										47,989,329		+/-85,819					
Chief executives										268,474		+/-10,150					
General and operations managers										283,257		+/-9,175					
Legislators										4,890		+/-1,111					
Advertising and promotions managers										24,483		+/-2,628					
Marketing managers										263,399		+/-9,099					

- Data needs not supported by standard tables
  - Example: occupation by sex by marital status (“married female actuaries”)
- Can create new measures with unique combinations of person and/or household variables
  - Example: spouse’s occupation
- Users want to conduct sophisticated statistical analysis to understand relationship between variables
  - Example: correlation analysis

# The American Community Survey

## Summary Data vs. Microdata

	Louisiana	
	Estimate	Margin of Error
▼ Total:	2,015,672	+/-17,879
▼ Male:	1,029,182	+/-10,608
▼ Management, business, science, and arts occupations:	302,411	+/-8,186
▲ Management, business, and financial occupations:	138,208	+/-6,478
▼ Computer, engineering, and science occupations:	64,855	+/-4,695
▼ Computer and mathematical occupations:	22,827	+/-2,629
▼ Computer occupations:	22,439	+/-2,626
Computer and information research scientists and analysts...	2,287	+/-781
Software developers and programmers	6,874	+/-1,772

**Aggregated tables for a geography:**  
 “In 2018 in Louisiana, approximately 22,827 males work in computer and mathematical occupations.”

**Individual responses:**  
 “This male in Louisiana is a web developer.”

RT	SERIALNO	SPORDER	ST	SEX	OCCP
P	267855	2	22	1	6600
P	267870	1	22	2	1020
P	267870	2	22	1	1030
P	267913	1	22	2	430
P	267913	2	22	1	9620
P	268097	1	22	2	4110
P	268097	2	22	1	6260



# The American Community Survey

## Weighting in PUMS

- Data users must aggregate PUMS records to create weighted estimates
- PUMS weights and replicate weights are provided
  - WGTP: PUMS household weights
    - used to produce housing unit estimates
  - PWGTP: PUMS person weights
    - used to produce population estimates
  - WGTP1 – WGTP80, PWGTP1 – PWGTP80: PUMS Replicate Weights
    - used to calculate standard errors
- Use the variance formula to calculate the MOE

# The American Community Survey

## What is the Margin of Error (MOE)?

**Definition:** An MOE is a measure of the possible variation of the estimate around the population value

- At a given confidence level, the estimate and actual population value will differ by no more than the MOE
- 90% confidence level is the Census standard and ACS MOEs are provided in the same unit as the estimate

**Example: How many males under age 5 live in WY?**

Lower bound =  $19,174 - 346 = 18,828$

Upper bound =  $19,174 + 346 = 19,520$

We are 90% confident the true number of males under age 5 in Wyoming falls **between 18,828 and 19,520**

	Wyoming	
	Estimate	Margin of Error
▼ Total:	583,200	*****
▼ Male:	298,301	+/-673
Under 5 years	19,174	+/-346
5 to 9 years	20,796	+/-771
10 to 14 years	20,227	+/-740
15 to 17 years	11,677	+/-367
18 and 19 years	7,605	+/-364

# The American Community Survey

## Webinar: Calculation Margins of Error the ACS Way

### Calculating Margins of Error the ACS Way Using Replicate Methodology to Calculate Uncertainty

February 12, 2020

For audio call: 1-888-950-9568 (passcode: 8679472)

Sirius Fuller  
Decennial Statistical Studies Division

Charles Gamble  
American Community Survey Office



[census.gov/data/academy/webinars/2020/calculating-margins-of-error-ac.html](https://census.gov/data/academy/webinars/2020/calculating-margins-of-error-ac.html)

# The American Community Survey

## 5-year PUMS Files

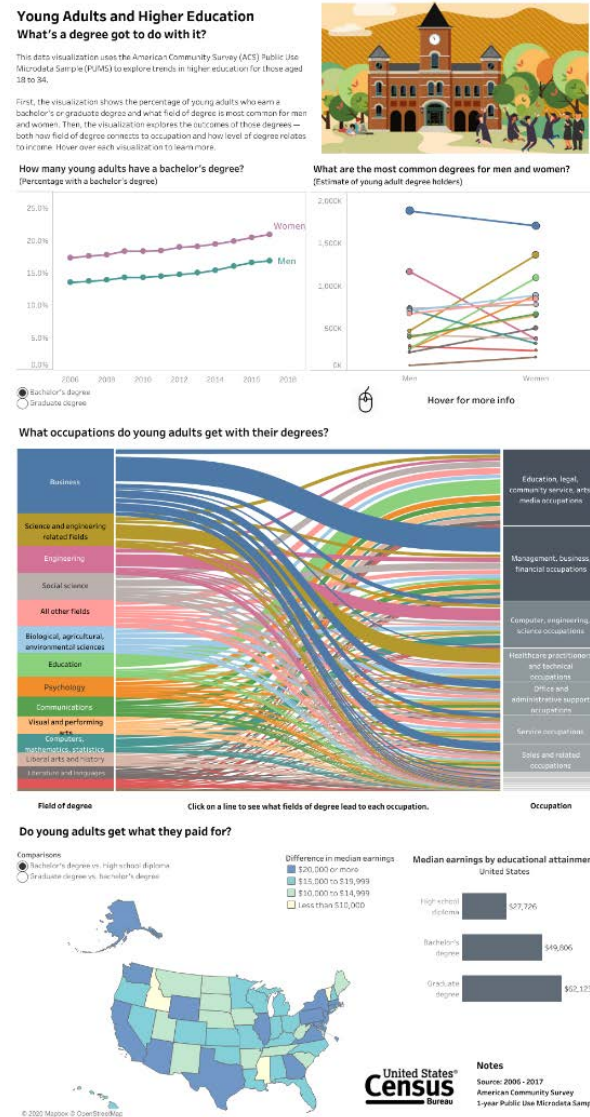
- 5-year PUMS files contain the same cases as their component 1-year files

$$\left\{ \begin{array}{l} \text{2014 ACS 1-year PUMS} \\ \text{2015 ACS 1-year PUMS} \\ \text{2016 ACS 1-year PUMS} \\ \text{2017 ACS 1-year PUMS} \\ \text{2018 ACS 1-year PUMS} \end{array} \right. = \text{2014-2018 ACS 5-year PUMS}$$

- Why do we release multiyear PUMS?
  - New weights are produced using latest population estimate “vintages”
  - Coding schemes and dollar amounts are standardized to latest year in the multi-year file

# The American Community Survey

## Example of PUMS in Action



# The American Community Survey

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- **PUMS Geography**
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- Questions

# The American Community Survey

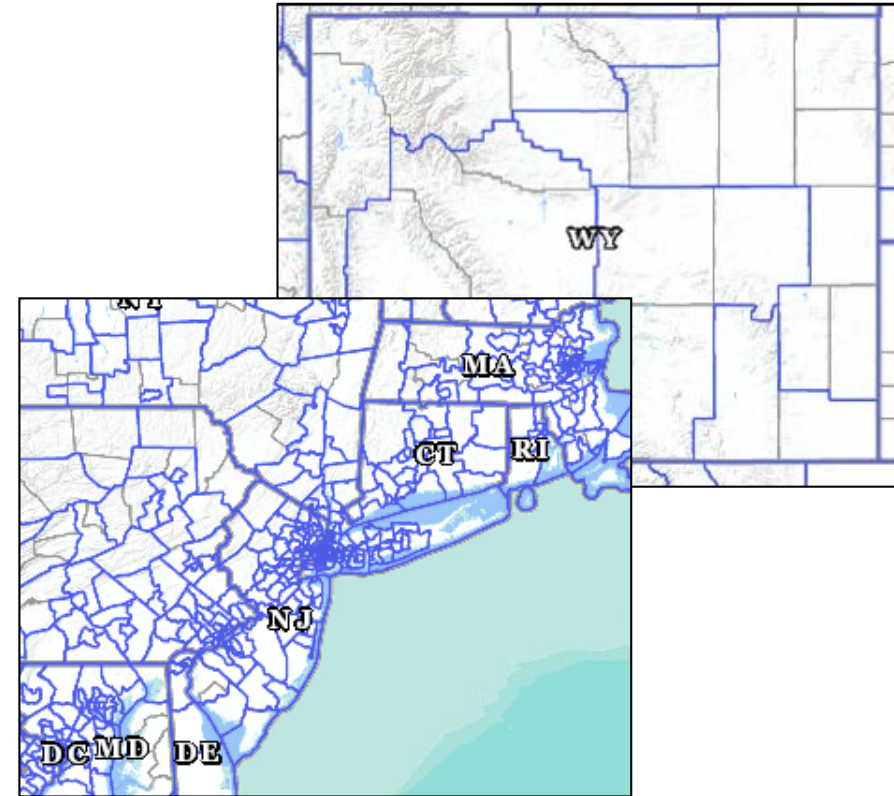
## Levels of Geography

- Region, division, state, and Public Use Microdata Area (PUMA)
- PUMAs can identify most cities of 100,000+ and many metropolitan areas, but not all
- PUMS is not designed for statistical analysis of small geographic areas

# The American Community Survey

## Public Use Microdata Area (PUMA)

- An area with 100,000+ population
- Identified by five-digit code (unique within each state)
- Nest within states or equivalent entities
- Geographically contiguous
- Defined after each census
  - 2010 Census PUMAs first used in the 2012 ACS
  - Census tracts and counties are the building blocks






# The American Community Survey

## Approximate PUMAs using MCDC's Geocorr 2014

MCDC Data Applications

 Missouri Census Data Center

HomeDataPopulationGeographyHelpAbout MCDC

### Geocorr 2018: Geographic Correspondence Engine

**Beta version, revised 12/04/2018 with 2016 geographies**

This application accesses the MABLE geographic database to generate custom correlation lists as reports and/or files. Click on the help icons (?) for detailed info on any section of this form.

**Note:** This application is a "beta" version. Two county name/code changes in 2015 will affect results from AK and SD. See the [usage notes](#) for more information. Processing time may be several minutes for large areas or multiple states. Processing time may be greatly reduced by deselecting the HTML report in the output options.

[Help](#) | [Examples](#) | [Notes](#) | [Other Geocorr versions](#)

INPUT OPTIONS

Select the state(s) to process: (?)

Missouri

Alabama

Alaska

Arizona

Arkansas

California

Colorado

Connecticut

(ctrl-click to select multiple)

Select one or more source geographies: (?)

Entire Universe [no code]

State

2010 Geographies:

County

County Subdivision/Town(ship)/MCD

Place (City, Town, Village, CDP, etc.)

Census Tract

Census Block Group

Census Block\*

ZIP/ZCTA

Core Based Statistical Area (CBSA)

Select one or more target geographies: (?)

Entire Universe [no code]

State

2010 Geographies:

County

County Subdivision/Town(ship)/MCD

Place (City, Town, Village, CDP, etc.)

Census Tract

Census Block Group

Census Block\*

ZIP/ZCTA

Core Based Statistical Area (CBSA)

Notes for geography selectors:

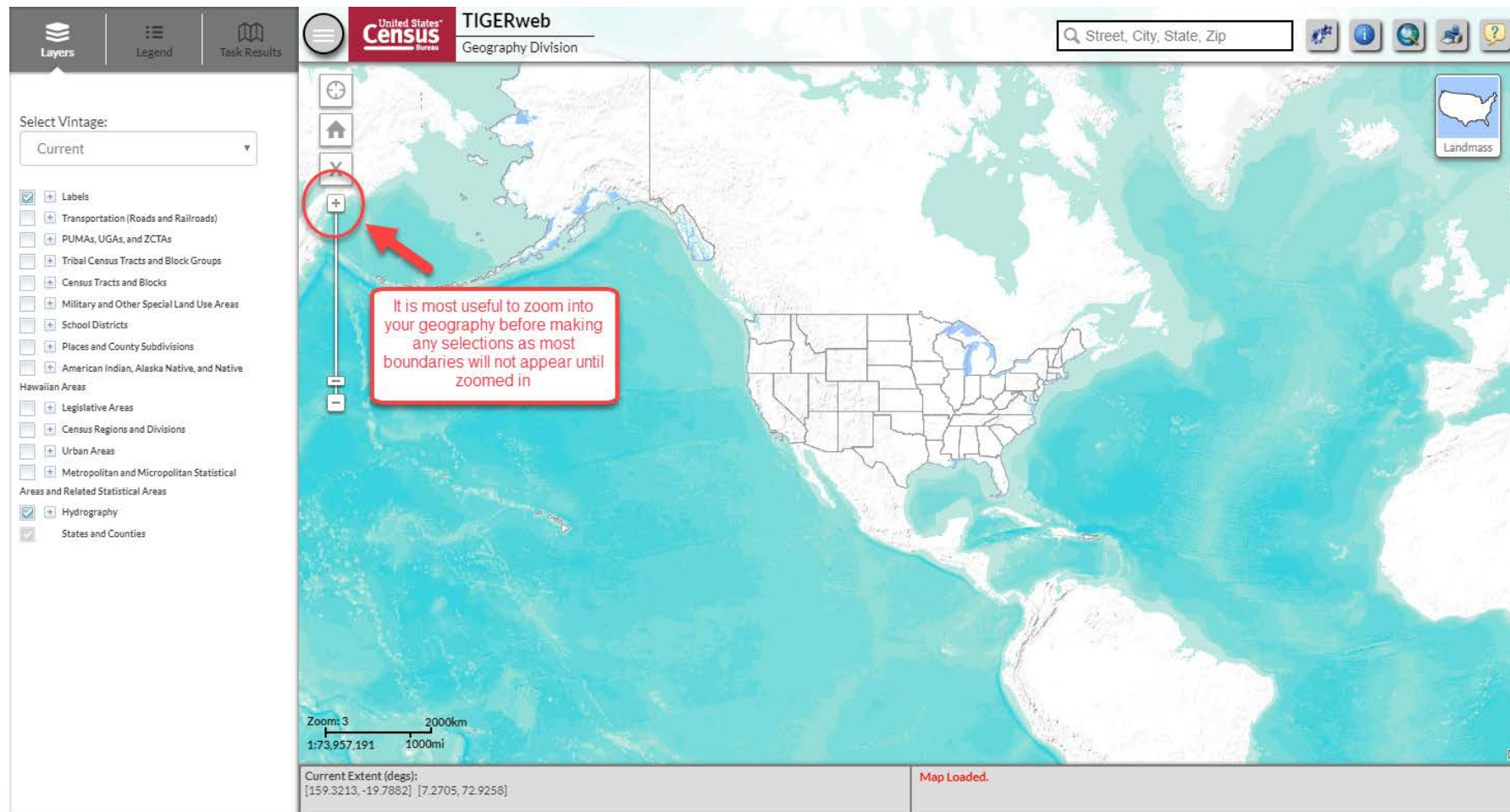
\* If you chose census block, you may not choose more than 13 states.

\*\* If you chose "Concentric Ring Pseudo-Geocode" from either list, you *must* specify either **Point and Distance** or **Ring Geocode** options below.

See the [geographic glossary](#) for descriptions of the source and target geocodes used here.

# The American Community Survey

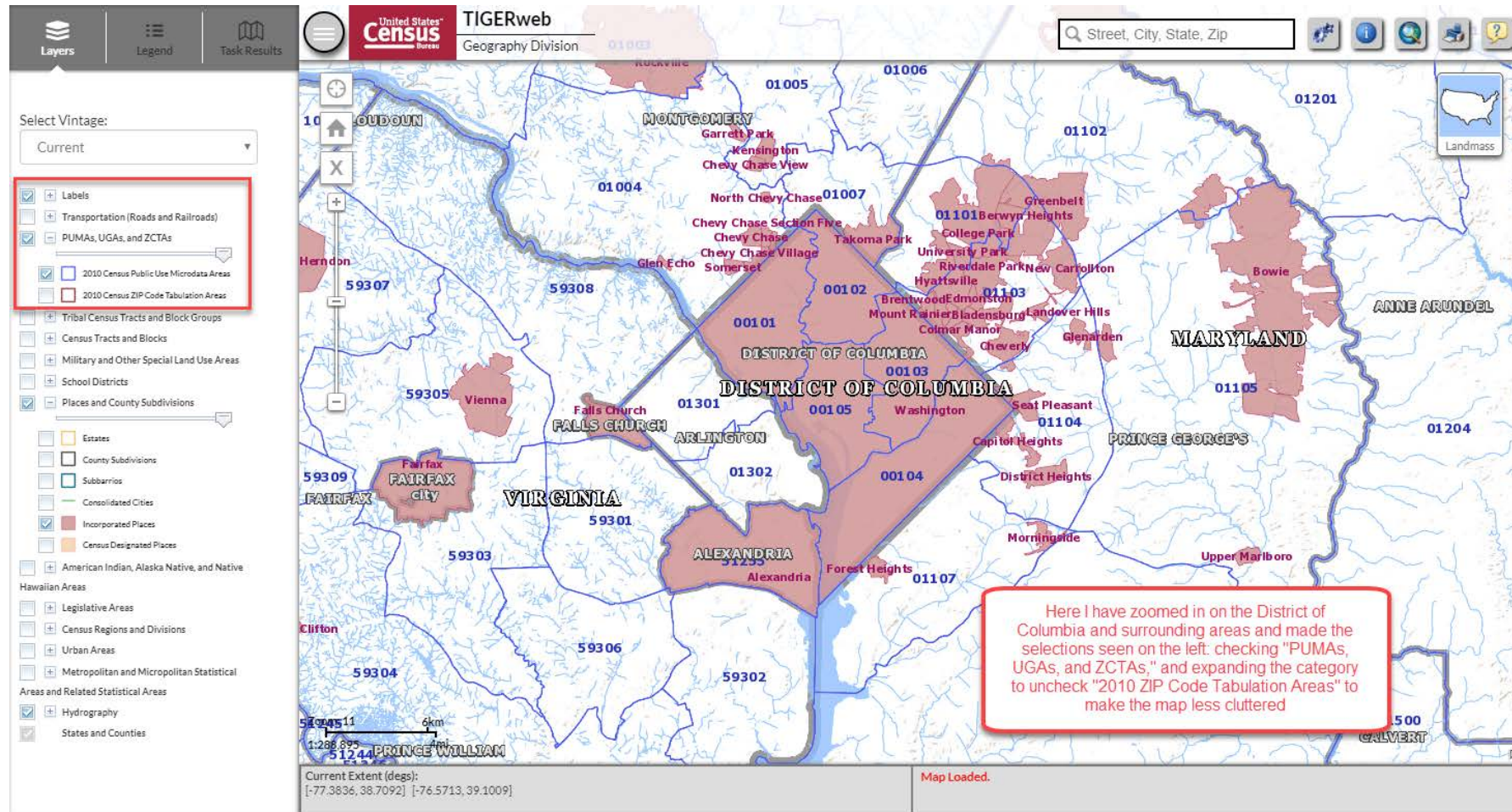
## Visualize PUMA Boundaries for Your Area Using TIGERweb





# The American Community Survey

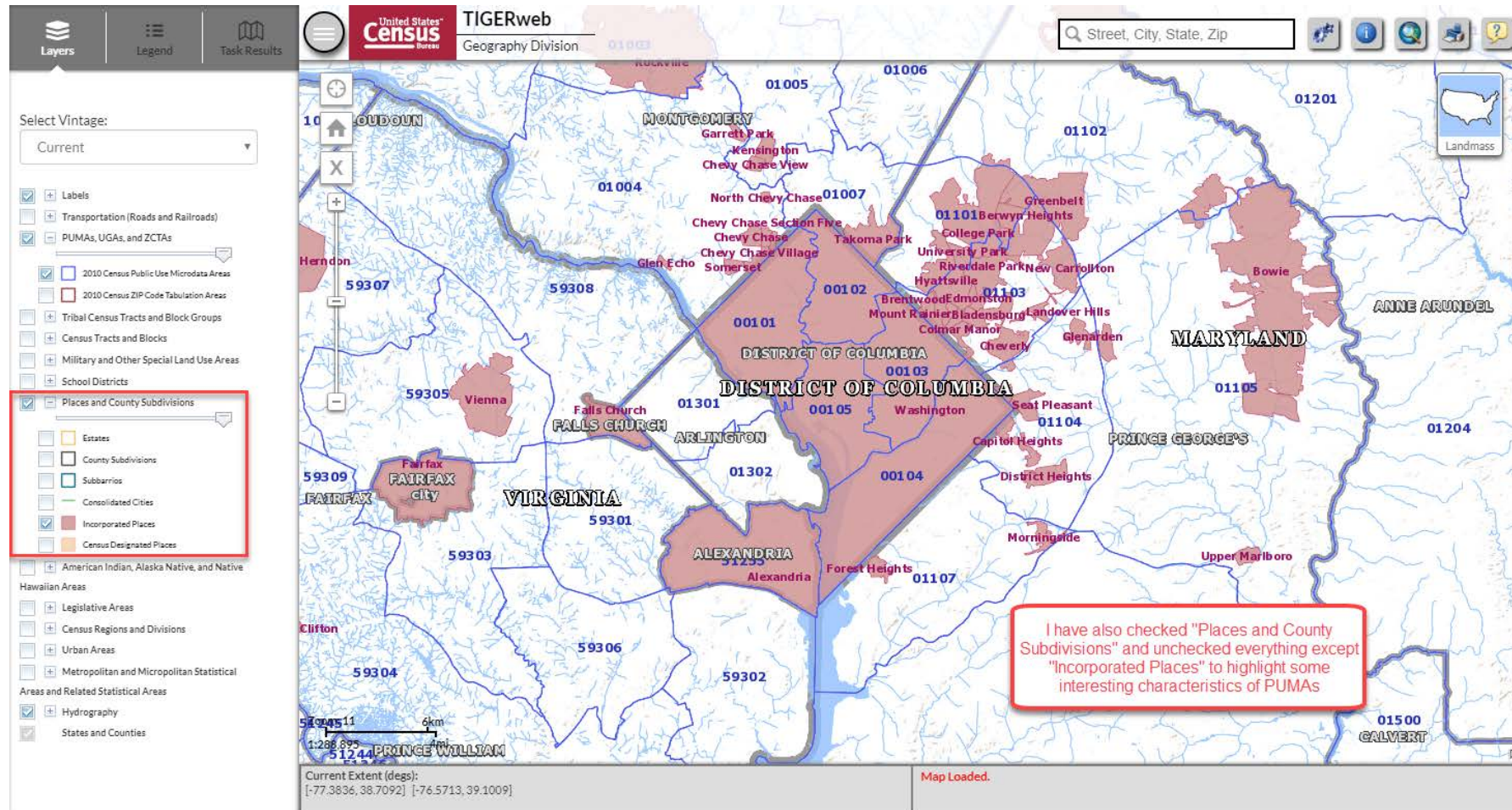
## Visualize PUMA Boundaries for Your Area Using TIGERweb





# The American Community Survey

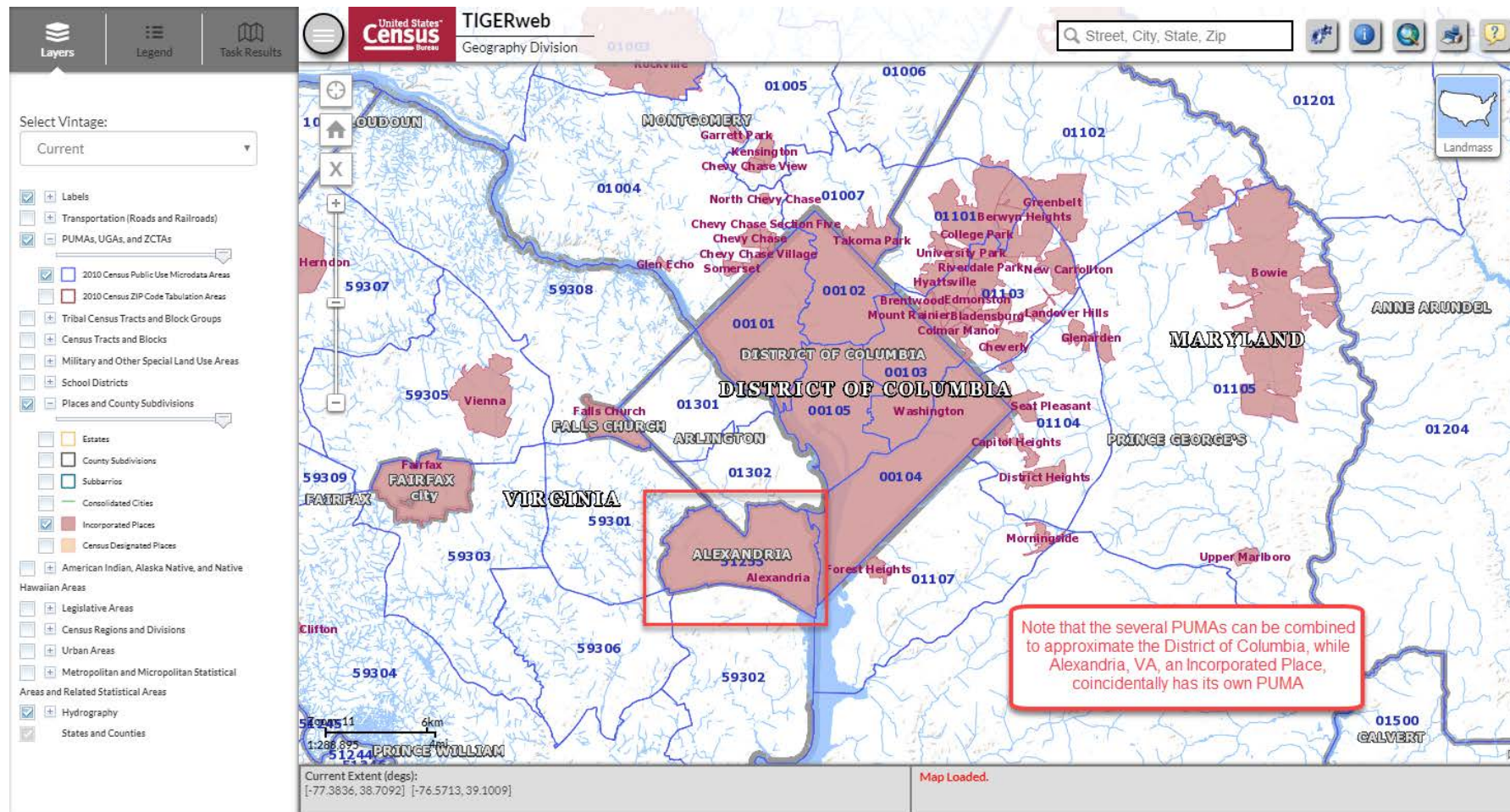
## Visualize PUMA Boundaries for Your Area Using TIGERweb





# The American Community Survey

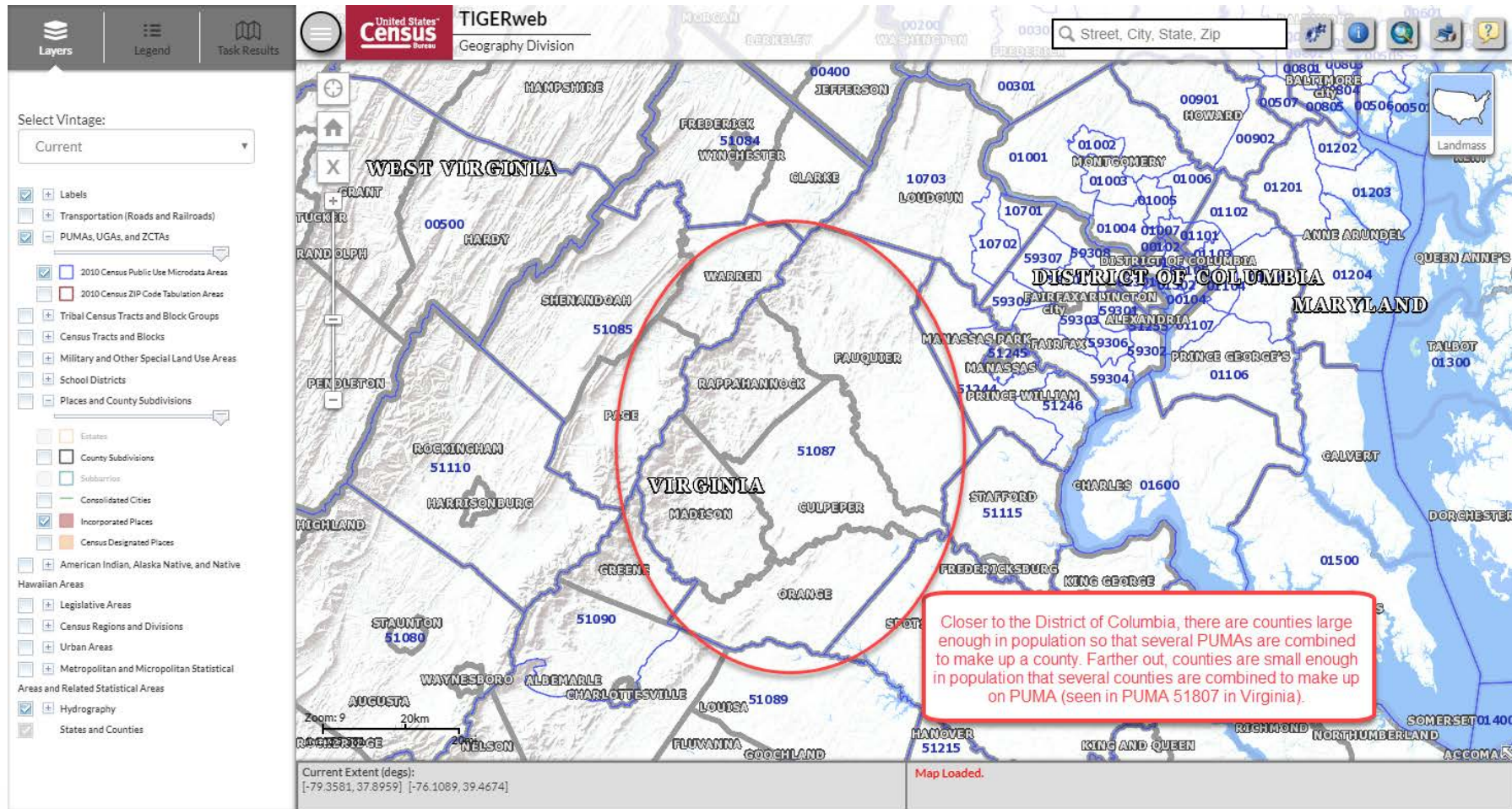
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# The American Community Survey

## Visualize PUMA Boundaries for Your Area Using TIGERweb



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# The American Community Survey

## Accessing PUMS Data on [census.gov/acs](https://census.gov/acs)

- Go to the [census.gov/acs](https://census.gov/acs)
- Navigate to Data > PUMS Data
- Select the desired year and dataset (1-year vs. 5-year)
- Select format (CSV or SAS)
- Select geography and type
  - (Housing or Population)
- Unzip the files
  - (National will have two to four files)

The screenshot displays the United States Census Bureau website's PUMS Data page. The header includes the Census Bureau logo, a search bar, and navigation links: BROWSE BY TOPIC, EXPLORE DATA, LIBRARY, SURVEYS/ PROGRAMS, INFORMATION FOR..., FIND A CODE, and ABOUT US. A breadcrumb trail reads: // Census.gov > Our Surveys & Programs > American Community Survey (ACS) > American Community Survey Data > PUMS Data.

**PUMS Data**

Supporting documentation for the data below is available on the [PUMS Documentation](#) page.

**Available on the FTP site**

PUMS files back to 2005 are available in CSV and SAS formats

<b>2018 ACS PUMS</b>
<b>2017 ACS PUMS</b>
<b>2016 ACS PUMS</b>

**PUMS on data.census.gov**

Microdata access from 2005-current is now available on data.census.gov in beta.

<b>2014-2018 ACS 5-year PUMS</b>
<b>2018 ACS 1-year PUMS</b>
<b>2013-2017 ACS 5-year PUMS</b>

**Related Information**

- [Share Your ACS Data Story](#)
- [Contact Us](#)
- [Introduction to the Public Use Microdata Sample \(PUMS\) File](#)

**You May Be Interested In**

**RELATED TOPICS**

- [Contact Us](#)

**AROUND THE BUREAU**

- [Email Updates](#)

**MOST POPULAR**

- [Share Your ACS Data Story](#)

[Back to American Community Survey Data](#)











Respond to the ACS  
[Learn how](#)



# The American Community Survey

## Accessing PUMS Data on [census.gov/acs](https://census.gov/acs)

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United States <sup>®</sup> Census Bureau			
Name	Last modified	Size	Description
Parent Directory			
 <a href="#">PUMS_file_naming_convention.pdf</a>	12-Nov-2019 08:34	36K	
 <a href="#">csv_hak.zip</a>	31-Oct-2019 15:19	709K	
 <a href="#">csv_hal.zip</a>	31-Oct-2019 15:19	3.8M	
 <a href="#">csv_har.zip</a>	31-Oct-2019 15:19	2.4M	
 <a href="#">csv_haz.zip</a>	31-Oct-2019 15:19	5.0M	
 <a href="#">csv_hca.zip</a>	31-Oct-2019 15:19	23M	
 <a href="#">csv_hco.zip</a>	31-Oct-2019 15:19	4.1M	
 <a href="#">csv_hct.zip</a>	31-Oct-2019 15:18	2.7M	
 <a href="#">csv_hdc.zip</a>	31-Oct-2019 15:18	727K	
 <a href="#">csv_hde.zip</a>	31-Oct-2019 15:18	921K	


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# The American Community Survey


## Creating custom PUMS Tables on data.census.gov



## Explore Census Data

The Census Bureau is the leading source of quality data about the nation's people and economy.

[Advanced Search](#)



### Questions?

- [What is data.census.gov?](#)
- [When will American FactFinder \(AFF\) go away?](#)
- [How do I get started with my search?](#)
- [How do I save my results or search?](#)
- [How do I access data by race, Hispanic origin, ancestry, or country of birth?](#)
- [What are the known issues and defects](#)

### Release Notes

- [More data available](#)
- [Table enhancements](#)
- [Export to Excel](#)
- [Multiple table download](#)
- [Bug fixes](#)
- [Full Release Notes](#)

### Stay Connected

- [Recorded Webinar: New Updates to data.census.gov - June 2019](#)
- [Tutorials](#)
- Our development depends on YOUR feedback  
Tell us how to make your experience better.
- [cedsci.feedback@census.gov](mailto:cedsci.feedback@census.gov)

# The American Community Survey

## Creating custom PUMS Tables on data.census.gov



### Microdata



**Microdata**

Can't find what you need in the pre-tabulated data tables? For a number of demographic datasets, such as the American Community Survey and the Current Population Survey, public use microdata files are available that allow you to create custom tables.

[EXPLORE MICRODATA](#) 

# The American Community Survey

Creating custom PUMS Tables on [data.census.gov](https://data.census.gov)


United States<sup>®</sup> **Census** Bureau BETA

Explore Data

## Select a Dataset & Vintage

Select Dataset ACS 1-Year Estimates - Public Use Microdata Sample  
ACSPUMS1Y

Select Vintage 2018  
2018

 [NEXT](#)

# The American Community Survey

## Creating custom PUMS Tables on data.census.gov

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**Census**  
Bureau

Explore Data / Microdata / Custom Table

SELECT VARIABLES

SELECT GEOGRAPHIES

DATA CART (0)

TABLE LAYOUT

DOWNLOAD

filter by Topic

I'm looking for

SEARCH

Showing 214 of 507 Variables

Select at least one variable to start

	Variable	Label	Number of Values	Type	
				3) Edited Items, Estimate, Recode	
<input type="checkbox"/>	AGEP	Age	2	Estimate	<a href="#">DETAILS</a>
<input type="checkbox"/>	ANC	Ancestry categorization	5	Edited Items	<a href="#">DETAILS</a>
<input type="checkbox"/>	DRIVESP	Number of vehicles calculated from JWRI	7	Estimate	<a href="#">DETAILS</a>
<input type="checkbox"/>	FES	Family type and employment status	9	Estimate	<a href="#">DETAILS</a>
<input type="checkbox"/>	FPARC	Presence, age of related children	5	Recodes	<a href="#">DETAILS</a>
<input type="checkbox"/>	GRPIP	Gross rent as a percentage of household income past 12 ...	3	Estimate	<a href="#">DETAILS</a>
<input type="checkbox"/>	HISP	Hispanic recode	24	Recodes	<a href="#">DETAILS</a>
<input type="checkbox"/>	JWAP	Time of arrival at work categorization	286	Edited Items	<a href="#">DETAILS</a>
<input type="checkbox"/>	JWDP	Time of departure for work - hour and minute	151	Estimate	<a href="#">DETAILS</a>
<input type="checkbox"/>	JWMNP	Travel time to work	2	Estimate	<a href="#">DETAILS</a>

Dataset: ACS 1-Year Estimates - Public Use Microdata Sample (2018)

CHANGE

VIEW TABLE

# The American Community Survey

## Creating custom PUMS Tables on data.census.gov

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BETA

Explore Data / Microdata / Custom Table

SELECT VARIABLES

SELECT GEOGRAPHIES

DATA CART (1)

TABLE LAYOUT

DOWNLOAD

filter by Topic

I'm looking for

SEARCH

Showing 2 of 507 Variables

Selected: 1 variable (1 column, 531 rows)

	Variable	Label	Number of Values	Type	
<input checked="" type="checkbox"/>	OCCP	Occupation recode for 2018 and later based on 2018 OCC ...	531	Recodes	<a href="#">DETAILS</a>
<input type="checkbox"/>	SOCP	Standard Occupational Classification (SOC) codes for 2018...	531	Estimate	<a href="#">DETAILS</a>

Dataset: ACS 1-Year Estimates - Public Use Microdata Sample (2018)

CHANGE

VIEW TABLE

# The American Community Survey

## Creating custom PUMS Tables on data.census.gov

**BETA**

Explore Data/ Microdata/ Custom Table

SELECT VARIABLES

SELECT GEOGRAPHIES

DATA CART (2)

TABLE LAYOUT

DOWNLOAD

filter by Topic

Search is not enabled in this beta version

SEARCH

Showing 1 of 507 Variables

You can also search by variable name

Selected: 2 variables (2 columns, 531 rows)

	Variable	Label	Number of Values	Type
<input checked="" type="checkbox"/>	SEX	Sex	2	Edited Items

Dataset: ACS 1-Year Estimates - Public Use Microdata Sample (2018)

CHANGE

VIEW TABLE



# The American Community Survey

## Creating custom PUMS Tables on data.census.gov

**This variable is continuous and can only go to "Values in table cells". Create a group (recode) to use elsewhere. "Age (AGEP)"**

SELECT VARIABLES   SELECT GEOGRAPHIES   DATA CART (3)   TABLE LAYOUT   DOWNLOAD

filter by Topic   Search is not enabled in this beta version   SEARCH

Showing 214 of 507 Variables   Selected: 3 variables (2 columns, 531 rows)

	Variable	Label	Number of Values	Type	
<input checked="" type="checkbox"/>	AGEP	Age	2	Estimate	DETAILS
<input type="checkbox"/>	ANC	Ancestry categorization	5	Edited Items	DETAILS
<input type="checkbox"/>	DRIVESP	Number of vehicles calculated from JWRI	7	Estimate	DETAILS
<input type="checkbox"/>	FES	Family type and employment status	9	Estimate	DETAILS
<input type="checkbox"/>	FPARC	Presence, age of related children	5	Recodes	DETAILS
<input type="checkbox"/>	GRPIP	Gross rent as a percentage of household income pas...	3	Estimate	DETAILS

Dataset: ACS 1-Year Estimates - Public Use Microdata Sample (2018)   CHANGE

VIEW TABLE

This is just a warning to tell you what options you have with a continuous variable

# The American Community Survey

## Creating custom PUMS Tables on data.census.gov

**BETA**

Explore Data / Microdata / Custom Table

SELECT VARIABLES **SELECT GEOGRAPHIES** DATA CART (3) TABLE LAYOUT DOWNLOAD

IN THIS BETA VERSION, DATA ARE AVAILABLE ONLY FOR STATES. THE OTHER GEOGRAPHIC AREAS WILL BE ENABLED SOON.

GEOGRAPHIES	STATE
Region	<input type="checkbox"/> Ohio
Division	<input type="checkbox"/> Oklahoma
	<input type="checkbox"/> Oregon
<b>State</b>	<input checked="" type="checkbox"/> Pennsylvania
	<input type="checkbox"/> Rhode Island
Public Use Microdata Area (PUMA)	<input type="checkbox"/> South Carolina
	<input type="checkbox"/> South Dakota
	<input type="checkbox"/> Tennessee
	<input type="checkbox"/> Texas
	<input type="checkbox"/> Utah

Select your geography (or else default to U.S.)

Dataset: ACS 1-Year Estimates - Public Use Microdata Sample (2018) [CHANGE](#) [VIEW TABLE](#)

# The American Community Survey

## Creating custom PUMS Tables on data.census.gov

BETA

Explore Data/ Microdata/ Custom Table

SELECT VARIABLES SELECT GEOGRAPHIES **DATA CART (3)** TABLE LAYOUT DOWNLOAD

Selected Variables (3)

AGEP  
2 of 2 responses

SEX  
2 of 2 responses

**OCCP**  
3 of 531 responses

Occupation recode for 2018 and later based on 2018 OCC codes (OCCP) DETAILS ^

+ CREATE CUSTOM GROUP

☒ Include in Universe

Response Label Value

construction

<input checked="" type="checkbox"/>	MGR-Construction Managers	0220
<input type="checkbox"/>	CON-First-Line Supervisors Of Constr...	6200
<input checked="" type="checkbox"/>	CON-Construction Laborers	6260
<input checked="" type="checkbox"/>	CON-Construction Equipment Operators	6305
<input type="checkbox"/>	CON-Helpers, Construction Trades	6600
<input type="checkbox"/>	CON-Construction And Building Inspec...	6660
<input type="checkbox"/>	CON-Other Construction And Related ...	6765

Dataset: ACS 1-Year Estimates - Public Use Microdata Sample (2018) CHANGE

At this point you can view your table

VIEW TABLE

# The American Community Survey

## Creating custom PUMS Tables on data.census.gov

BETA

Explore Data / Microdata / Custom Table

Custom Table

MORE TABLE OPTIONS

DETAILS

Dataset: ACS 1-Year Estimates - Public Use Microdata Sample

CHANGE DATASET

Geography: 1 geographies selected

CHANGE GEOGRAPHY

Vintage: 2018

Weighting: PUMS person weight

On Columns

SEX

On Rows

Selected Geographies

OCCP

Not on Table

"Values in table cells" Options

AGEP

Values in table cells:

Average of Age (AGEP)

Universe: selected geographies: Pennsylvania; Occupation recode for 2018 and later based on 2018 OCC codes (OCCP): MGR-Construction Managers, CON-Construction Laborers, CON-Construction Equipment Operators

	Sex (SEX)	
Occupation recode for 2018 and later based on 2018 OCC codes (OCCP)	Male	Female

Selected Geographies - Pennsylvania (3)

MGR-Construction Managers	48.26	46.09
CON-Construction Laborers	39.39	38.18
CON-Construction Equipment ...	47.33	41.03

←

Your table and output will appear here


# The American Community Survey

## Creating custom PUMS Tables on data.census.gov

**BETA**

Explore Data / Microdata / Custom Table

---

 **Custom Table**


[MORE TABLE OPTIONS](#) DETAILS ▾


**Dataset:** ACS 1-Year Estimates - Public Use Microdata Sample [CHANGE DATASET](#)

**Geography:** 1 geographies selected [CHANGE GEOGRAPHY](#)

**Vintage:** 2018 ▾


**Weighting:** PUMS person weight ▾


**On Columns** 

**On Rows** 

**SEX**

**Selected Geographies** **OCCP**

**Not on Table** 

**"Values in table cells" Options** 

**AGEP**

**Values in table cells:**

Average of Age (AGEP) ▾

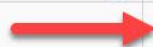
Universe: **selected geographies:** Pennsylvania; **Occupation recode for 2018 and later based on 2018 OCC codes (OCCP):** MGR-Construction Managers, CON-Construction Laborers, CON-Construction Equipment Operators

	Sex (SEX)	
Occupation recode for 2018 and later based on 2018 OCC codes (OCCP)	Male	Female

▾ Selected Geographies - Pennsylvania (3)

MGR-Construction Managers	48.26	46.09
CON-Construction Laborers	39.39	38.18
CON-Construction Equipment ...	47.33	41.03

You can click on a variable to return to the editing tool



# The American Community Survey

## Creating custom PUMS Tables on data.census.gov

BETA

Explore Data / Microdata / Custom Table

SELECT VARIABLES

SELECT GEOGRAPHIES

DATA CART (3)

TABLE LAYOUT

DOWNLOAD

Selected Variables (3)

AGEP

2 of 2 responses

SEX

2 of 2 responses

OCCP

3 of 531 responses

Age (AGEP)

DETAILS ^

+ CREATE CUSTOM GROUP

Include in Universe

Response Label

Value

1 to 99 years (Top-coded\*\*\*)

1

99

Under 1 year

00

We will use this to restrict our table universe to those ages 18 to 34

Dataset: ACS 1-Year Estimates - Public Use Microdata Sample (2018)

CHANGE

VIEW TABLE

United States<sup>®</sup>  
**Census**  
Bureau

38

# The American Community Survey

## Creating custom PUMS Tables on data.census.gov

BETA

Explore Data / Microdata / Custom Table

SELECT VARIABLES   SELECT GEOGRAPHIES   **DATA CART (4)**   TABLE LAYOUT   DOWNLOAD

**Selected Variables (4)**

**AGEP**  
2 of 2 responses

**SEX**  
2 of 2 responses

**OCCP**  
3 of 531 responses

**AGEP\_RC1**  
2 of 2 responses

Recode Label  
Young\_Adults

12 / 80

**Not Elsewhere Classified**  
VALUES: 1:17, 35:99, 00

**18 to 34** ☒ Show on table

Group Label  
18 to 34

8 / 60

<input type="checkbox"/> Add to Group	Response Label	Value
<input type="checkbox"/>	1 to 99 years (Top-coded***)	18 ————— 34

**CANCEL** **SAVE GROUP**

**Dataset:** ACS 1-Year Estimates - Public Use Microdata Sample (2018) **CHANGE**

**VIEW TABLE**

We will also need to take a look at this "Not Elsewhere Classified" (on the next slide), which is automatically generated

We have labeled this variable "18 to 34"

You can use the slider to toggle the restrictions, or you can simply type in the values

Save your work!

# The American Community Survey

## Creating custom PUMS Tables on data.census.gov

BETA

Explore Data / Microdata / Custom Table

SELECT VARIABLES SELECT GEOGRAPHIES **DATA CART (4)** TABLE LAYOUT DOWNLOAD

Selected Variables (4)

**AGEP**  
2 of 2 responses

**SEX**  
2 of 2 responses

**OCCP**  
3 of 531 responses

**AGEP\_RC1**  
1 of 2 responses

**Young\_Adults**

Not Elsewhere Classified

Group Label  
Not Elsewhere Classified

24 / 60

<input type="checkbox"/> Add to Group	Response Label	Value
<input type="checkbox"/>	Between 1 and 17	1 17
<input type="checkbox"/>	Between 35 and 99	35 99
<input type="checkbox"/>	Under 1 year	00

18 to 34

At this point you can go ahead and delete the original age variable (optional)

This variable consists of all other possible values. We do not need this variable so we can hide it from the table

Don't forget to save!



# The American Community Survey

## Creating custom PUMS Tables on data.census.gov

BETA

Explore Data/ Microdata/ Custom Table

Custom Table

MORE TABLE OPTIONS

DETAILS

Dataset: ACS 1-Year Estimates - Public Use Microdata Sample

CHANGE DATASET

Geography: 1 geographies selected

CHANGE GEOGRAPHY

Vintage: 2018

Weighting: PUMS person weight

On Columns

On Rows

SEX

AGEP\_RC1

Selected Geographies

OCCP

Not on Table

"Values in table cells" Options

Values in table cells:

Count

Universe: selected geographies: Pennsylvania; Occupation recode for 2018 and later based on 2018 OCC codes (OCCP): MGR-Construction Managers, CON-Construction Laborers, CON-Construction Equipment Operators

	Sex (SEX)	
	Male	Female
	AGEP_RC1 (AGEP_RC1)	AGEP_RC1 (AGEP_RC1)
Occupation recode for 2018 and later based on 2018 OCC codes (OCCP)	18 to 34	18 to 34
Selected Geographies - Pennsylvania (3)		
MGR-Construction Managers	4,061	207
CON-Construction Laborers	37,335	37
CON-Construction Equipment ...	5,268	161

We now see the count of workers in these selected construction occupations between that ages of 18-34 in Pennsylvania by sex

# The American Community Survey

## Creating custom PUMS Tables on data.census.gov

BETA

Explore Data / Microdata / Custom Table

Custom Table

MORE TABLE OPTIONS

DETAILS

Dataset: ACS 1-Year Estimates - Public Use Microdata Sample

CHANGE DATASET

Geography: 1 geographies selected

CHANGE GEOGRAPHY

Vintage: 2018

Weighting: PUMS person weight

On Columns

SEX

AGEP\_RC1

On Rows

Selected Geographies

OCCP

Not on Table

"Values in table cells" Options

Values in table cells:

Count

Universe: selected geographies: Pennsylvania; Occupation recode for 2018 and later based on 2018 OCC codes (OCCP): MGR-Construction Managers, CON-Construction Laborers, CON-Construction Equipment Operators

	Sex (SEX)	
	Male	Female
	AGEP_RC1 (AGEP_RC1)	AGEP_RC1 (AGEP_RC1)
Occupation recode for 2018 and later based on 2018 OCC codes (OCCP)	18 to 34	18 to 34
Selected Geographies - Pennsylvania (3)		
MGR-Construction Managers	4,061	207
CON-Construction Laborers	37,335	37
CON-Construction Equipment ...	5,268	161

You can click here to download and share this table

# The American Community Survey

## Creating custom PUMS Tables on data.census.gov

BETA

Explore Data/ Microdata/ Custom Table

SELECT VARIABLESSELECT GEOGRAPHIESDATA CART (3)TABLE LAYOUTDOWNLOAD

☒ Download table view (.CSV)

☐ Extract raw data (.CSV)

☐ Extract raw data (.JSON)

Include:

☒ \* PUMS person weight

☐ Housing Weight

\* weight associated with at least one variable in download

DOWNLOAD

Download table as a .csv

Bookmark for your current selections; save to return later or send to someone to share.

Share table as seen in the tool

COPY BOOKMARK

[https://data.census.gov/mdat/#/search?ds=ACSPUMS1Y2018&cv=SEX,AGEP\\_RC1&rv=ucgid,OCCP\(0220,6260,6305\)&wt=PWGTP&g=0400000US42&AGEP\\_RC1=%7](https://data.census.gov/mdat/#/search?ds=ACSPUMS1Y2018&cv=SEX,AGEP_RC1&rv=ucgid,OCCP(0220,6260,6305)&wt=PWGTP&g=0400000US42&AGEP_RC1=%7)

Query to extract PUMS records for your current selections from the Census Data API.

Share raw PUMS data for this table through our API

COPY API GET QUERY

[https://api.census.gov/data/2018/acs/acs1/pums?get=PWGTPSEX,AGEP\\_RC1&ucgid=0400000US42&OCCP=0220&OCCP=6260&OCCP=6305&recode+AGEP\\_RC1=](https://api.census.gov/data/2018/acs/acs1/pums?get=PWGTPSEX,AGEP_RC1&ucgid=0400000US42&OCCP=0220&OCCP=6260&OCCP=6305&recode+AGEP_RC1=)

Query to extract tabular (aggregated) for your current selections from the Census Data API.

Show the tabulated PUMS data through our API

COPY API TABULATE QUERY

[https://api.census.gov/data/2018/acs/acs1/pums?tabulate=weight\(PWGTP\)&col=SEX&col+AGEP\\_RC1&row+ucgid&row+OCCP&ucgid=0400000US42&OCCP=02208](https://api.census.gov/data/2018/acs/acs1/pums?tabulate=weight(PWGTP)&col=SEX&col+AGEP_RC1&row+ucgid&row+OCCP&ucgid=0400000US42&OCCP=02208)

Dataset: ACS 1-Year Estimates - Public Use Microdata Sample (2018)

CHANGE

VIEW TABLE

# The American Community Survey

## Outline

- American Community Survey (ACS) and PUMS basics
- PUMS Geography
- Accessing PUMS Data through the File Transfer Protocol (FTP)
- Creating custom PUMS Tables on [data.census.gov](https://data.census.gov)
- **Resources for learning more**
- Questions

# The American Community Survey

## Understanding and Using American Community Survey Data



*Coming soon* - Understanding and Using American Community Survey Public Use Microdata Sample Files:  
What Data Users Need to Know

[census.gov/programs-surveys/acs/guidance/handbooks.html](https://census.gov/programs-surveys/acs/guidance/handbooks.html)

# The American Community Survey

## Microdata Access Tool Step-by-Step Guide

### Using Microdata Access With ACS 1-Year Estimates – Public Use Microdata Sample [data.census.gov/mdat](https://data.census.gov/mdat)

United States Census Bureau BETA

Explore Data

### Select a Dataset & Vintage

Select Dataset ACS 1-Year Estimates - Public Use Microdata Sample  
ACSPUMSTY

Select Vintage 2017  
2017

NEXT

Send Feedback  
census.feedback@census.gov

# The American Community Survey

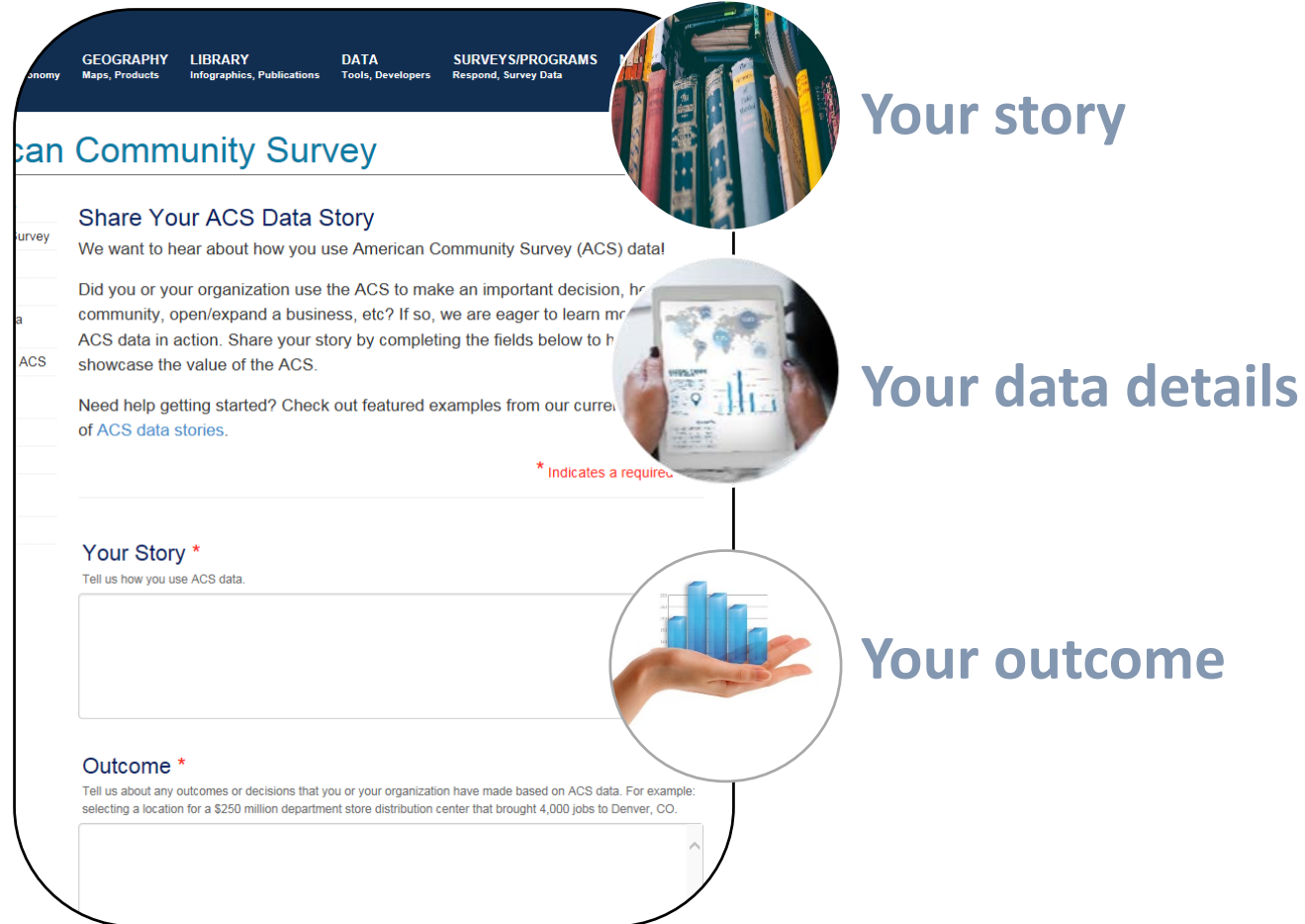
## PUMS Technical Documentation Page

- **PUMS ReadMe:** Important information about 2016 geography and variable changes as well as guidance for novice ACS PUMS files users
- **Subjects in the PUMS:** A list of topics included in each of the housing and population record files
- **PUMS Data Dictionary:** Includes variables available for each PUMS release and how each variable is coded
- **PUMS Code Lists:** Detailed codes for variables that contain a large number of coded responses, such as ancestry and occupation.
- **PUMS Top Coded and Bottom Coded Values:** List of variables with responses exceeding a state specific value that are replaced with a predetermined value
- **Accuracy of the PUMS:** A basic explanation of the sample design, estimation methodology, and accuracy of the data
- **PUMS Estimates for User Verification:** A set of Census-created PUMS estimates for data users to verify their methods

[census.gov/programs-surveys/acs/technical-documentation.html](https://census.gov/programs-surveys/acs/technical-documentation.html)

# The American Community Survey

## Data Tell Stories. Tell us Yours!



**Share Your ACS Data Story**

We want to hear about how you use American Community Survey (ACS) data!

Did you or your organization use the ACS to make an important decision, hire someone, open/expand a business, etc? If so, we are eager to learn more about your story and how you used ACS data in action. Share your story by completing the fields below to help us showcase the value of the ACS.

Need help getting started? Check out featured examples from our current collection of [ACS data stories](#).

\* Indicates a required field

**Your Story \***

Tell us how you use ACS data.

**Outcome \***

Tell us about any outcomes or decisions that you or your organization have made based on ACS data. For example: selecting a location for a \$250 million department store distribution center that brought 4,000 jobs to Denver, CO.



# The American Community Survey

## Continue the Conversation



Sign up for and manage alerts at  
<https://public.govdelivery.com/accounts/USCENSUS/subscriber/new>



Social media: @uscensusbureau  
#ACSdata



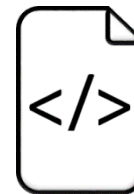
More information online:  
[census.gov/acs](https://census.gov/acs)



[acso.users.support@census.gov](mailto:acso.users.support@census.gov)



Census Customer Service Center  
800-923-8282



Source Us:  
*U.S. Census Bureau's [YYYY – YYYY] American  
Community Survey  
[1/3/5]-year [estimates/statistics/data release]*

# The American Community Survey

## Outline

- American Community Survey (ACS) and PUMS basics
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- Resources for learning more
- **Questions**



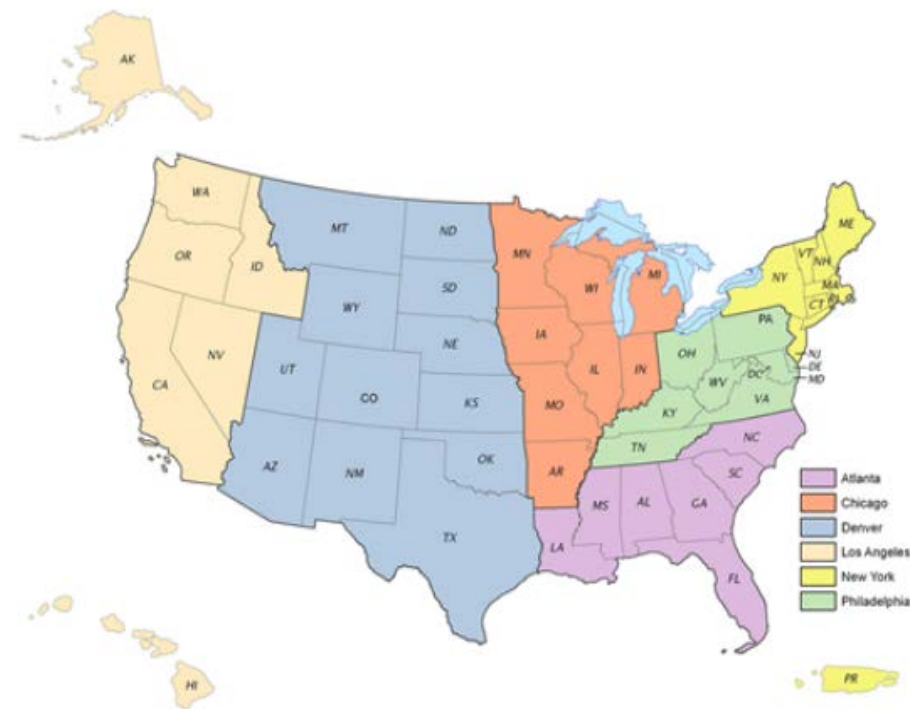
- Purpose:
  - Improve understanding of the value and utility of ACS data.
  - Promote information sharing among data users about key ACS data issues and applications.
- Includes users group website and online community
- ACS Data Users Conference
- Membership is free and open to all interested ACS data users

[acsdatacommunity.prb.org](https://acsdatacommunity.prb.org)

# The American Community Survey

## Need Local Stats?

- **FREE Assistance Near You!**  
Our regional data staff can help you access local statistics from the ACS or offer training to help build your skills.
- **Contact us at:**  
1-844-ASK-DATA  
(1-844-275-2382)  
[census.askdata@census.gov](mailto:census.askdata@census.gov)



# The American Community Survey

## Upcoming/Recent Webinars

- Upcoming Webinars:

- March 31: Exploring Census Data Webinar Series: Transportation
- April 22: American Community Survey Administrative Record Research
- May 27: Exploring Census Data Webinar Series: Education
- June 16: Exploring Census Data Webinar Series: Economic Geography

- Recent Webinars:

- Calculating Margins of Error the ACS Way – Using Replicate Methodology to Calculate Uncertainty
- Census Bureau Webinar on Release of 2014-2018 ACS 5-Year Estimates