

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#

Amanda Klimek

Survey Statistician, American Community Survey Office

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
- 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

United States[®] 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

The American Community Survey

Content Overview

POPULATION		HOUSING
SOCIAL Ancestry Citizenship Citizen Voting Age Population Disability Educational Attainment Fertility Grandparents Language Marital Status Migration School Enrollment Veterans	DEMOGRAPHIC Age Hispanic Origin Race Relationship Sex ECONOMIC Class of Worker Commuting Employment Status Food Stamps (SNAP) Health Insurance Hours/Week, Weeks/Year Income Industry & Occupation	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

- 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
- 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 123 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

The American Community Survey

5-year PUMS Files

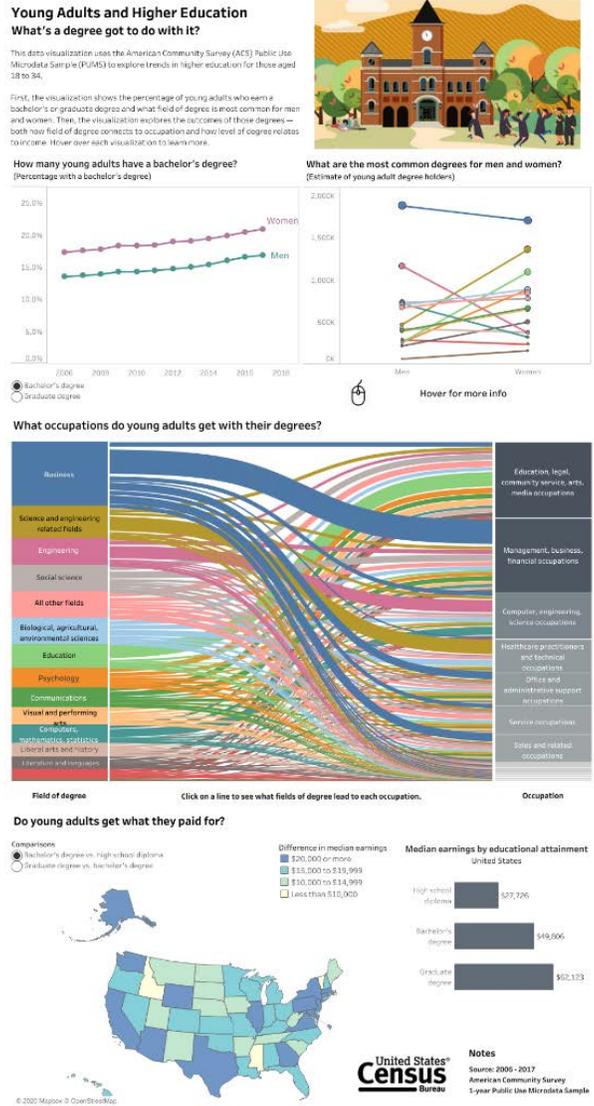
- 5-year PUMS files contain the same cases as their component 1-year files

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

- 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

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
- Resources for learning more
- Questions

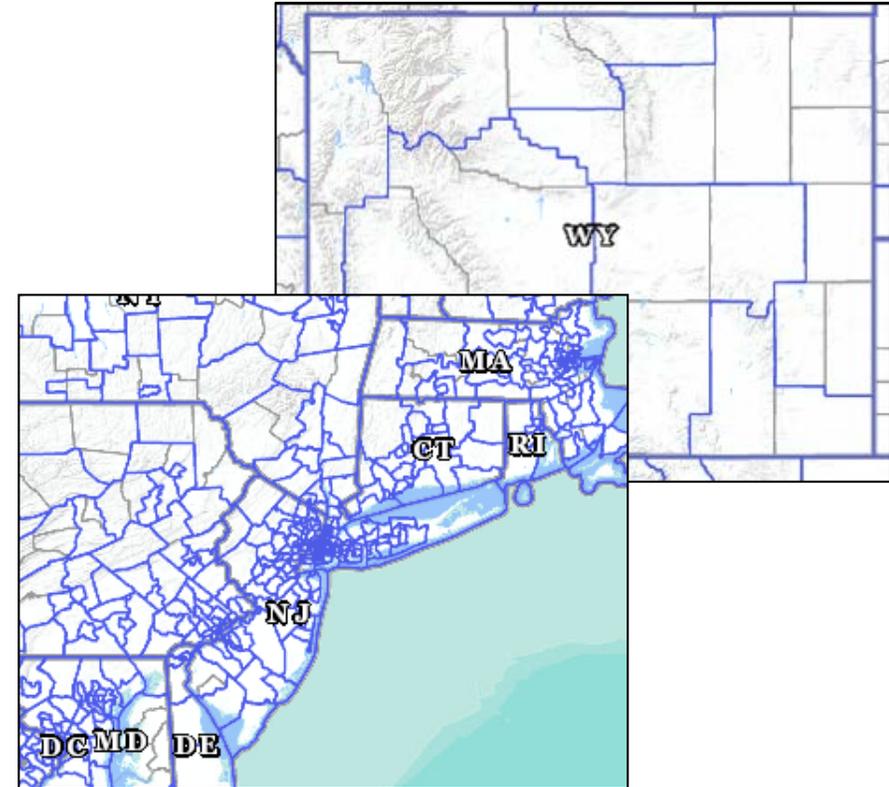
The American Community Survey

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

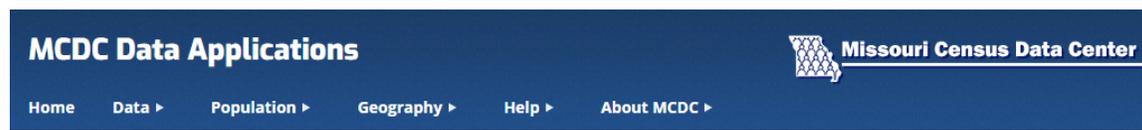
The American Community Survey Public Use Microdata Area (PUMA)

- 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



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 screenshot displays the TIGERweb interface. At the top, there is a search bar with the text "Street, City, State, Zip" and several social media icons. The main map area shows a satellite-style view of the United States with a white outline of the country's borders. A red circle highlights the zoom-in button (+) on the left side of the map, with a red arrow pointing to it. A red box with white text is overlaid on the map, stating: "It is most useful to zoom into your geography before making any selections as most boundaries will not appear until zoomed in".

On the left side, there is a "Layers" panel with a "Select Vintage:" dropdown menu set to "Current". Below this, there is a list of layers with checkboxes:

- Labels
- Transportation (Roads and Railroads)
- PUMAs, UGAs, and ZCTAs
- Tribal Census Tracts and Block Groups
- Census Tracts and Blocks
- Military and Other Special Land Use Areas
- School Districts
- Places and County Subdivisions
- American Indian, Alaska Native, and Native Hawaiian Areas
- Legislative Areas
- Census Regions and Divisions
- Urban Areas
- Metropolitan and Micropolitan Statistical Areas and Related Statistical Areas
- Hydrography
- States and Counties

At the bottom left, there is a scale bar showing "Zoom: 3" and "1:73,957,191" with "2000km" and "1000mi" markers. Below the scale bar, it says "Current Extent (degs): [159.3213, -19.7682] [7.2705, 72.9258]". At the bottom right, there is a red text box that says "Map Loaded."

The American Community Survey

Visualize PUMA Boundaries for Your Area Using TIGERweb

The screenshot shows the TIGERweb interface with the following elements:

- Search Bar:** Located at the top right, containing the text "Street, City, State, Zip".
- Layers Panel:** Located on the left side, titled "Select Vintage: Current". It contains a list of map layers with checkboxes. A red box highlights the following layers:
 - Labels
 - Transportation (Roads and Railroads)
 - PUMAs, UGAs, and ZCTAs
 - 2010 Census Public Use Microdata Areas
 - 2010 Census ZIP Code Tabulation Areas
- Map:** A map of the Washington D.C. area and surrounding regions (Montgomery, Prince George's, Fairfax, Arlington, Alexandria, Falls Church, Fairfax City, Herndon, Loudoun, Prince William, Anne Arundel, Maryland, Virginia). PUMA boundaries are highlighted in red. ZIP codes are visible on the map.
- Map Controls:** Located on the left side of the map, including a home button, a search button, and zoom in/out buttons.
- Status Bar:** Located at the bottom, showing "Current Extent (degs): [-77.3836, 38.7092] [-76.5713, 39.1009]" and "Map Loaded."

Here I have zoomed in on the District of Columbia and surrounding areas and made the selections seen on the left: checking "PUMAs, UGAs, and ZCTAs," and expanding the category to uncheck "2010 ZIP Code Tabulation Areas" to make the map less cluttered

The American Community Survey

Visualize PUMA Boundaries for Your Area Using TIGERweb

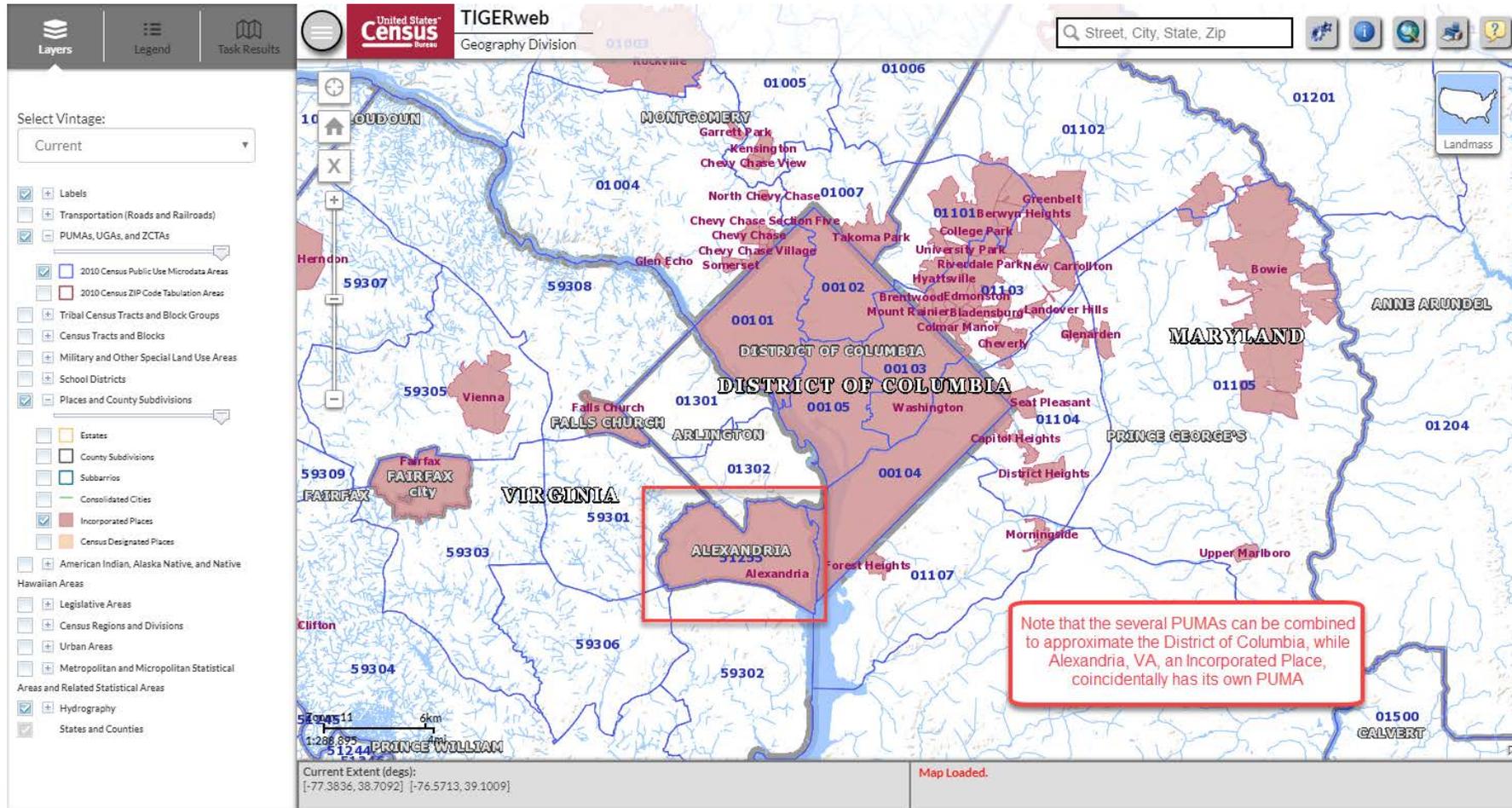
The screenshot shows the TIGERweb interface with the following elements:

- Top Bar:** United States Census Bureau logo, TIGERweb Geography Division, and a search bar.
- Left Panel:** Layers, Legend, and Task Results tabs. A 'Select Vintage:' dropdown is set to 'Current'. The legend includes categories like 'Labels', 'Transportation (Roads and Railroads)', 'PUMAs, UGAs, and ZCTAs', '2010 Census Public Use Microdata Areas', '2010 Census ZIP Code Tabulation Areas', 'Tribal Census Tracts and Block Groups', 'Census Tracts and Blocks', 'Military and Other Special Land Use Areas', 'School Districts', 'Places and County Subdivisions', 'American Indian, Alaska Native, and Native Hawaiian Areas', 'Legislative Areas', 'Census Regions and Divisions', 'Urban Areas', 'Metropolitan and Micropolitan Statistical Areas and Related Statistical Areas', 'Hydrography', and 'States and Counties'.
- Map:** A map of the Washington D.C. area showing PUMA boundaries in red. Labels include Loudoun, Herndon, Fairfax, Fairfax City, Falls Church, Arlington, District of Columbia, Alexandria, Prince William, Prince George's, and Anne Arundel. ZIP codes like 59307, 59308, 59305, 59309, 59303, 59306, 59304, 59302, 59311, 51244, 01003, 01005, 01006, 01004, 01007, 00102, 00101, 00103, 00105, 00104, 01101, 01102, 01103, 01104, 01105, 01201, 01204, 01500, and 01500 are visible.
- Right Panel:** A 'Landmass' button and a small map of the United States.
- Bottom Bar:** 'Current Extent (degs): [-77.3836, 38.7092] [-76.5713, 39.1009]' and 'Map Loaded.'

A red box highlights the 'Places and County Subdivisions' section in the legend, which includes 'Estates', 'County Subdivisions', 'Subbarrios', 'Consolidated Cities', 'Incorporated Places', and 'Census Designated Places'. A second red box contains the text: 'I have also checked "Places and County Subdivisions" and unchecked everything except "Incorporated Places" to highlight some interesting characteristics of PUMAs'.

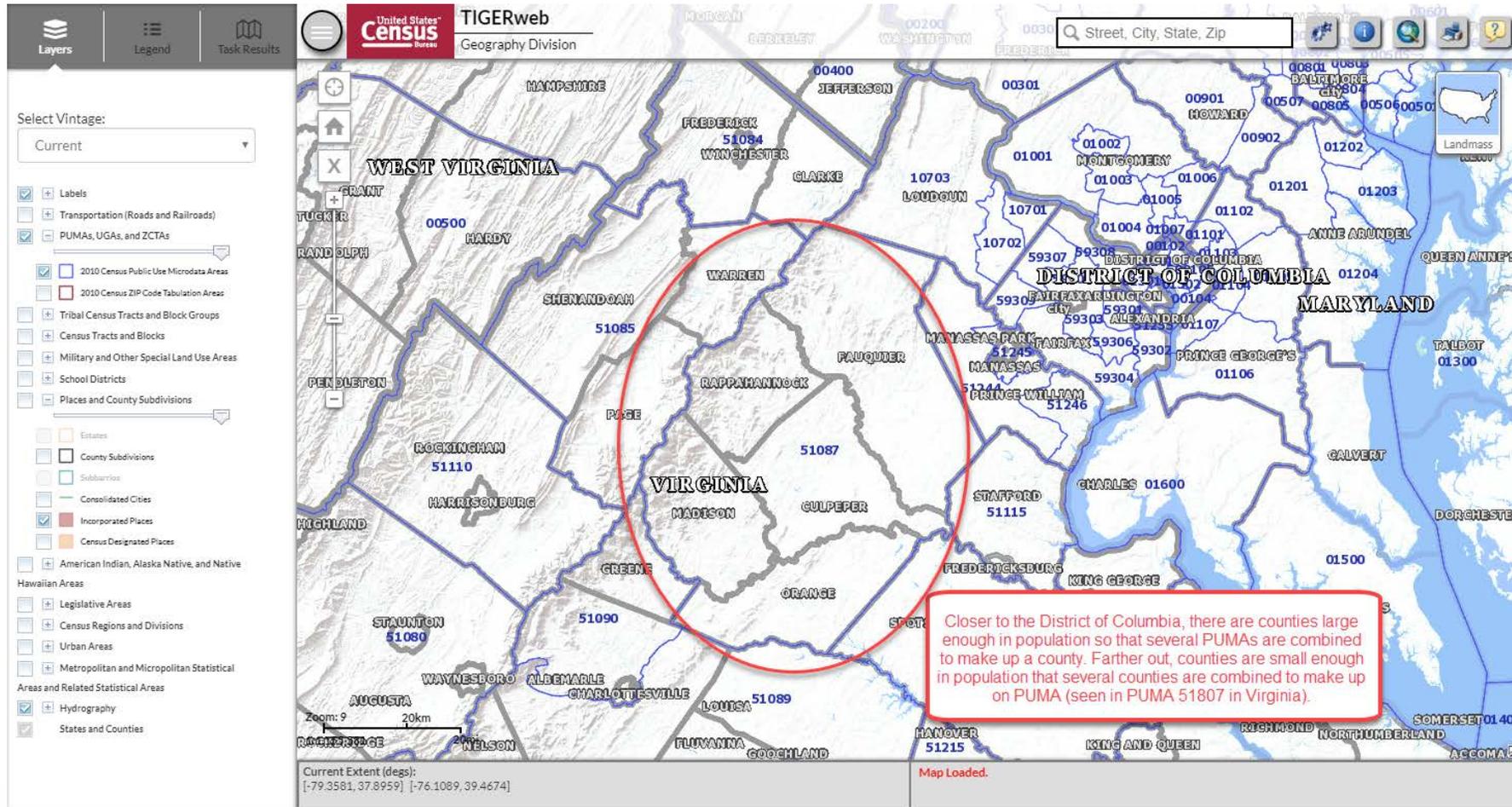
The American Community Survey

Visualize PUMA Boundaries for Your Area Using TIGERweb



The American Community Survey

Visualize PUMA Boundaries for Your Area Using TIGERweb



The American Community Survey

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
- Resources for learning more
- Questions

The American Community Survey

Accessing PUMS Data on census.gov/acs

- Go to the 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 shows the United States Census Bureau website. The top navigation bar includes a search bar and links for BROWSE BY TOPIC, EXPLORE DATA, LIBRARY, SURVEYS/ PROGRAMS, INFORMATION FOR..., FIND A CODE, and ABOUT US. The breadcrumb trail reads: // Census.gov > Our Surveys & Programs > American Community Survey (ACS) > American Community Survey Data > PUMS Data.

The main content area is titled "PUMS Data" and includes social media icons for Facebook, Twitter, and LinkedIn. Below the title, it states: "Supporting documentation for the data below is available on the [PUMS Documentation](#) page."

There are two columns of data availability information:

- Available on the FTP site:** PUMS files back to 2005 are available in CSV and SAS formats. A list of years is provided: 2018 ACS PUMS, 2017 ACS PUMS, and 2016 ACS PUMS.
- PUMS on data.census.gov:** Microdata access from 2005-current is now available on data.census.gov in beta. A list of years is provided: 2014-2018 ACS 5-year PUMS, 2018 ACS 1-year PUMS, and 2013-2017 ACS 5-year PUMS.

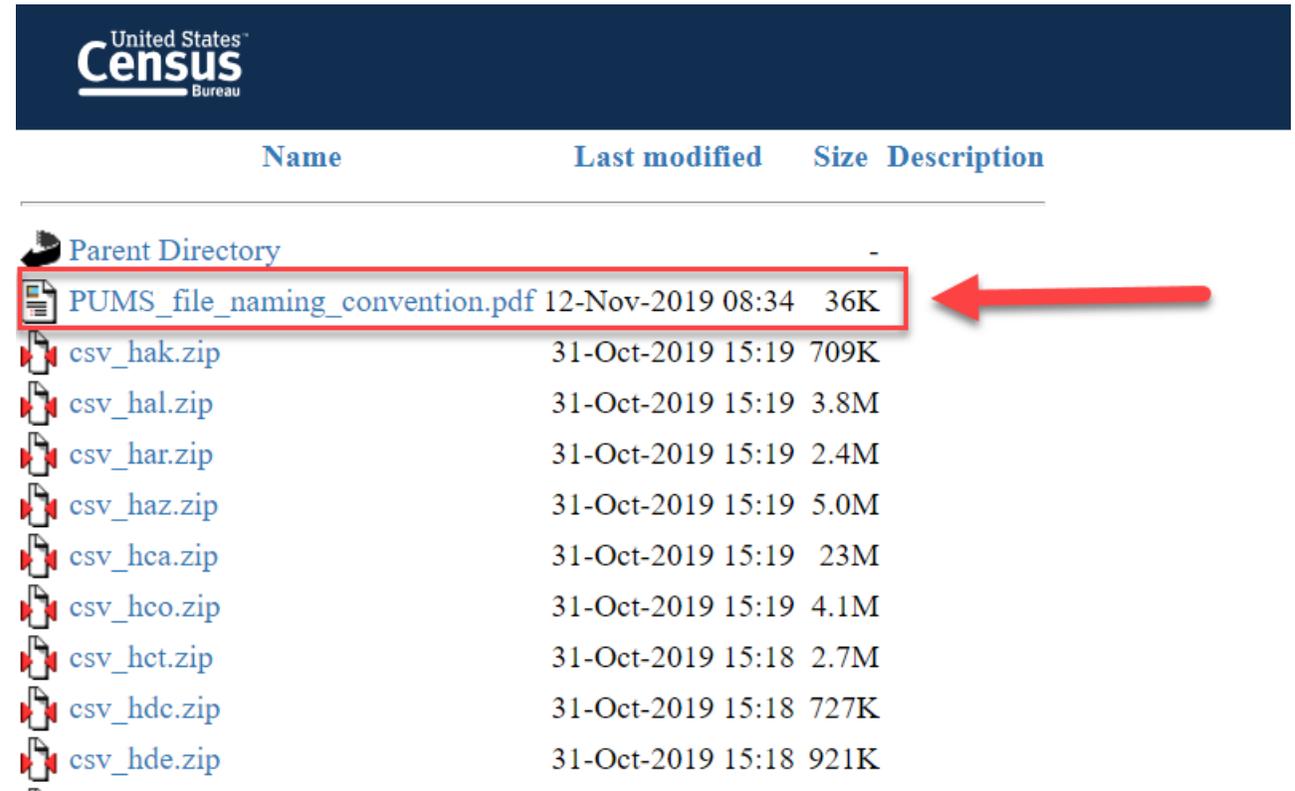
On the left side, there is a sidebar menu with options: Data Tables & Tools, Data via FTP, Summary File Data, **PUMS Data** (highlighted), Variance Replicate Tables, Race/Ethnicity and American Indian & Alaska Native Data, and Custom Tables. Below the menu is a link: < Back to American Community Survey Data, and a logo for "Respond to the ACS Learn how".

On the right side, there are sections for "Related Information" (Share Your ACS Data Story, Contact Us, Introduction to the Public Use Microdata Sample (PUMS) File) and "You May Be Interested In" (RELATED TOPICS, Contact Us, AROUND THE BUREAU, Email Updates, MOST POPULAR, Share Your ACS Data Story).

The American Community Survey

Accessing PUMS Data on census.gov/acs

- Go to the 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)



Name	Last modified	Size	Description
 Parent Directory	-	-	-
 PUMS_file_naming_convention.pdf	12-Nov-2019 08:34	36K	
 csv_hak.zip	31-Oct-2019 15:19	709K	
 csv_hal.zip	31-Oct-2019 15:19	3.8M	
 csv_har.zip	31-Oct-2019 15:19	2.4M	
 csv_haz.zip	31-Oct-2019 15:19	5.0M	
 csv_hca.zip	31-Oct-2019 15:19	23M	
 csv_hco.zip	31-Oct-2019 15:19	4.1M	
 csv_hct.zip	31-Oct-2019 15:18	2.7M	
 csv_hdc.zip	31-Oct-2019 15:18	727K	
 csv_hde.zip	31-Oct-2019 15:18	921K	

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**
- Resources for learning more
- Questions

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.

🔍 I'm looking for ...

[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

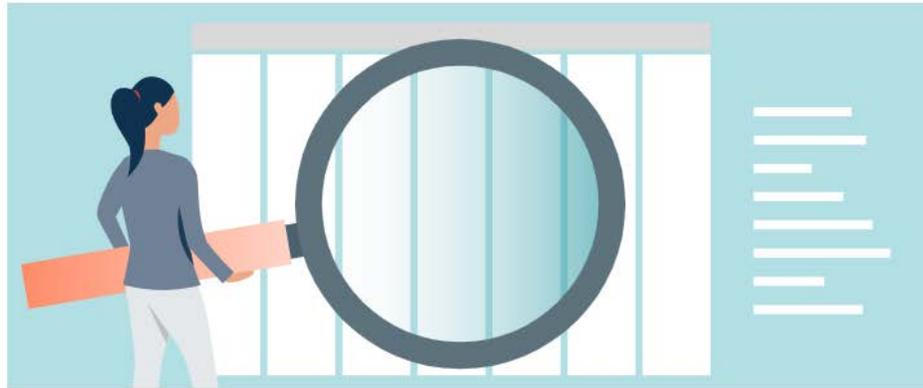


The American Community Survey

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

United States[®] **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

United States[®] BETA
Census Bureau

Explore Data / Microdata / Custom Table

SELECT VARIABLES SELECT GEOGRAPHIES DATA CART (0) TABLE LAYOUT DOWNLOAD

filter by Topic SEARCH

Showing 214 of 507 Variables Select at least one variable to start

	Variable	Label	Number of Values	Type	
<input 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 past 12 ...	3	Estimate	DETAILS
<input type="checkbox"/>	HISP	Hispanic recode	24	Recodes	DETAILS
<input type="checkbox"/>	JWAP	Time of arrival at work categorization	286	Edited Items	DETAILS
<input type="checkbox"/>	JWDP	Time of departure for work - hour and minute	151	Estimate	DETAILS
<input type="checkbox"/>	JWMNP	Travel time to work	2	Estimate	DETAILS

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

United States ^{BETA}
Census Bureau

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	DETAILS
<input type="checkbox"/>	SOCP	Standard Occupational Classification (SOC) codes for 2018...	531	Estimate	DETAILS

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

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
State	<input type="checkbox"/> Oregon
Public Use Microdata Area (PUMA)	<input checked="" type="checkbox"/> Pennsylvania
	<input type="checkbox"/> Rhode Island
	<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

This will be checked by default, uncheck it to begin specifying your selections

<input type="checkbox"/>	Response Label	Value
<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

Search for the label you are interested in and check the categories you want

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** +

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

Values in table cells: **Average of Age (AGEP)** + **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

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)

+ CREATE CUSTOM GROUP ← We will use this to restrict our table universe to those ages 18 to 34

<input checked="" type="checkbox"/> Include in Universe	Response Label	Value
<input checked="" type="checkbox"/>	1 to 99 years (Top-coded***)	1 ————— 99
<input checked="" type="checkbox"/>	Under 1 year	00

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 (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
Here we have created a new variable

Recode Label
Young_Adults 12 / 80 **AUTO GROUP**

Not Elsewhere Classified
VALUES: 1:17, 35:99, 00
We will also need to take a look at this "Not Elsewhere Classified" (on the next slide), which is automatically generated **EDIT GROUP**

18 to 34 Show on table

Group Label
18 to 34
We have labeled this variable "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 <i>You can use the slider to toggle the restrictions, or you can simply type in the values</i>

CANCEL **SAVE GROUP**

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

Save your work! **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 (4)** TABLE LAYOUT DOWNLOAD

Selected Variables (4)

- AGEP**
2 of 2 responses
At this point you can go ahead and delete the original age variable (optional)
- SEX**
2 of 2 responses
- OCCP**
3 of 531 responses
- AGEP_RC1**
1 of 2 responses

Young_Adults

Not Elsewhere Classified Show on table

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

CANCEL **SAVE GROUP**

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

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

Don't forget to save! **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, 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)	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

You can click here to download and share this table

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)	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

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**

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.
[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) **COPY BOOKMARK**

Share table as seen in the tool

Query to extract PUMS records for your current selections from the Census Data API.
https://api.census.gov/data/2018/acs/acs1/pums?get=PWGTPSEX,AGEP_RC1&ucgid=0400000US42&OCCP=0220&OCCP=6260&OCCP=6305&recode+AGEP_RC1=' **COPY API GET QUERY**

Share raw PUMS data for this table through our API

Query to extract tabular (aggregated) for your current selections from the Census Data API.
[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) **COPY API TABULATE QUERY**

Show the tabulated PUMS data through our API

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
- **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://www.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

United States Census Bureau BETA

Explore Data

Select a Dataset & Vintage

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

Select Vintage 2017
2017

NEXT

Send Feedback
census.feedback@census.gov



U.S. Department of Commerce
U.S. CENSUS BUREAU
[census.gov](https://www.census.gov)

v1: November 07, 2019

1



www2.census.gov/data/api-documentation/using-microdata-access/microdata-access-1-year-acs-pums.pdf

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

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 to make an important decision, hire new employees, open an office, expand your business, or improve your community, open/expand a business, etc? If so, we are eager to learn more about your story and how you use 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.

Your story

Your data details

Your outcome

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



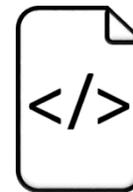
More information online:
census.gov/acs



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
- PUMS Geography
- Accessing PUMS Data through the File Transfer Protocol (FTP)
- Creating custom PUMS Tables on data.census.gov
- 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

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