

# Microdata Access on data.census.gov

Center for Enterprise Dissemination  
U.S. Census Bureau

April 2, 2020

# Outline

- Microdata Access Basics
- Microdata Access Demo
- Questions

# What is Public Use Microdata?

## Public Use Microdata

### Anonymized

- No personally identifiable information
- Edits to protect confidentiality

### Accessible

- [data.census.gov/mdata](http://data.census.gov/mdata)
- Application Programming Interface (API)
- Download through FTP sites

### Individual Responses

- Must be tabulated and weighted by user

# Data.census.gov Summary Data vs. Microdata

## What's the Difference?

	Louisiana	
	Estimate	Margin of Error
▼ Total:	2,020,951	+/-14,211
▼ Male:	1,029,736	+/-9,995
▼ Management, business, science, and arts occupations:	289,129	+/-6,989
▼ Management, business, and financial occupations:	126,805	+/-5,330
▲ Management occupations:	99,359	+/-4,708
▲ Business and financial operations occupations:	27,446	+/-2,465
▼ Computer, engineering, and science occupations:	57,290	+/-4,110
▲ Computer and mathematical occupations:	18,459	+/-2,169
▲ Architecture and engineering occupations:	30,797	+/-3,039

**Microdata (a set of edited survey responses):**  
“This male in Louisiana is a web developer.”

**Aggregated tables for a geography:**  
“In 2016 in Louisiana, approximately 18,459 males worked in computer and mathematical occupations.”

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

# Why Use Public Use Microdata through Microdata Access?

You can use Public Use Microdata when your data needs are not supported by prefabricated tables on data.census.gov.

- Example: occupation by sex by marital status (“married female actuaries”)

Advantages of Microdata	Limitations of Microdata
<ul style="list-style-type: none"><li>• More detail by topic</li><li>• Create custom tables</li></ul>	<ul style="list-style-type: none"><li>• Less detail by geography</li><li>• More complex to create your own table rather than search for existing tables</li><li>• Less accurate estimates compared to premade tables. Use premade tables if they exist</li></ul>

# Census Programs in the Microdata Access Tool

## Data Available

- **American Community Survey (ACS)**
  - ACS 1-Year Public Use Microdata Sample (PUMS): 2004-2018
  - ACS 5-Year Public Use Microdata Sample (PUMS): 2009-2018
- **Puerto Rico Community Survey (PRCS)**
  - PRCS 1-Year Public Use Microdata Sample (PUMS) 2005-2018
  - PRCS 5-Year Public Use Microdata Sample (PUMS): 2009-2018
- **Current Population Survey (CPS)**
  - CPS Annual Social and Economic (March) Supplement: 2014-2019
  - CPS Basic Monthly: 1994-2020

# Available Geographic Areas

## ACS Available Geographies

Nation

Region

Division

State

Public Use Microdata Area (PUMA)

## CPS Available Geographies

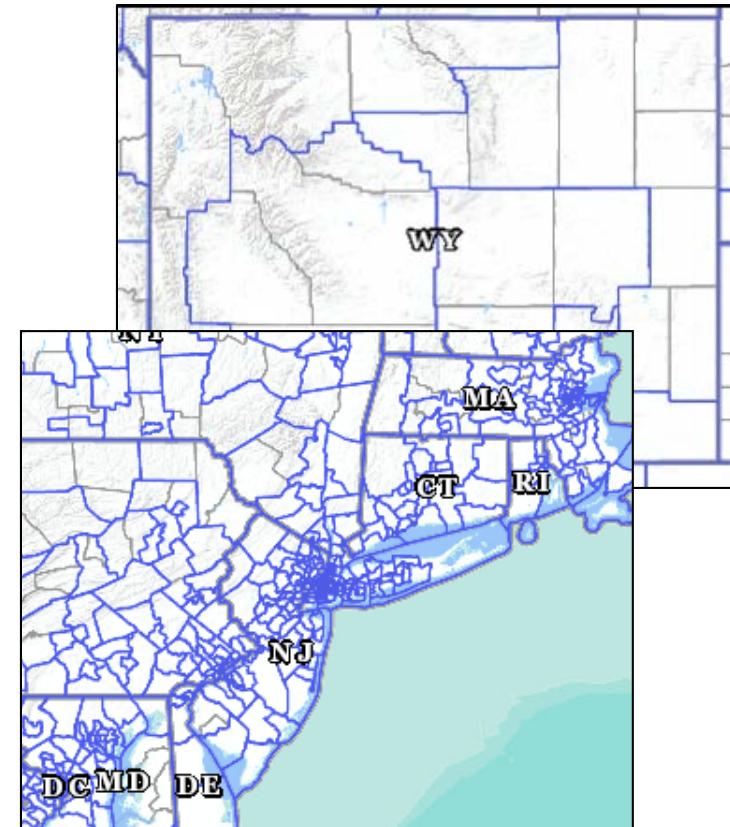
Nation

State

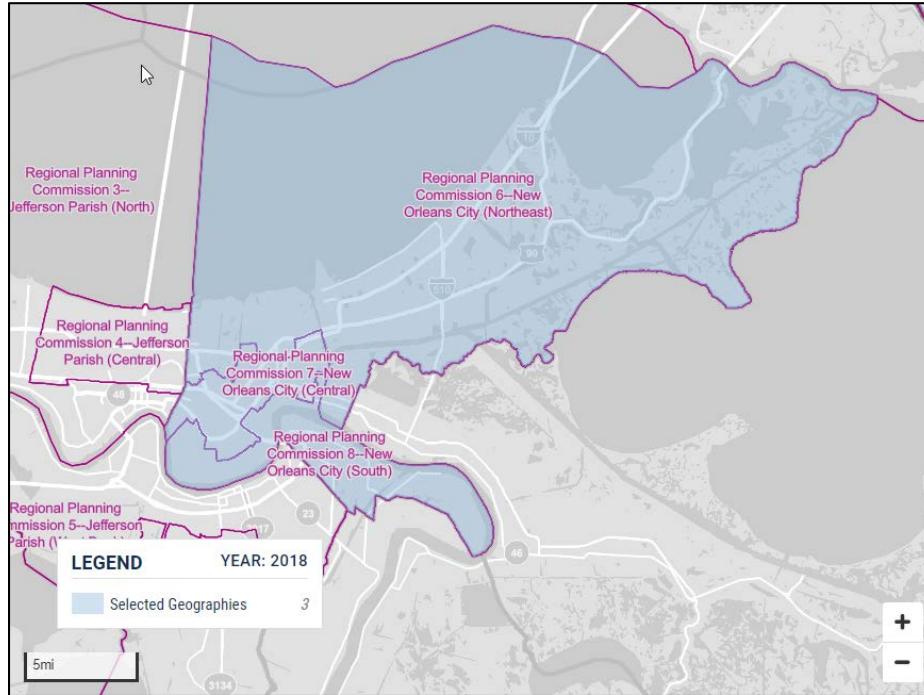
County (available only for the basic CPS)

# Public Use Microdata Area (PUMA)

- An area with 100,000+ population
  - PUMAs (or collections of PUMAS) can be used to identify most cities of 100,000+ and many metro areas, but not all
- Identified by five-digit code (unique within each state)
- Nest within states and cover the entire nation
- Defined after each decennial census
  - Census tracts and counties are the building blocks

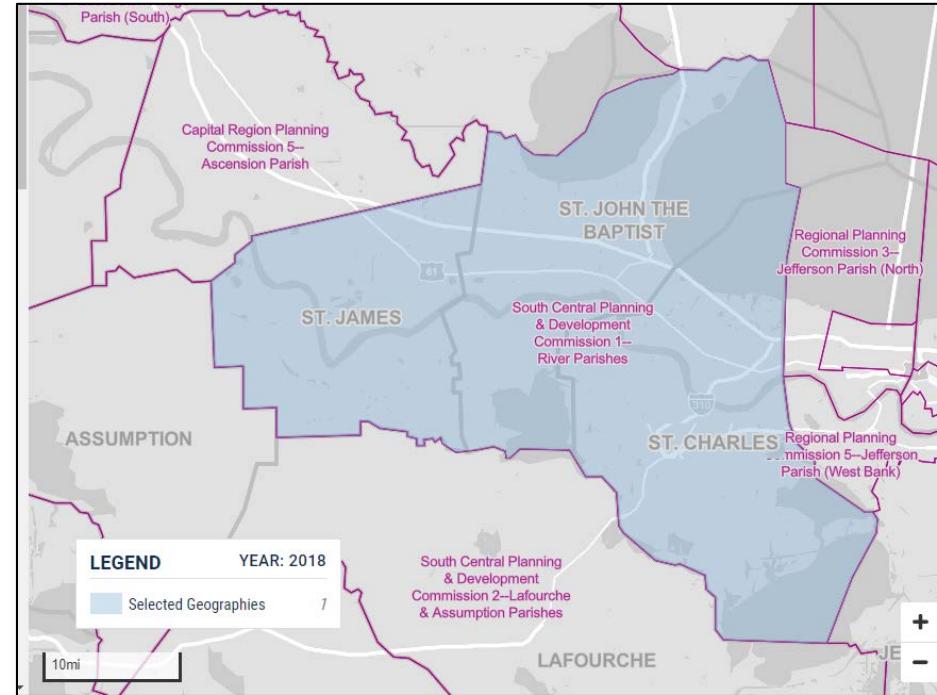


# Visualizing PUMAs through data.census.gov



**Three PUMAs cover the city of New Orleans:**

- PUMA 02400
- PUMA 02401
- PUMA 02402

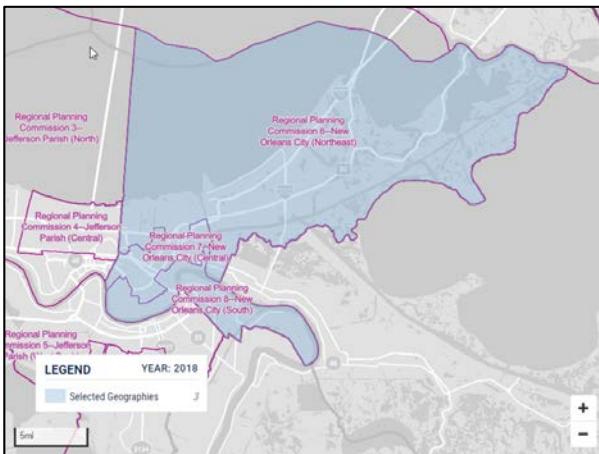


**Louisiana PUMA 01900 covers 3 county equivalents:**

- St James Parish
- St John the Baptist Parish
- St Charles Parish

# Selecting PUMAs in Microdata Access

Today's examples will use state-level geographies, but if you want lower level geographic areas it's easy to select your PUMAs on Microdata Access.



The screenshot shows the Census Microdata Access interface. The 'SELECT GEOGRAPHIES' tab is active. A dropdown menu for 'Louisiana' is open, listing 'Kentucky', 'Louisiana', 'Maine', 'Maryland', and 'Massachusetts'. Below the dropdown, a section labeled 'Public Use Microdata Area (PUMA)' contains three checked checkboxes: 'New Orleans City (Northeast) PUMA, Louisiana', 'New Orleans City (Central) PUMA, Louisiana', and 'New Orleans City (South) PUMA, Louisiana'. A red box highlights the 'Public Use Microdata Area (PUMA)' label and the checked PUMAs. The interface also includes tabs for 'SELECT VARIABLES', 'DATA CART (0)', 'TABLE LAYOUT', and 'DOWNLOAD', along with a 'Dataset' selection for 'ACS 1-Year Estimates - Public Use Microdata Sample (2018)' and a 'VIEW TABLE' button.

# TIGERweb: Visualize PUMA Boundaries for Your Area

## TIGERweb

Home **TIGERweb Applications** WMS REST Services Data Files TIGERweb Geography

### TIGERweb Applications

**TIGERweb**  
Contains:

- Current (BAS 2018)
- ACS 2017
- ACS 2016
- 2010 Census (adjusted boundaries)
- Current (BAS 2018) Physical Features

**TIGERweb Decennial**  
Contains:

- 2010 Census
- Census 2000 (adjusted boundaries)
- 2010 Census Physical Features

[Legend](#)

[TIGERweb User Guide](#)

The map displays several metropolitan and micropolitan statistical areas (CSAs) in the region, including Pittsburgh-New Castle-Weirton, Johnstown-Somerset, Morgantown-Fairmont, Washington-Baltimore-Arlington, Philadelphia-Reading-Camden, Harrisburg-York-Lebanon, and Charleston-Huntington-Ashland. The map also shows state abbreviations for PA, NJ, MD, DE, VA, WV, and DC. A legend on the left lists various geographic entities like Labels, Transportation, and Census Tracts.

**TIGERweb and TIGERweb Decennial Applications**

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- Microdata Access Basics
- **Microdata Access Demo**
- Questions

# Learning Objectives

At the end of this training you will be able to:

- Create custom tables using Microdata Access
- Select, edit, and categorize your variables
- Restrict your table universe
- Customize your table layout
- Download a custom table and microdata

# Demo

- 1. Employment status by sex for the Mexican population in:**
  - Louisiana
  - All 3 PUMAs in New Orleans
- 2. Hispanic by age (0-49; 50+) in Louisiana**

# Table S0201 – Selected Population Profile

Maryland		
Mexican (210-220)		
	Estimate	Margin of Error
▼ Language other than English	68.5%	+/-3.4
Speak English less than "very well"	27.1%	+/-2.9
▼ EMPLOYMENT STATUS		
▼ Population 16 years and over	70,797	+/-6,198
▼ In labor force	73.4%	+/-2.5
▼ Civilian labor force	71.3%	+/-2.8
Employed	67.5%	+/-2.9
▼ Unemployed	3.8%	+/-1
Unemployment Rate	5.4%	+/-1.4
Armed Forces	2%	+/-0.8
Not in labor force	26.6%	+/-2.5

Annually released prefabricated ACS tables do not provide detailed employment status broken down for the male Mexican population, but we can create a custom table by using Microdata Access

# Demo

1. Employment status by sex for the Mexican population in:
  - Louisiana
  - All 3 PUMAs in New Orleans
2. Hispanic by age (0-49; 50+) in Louisiana

# Table B01001I – Sex By Age (Hispanic or Latino)

Maryland		
	Estimate	Margin of Error
▼ Total:	628,435	*****
▼ Male:	324,871	+/-2,082
Under 5 years	33,800	+/-1,243
5 to 9 years	29,745	+/-2,597
10 to 14 years	31,347	+/-2,698
15 to 17 years	15,175	+/-1,160
18 and 19 years	10,301	+/-1,076
20 to 24 years	23,571	+/-1,419
25 to 29 years	23,956	+/-883
30 to 34 years	25,387	+/-812
35 to 44 years	56,856	+/-1,432
45 to 54 years	40,851	+/-1,331
55 to 64 years	21,175	+/-629
65 to 74 years	8,473	+/-652
75 to 84 years	3,759	+/-623
85 years and over	475	+/-334

Prefabricated ACS tables in data.census.gov do not provide data for the Hispanic population aged 50 years or older, but we can create a custom table for this using Microdata Access

# Questions/Feedback

*Media:*

Public Information Office  
U.S. Census Bureau

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*Public:*

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# Our Development Depends on **YOUR** Feedback



Check out [data.census.gov/mdat](https://data.census.gov/mdat) and provide comments at  
[cedsci.feedback@census.gov](mailto:cedsci.feedback@census.gov)

# Stay Connected: Webinars, Tutorials, and Feedback

data.census.gov Resources page:

[census.gov/data/what-is-data-census-gov.html](https://census.gov/data/what-is-data-census-gov.html)

Census Academy:

[census.gov/data/academy/webinars/upcoming.html](https://census.gov/data/academy/webinars/upcoming.html)

- **Webinars:** Recorded and upcoming webinars on data.census.gov
- **Data Gems:** A series of short “How-To” videos

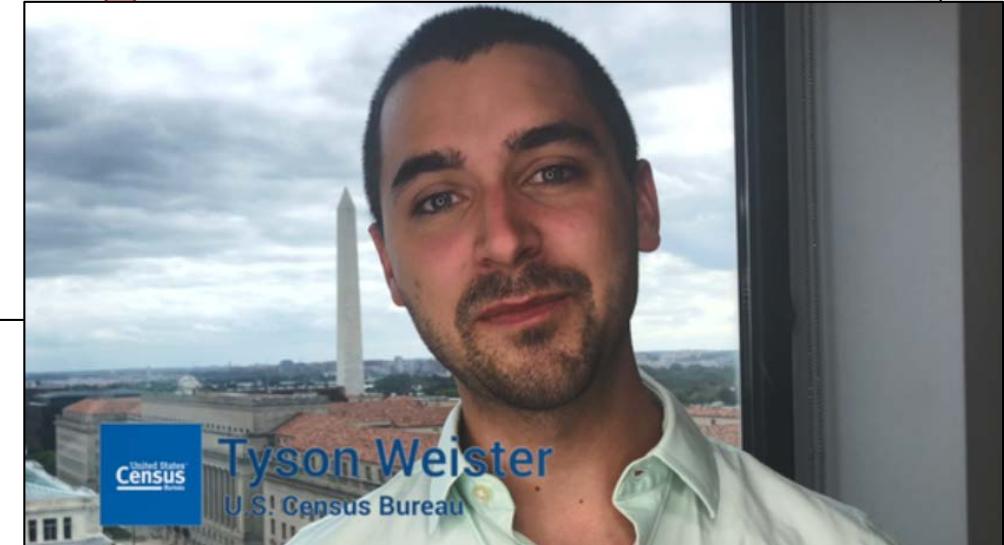
Feedback: Email comments to  
[cedsci.feedback@census.gov](mailto:cedsci.feedback@census.gov)

## Using Microdata Access

- ❖ Using Microdata Access: With ACS 1-Year Estimates – Public Use Microdata Sample [1.5 MB]
- ❖ Using Microdata Access\_How To Create Poverty Estimates From The CPS ASEC [2.4 MB]

## Using the Census API

- ❖ Census Data API Flyer [< 1.0 MB]
- ❖ How to Download 2010 Decennial Self-Response Rates for All Census Tracts in a State from the Census API [2.2 MB]
- ❖ How to Download 2010 Decennial Self-Response Rates for All Counties in a State from the Census API [1.9 MB]
- ❖ How to Download 2020 Decennial Self-Response Rates for All



# Webinar Evaluation



<https://questionweb.com/59212/>